

Tuber Reference Collection Methodology

Taxon	Family	Common Name	Stained	Fresh	Charred
<i>Daucus carota</i>	Apiaceae	Carrot	✓		
<i>Ipomoea batatas</i>	Convolvulaceae	Sweet	✓	✓	✓
<i>Lepidium meyenii</i>	Brassicaceae	Maca		✓	✓
<i>Manihot esculenta</i>	Euphorbiaceae	Manioc	✓	✓	✓
<i>Oxalis tuberosa</i>	Oxalidaceae	Oca	✓	✓	✓
<i>Pachyrhizus erosus</i>	Fabaceae	Jicama	✓	✓	✓
<i>Smallanthus sonchifolius</i>	Asteraceae	Yacón	✓	✓	✓
<i>Solanum</i>	Solanceae	Potato	✓	✓	✓
<i>Tropaeolum tuberosum</i>	Tropaeolaceae	Mashua		✓	✓
<i>Ullucus tuberosus</i>	Basellaceae	Papalisa		✓	✓

All stained samples were prepared by Katherine Chiou.

Fresh Samples Total= 45 samples

Fresh samples were cut into small sections displaying the transverse, tangential, and radial cross-sections, with attention given to both the edge of the specimen and the center of the specimen. Pieces were about 1.0 cm in length, 1.0 cm in width, and between .2 and .4 cm in thickness, in order to fit the Scanning Electron Microscope (SEM) mounting stubs.

All fresh samples underwent the generic processing protocol provided by the Electron Microscope Laboratory at UC Berkeley, which included:

- 1) Fixation (1 hour) - 2% glutaraldehyde in 0.1M Sodium cacodylate buffer, pH 7.2
- 2) Rinse (3 X 10 min) - 0.1M sodium cacodylate buffer, pH 7.2
- 3) Post-Fix (1 hour) - 1% Osmium tetroxide in 0.1M sodium cacodylate buffer, pH 7.2
- 4) Rinse (3 X 5 min) - 0.1M sodium cacodylate buffer, pH 7.2
- 5) Dehydrate in a series of ETOH (35%, 50%, 70%, 80%, 95%, 100%, and 100%) for 10 min each (70 min total).
- 6) Critical Point Dry (4 samples at a time) using the Tousimis AutoSamdri 815 Critical Point Dryer (45 min)



All specimens were then stored in sample vials labeled with their sample number (See complete list of sample numbers).

Charred Samples

Sections of the remaining tubers were cut into larger pieces designated for carbonization. These pieces were approximately 4-5 cm in length, width, and depth (varying based on size of tuber's actual width). When possible, two samples were created for each cross-section (transverse, tangential, and radial) to allow for two different lengths of time within the furnace. All specimens were wrapped in aluminum foil, labeled, buried in sand, and then placed in a furnace for either 2.5 or 3.5 hours at 250 °F. See complete sample list for exact times for each sample.

Once cooled, one of each cross-section for each species was fractured in order to view anatomical features using the SEM. Many samples were quite brittle, so clean fractures were not always possible. Additionally, a section showing the exterior surface after charring was obtained for each species.

Total= 48 samples

Scanning Electron Microscopy (SEM)

Both the processed fresh samples and fractured carbonized samples were imaged using a TM-1000 Scanning Electron Microscope at the Electron Microscope Laboratory at UC Berkeley. Specimen were mounted onto 0.5" aluminum holders temporarily using carbon tape. The cross-sections were cleaned using compressed air to remove any broken fragments that could obstruct the identifiable features during future analysis.

Initially, specimens were coated with a thin layer of conductive material (gold) using the Tousimis Sputter Coater before SEM analysis. This step was then stopped since the material was not over-powering in charging on its own and the TM-1000 does not require this step.

Below are those samples which were sputter coated. All others were not.



01-Lm-TransC	03-Lm-TangC	05-Lm-Rad	07-Ot-TransE	09-Ot-TangE	11-Pe-TransC	13-Pe-TangC
02-Lm-TransE	04-Lm-TangE	06-Ot-TransC	08-Ot-TangC	10-Ot-Rad	12-Pe-TransE	

After the specimen chamber was vented, the aluminum mounts were secured on the microscope's stage one at a time, the chamber was closed, and a vacuum pump removed air from the chamber. Images of the various cross-sections were taken at multiple magnifications, usually 50x, 100x, 200x, 500x, and 1000x. The micrographs were focused on vascular bundle arrangement, xylem wall pitting, periderm thickness, and exterior surface texture.



Specimen ID	Common name	Sample type	Stem/ Root	Orientation	Box #/ Stub #	Date Prepped	Date Processed in ELM	Date Imaged on SEM	Temp (Deg.)	Furnace Time (Hours)	Sputter Coated
01-Lm-TransC	Maca	Wet/fresh	Root	Transverse Center	1-1	15 Sep 2016	16 Sep 2016	14 Oct 2016			Yes
02-Lm-TransE	Maca	Wet/fresh	Root	Transverse Edge	1-2	15 Sep 2016	16 Sep 2016	14 Oct 2016			Yes
03-Lm-TangC	Maca	Wet/fresh	Root	Tangential Center	1-3	15 Sep 2016	16 Sep 2016	14 Oct 2016			Yes
04-Lm-TangE	Maca	Wet/fresh	Root	Tangential Edge	1-4	15 Sep 2016	16 Sep 2016	21 Oct 2016			Yes
05-Lm-Rad	Maca	Wet/fresh	Root	Radial	1-5	15 Sep 2016	23 Sep 2016	21 Oct 2016			Yes
06-Ot-TransC	Oca	Wet/fresh	Stem	Transverse Center	1-6	15 Sep 2016	23 Sep 2016	21 Oct 2016			Yes
07-Ot-TransE	Oca	Wet/fresh	Stem	Transverse Edge	1-7	15 Sep 2016	23 Sep 2016	21 Oct 2016			Yes
08-Ot-TangC	Oca	Wet/fresh	Stem	Tangential Center	1-8	15 Sep 2016	23 Sep 2016	21 Oct 2016			Yes
09-Ot-TangE	Oca	Wet/fresh	Stem	Tangential Edge	1-9	15 Sep 2016	23 Sep 2016	21 Oct 2016			Yes
10-Ot-Rad	Oca	Wet/fresh	Stem	Radial	1-10	15 Sep 2016	23 Sep 2016	30 Nov 2016			Yes
11-Pe-TransC	Jicama	Wet/fresh	Root	Transverse Center	1-11	15 Sep 2016	23 Sep 2016	30 Nov 2016			Yes
12-Pe-TransE	Jicama	Wet/fresh	Root	Transverse Edge	1-12	15 Sep 2016	23 Sep 2016	30 Nov 2016			Yes
13-Pe-TangC	Jicama	Wet/fresh	Root	Tangential Center		15 Sep 2016	30 Sep 2016	2 Dec 2016			
14-Pe-TangE	Jicama	Wet/fresh	Root	Tangential Edge		15 Sep 2016	30 Sep 2016	30 Nov 2016			
15-Pe-Rad	Jicama	Wet/fresh	Root	Radial		15 Sep 2016	30 Sep 2016	30 Nov 2016			
16-Ss-TransC	Yacon	Wet/fresh	Root	Transverse Center		15 Sep 2016	30 Sep 2016	30 Nov 2016			
17-Ss-TransE	Yacon	Wet/fresh	Root	Transverse Edge		15 Sep 2016	28 Oct 2016	30 Nov 2016			
18-Ss-TangC	Yacon	Wet/fresh	Root	Tangential Center		15 Sep 2016	28 Oct 2016	30 Nov 2016			
19-Ss-TangE	Yacon	Wet/fresh	Root	Tangential Edge		15 Sep 2016	28 Oct 2016	2 Dec 2016			
20-Ss-Rad	Yacon	Wet/fresh	Root	Radial		15 Sep 2016	28 Oct 2016	2 Dec 2016			
21-Sa-TransC	Papa	Wet/fresh	Stem	Transverse Center		14 Oct 2016	4 Nov 2016	2 Dec 2016			
22-Sa-TransE	Papa	Wet/fresh	Stem	Transverse Edge		14 Oct 2016	4 Nov 2016	2 Dec 2016			
23-Sa-TangC	Papa	Wet/fresh	Stem	Tangential Center		14 Oct 2016	4 Nov 2016	2 Dec 2016			
24-Sa-TangE	Papa	Wet/fresh	Stem	Tangential Edge		14 Oct 2016	4 Nov 2016	2 Dec 2016			
25-Sa-Rad	Papa	Wet/fresh	Stem	Radial		14 Oct 2016	4 Nov 2016	2 Dec 2016			
26-Tt-TransC	Mashua	Wet/fresh	Root	Transverse Center		14 Oct 2016	4 Nov 2016	2 Dec 2016			
27-Tt-TransE	Mashua	Wet/fresh	Root	Transverse Edge		14 Oct 2016	4 Nov 2016	2 Dec 2016			
28-Tt-TangC	Mashua	Wet/fresh	Root	Tangential Center		14 Oct 2016	4 Nov 2016	2 Dec 2016			
29-Tt-TangE	Mashua	Wet/fresh	Root	Tangential Edge		14 Oct 2016	18 Nov 2016	2 Dec 2016			
30-Tt-Rad	Mashua	Wet/fresh	Root	Radial		14 Oct 2016	18 Nov 2016	2 Dec 2016			
31-Ut-TransC	Papalisa	Wet/fresh	Root	Transverse Center		14 Oct 2016	18 Nov 2016	6 Dec 2016			

Specimen ID	Common name	Sample type	Stem/ Root	Orientation	Box #/ Stub #	Date Prepped	Date Processed in ELM	Date Imaged on SEM	Temp (Deg.)	Furnace Time (Hours)	Sputter Coated
32-Ut-TransE	Papalisa	Wet/fresh	Root	Transverse Edge		14 Oct 2016	18 Nov 2016	6 Dec 2016			
33-Ut-TangC	Papalisa	Wet/fresh	Root	Tangential Center		14 Oct 2016	18 Nov 2016	6 Dec 2016			
34-Ut-TangE	Papalisa	Wet/fresh	Root	Tangential Edge		14 Oct 2016	18 Nov 2016	6 Dec 2016			
35-Ut-Rad	Papalisa	Wet/fresh	Root	Radial		14 Oct 2016	18 Nov 2016	6 Dec 2016			
36-Lm-Trans1	Maca	Carbonized	Root	Transverse		21 Oct 2016		6 Dec 2016	250	2.5	
37-Lm-Trans2	Maca	Carbonized	Root	Transverse		21 Oct 2016			250	3.5	
38-Lm-Tang1	Maca	Carbonized	Root	Tangential		21 Oct 2016		6 Dec 2016	250	2.5	
39-Lm-Tang2	Maca	Carbonized	Root	Tangential		21 Oct 2016			250	3.5	
40-Lm-Rad1	Maca	Carbonized	Root	Radial		21 Oct 2016			250	2.5	
41-Lm-Rad2	Maca	Carbonized	Root	Radial		21 Oct 2016			250	3.5	
42-Ot-Tang1	Oca	Carbonized	Stem	Tangential		21 Oct 2016			250	2.5	
43-Ot-Tang2	Oca	Carbonized	Stem	Tangential		21 Oct 2016			250	3.5	
44-Ot-Trans1	Oca	Carbonized	Stem	Transverse		21 Oct 2016			250	2.5	
45-Ot-Trans2	Oca	Carbonized	Stem	Transverse		21 Oct 2016			250	3.5	
46-Ot-Rad1	Oca	Carbonized	Stem	Radial		21 Oct 2016		8 Dec 2016	250	2.5	
47-Ot-Rad2	Oca	Carbonized	Stem	Radial		21 Oct 2016			250	3.5	
48-Pe-Trans1	Jicama	Carbonized	Root	Transverse		21 Oct 2016			250	2.5	
49-Pe-Trans2	Jicama	Carbonized	Root	Transverse		21 Oct 2016			250	3.5	
50-Pe-Tang1	Jicama	Carbonized	Root	Tangential		21 Oct 2016		8 Dec 2016	250	2.5	
51-Pe-Tang2	Jicama	Carbonized	Root	Tangential		21 Oct 2016			250	3.5	
52-Ss-Trans1	Yacon	Carbonized	Root	Transverse		21 Oct 2016			250	2.5	
53-Ss-Trans2	Yacon	Carbonized	Root	Transverse		21 Oct 2016			250	3.5	
54-Ss-Tang1	Yacon	Carbonized	Root	Tangential		21 Oct 2016		8 Dec 2016	250	2.5	
55-Ss-Tang2	Yacon	Carbonized	Root	Tangential		21 Oct 2016			250	3.5	
56-Sa-Trans1	Papa	Carbonized	Stem	Transverse		21 Oct 2016		8 Dec 2016	250	2.5	
57-Sa-Trans2	Papa	Carbonized	Stem	Transverse		21 Oct 2016			250	3.5	
58-Sa-Tang1	Papa	Carbonized	Stem	Tangential		21 Oct 2016		8 Dec 2016	250	2.5	
59-Sa-Tang2	Papa	Carbonized	Stem	Tangential		21 Oct 2016			250	3.5	
60-Sa-Rad1	Papa	Carbonized	Stem	Radial		21 Oct 2016			250	2.5	
61-Sa-Rad2	Papa	Carbonized	Stem	Radial		21 Oct 2016			250	3.5	
62-Tt-Trans1	Mashua	Carbonized	Root	Transverse		21 Oct 2016		8 Dec 2016	250	2.5	
63-Tt-Trans2	Mashua	Carbonized	Root	Transverse		21 Oct 2016			250	3.5	

Specimen ID	Common name	Sample type	Stem/ Root	Orientation	Box #/ Stub #	Date Prepped	Date Processed in ELM	Date Imaged on SEM	Temp (Deg.)	Furnace Time (Hours)	Sputter Coated
64-Tt-Tang1	Mashua	Carbonized	Root	Tangential		21 Oct 2016		8 Dec 2016	250	2.5	
65-Tt-Tang2	Mashua	Carbonized	Root	Tangential		21 Oct 2016			250	3.5	
66-Tt-Rad1	Mashua	Carbonized	Root	Radial		21 Oct 2016			250	2.5	
67-Tt-Rad2	mashua	Carbonized	Root	Radial		21 Oct 2016			250	3.5	
68-Ut-Trans1	Papalisa	Carbonized	Root	Transverse		21 Oct 2016		8 Dec 2016	250	2.5	
69-Ut-Trans2	Papalisa	Carbonized	Root	Transverse		21 Oct 2016			250	3.5	
70-Ut-Tang1	Papalisa	Carbonized	Root	Tangential		21 Oct 2016			250	2.5	
71-Ut-Tang2	Papalisa	Carbonized	Root	Tangential		21 Oct 2016			250	3.5	
72-Me-TransEdge	Manioc	Wet/fresh	Stem	Transverse Edge		12 Dec 2016	13 Dec 2016	14 Dec 2016			
73-Me-TransCenter	Manioc	Wet/fresh	Stem	Transverse Center		12 Dec 2016	13 Dec 2016	14 Dec 2016			
74-Me-TangEdge	Manioc	Wet/fresh	Stem	Tangential Edge		12 Dec 2016	13 Dec 2016	14 Dec 2016			
75-MeTangCenter	Manioc	Wet/fresh	Stem	Tangential Center		12 Dec 2016	13 Dec 2016	14 Dec 2016			
76-Me-Radial	Manioc	Wet/fresh	Stem	Radial		12 Dec 2016	13 Dec 2016	14 Dec 2016			
77-Me-Trans Edge	Manioc	Carbonized	Stem	Transverse		12 Dec 2016			20 Dec 2016	250	2.5
78-Me-Trans Edge 2	Manioc	Carbonized	Stem	Transverse		12 Dec 2016			250	3.5	
79-Me-Tang Edge	Manioc	Carbonized	Stem	Tangential		12 Dec 2016			250	3.5	
80-Me-Tang Edge 2	Manioc	Carbonized	Stem	Tangential		12 Dec 2016			250	3.5	
81-Me-Radial	Manioc	Carbonized	Stem	Radial		12 Dec 2016			250	3.5	
82-Me-Radial 2	Manioc	Carbonized	Stem	Radial		12 Dec 2016			250	2.5	
83-Ip-TransCenter	Sweet Potato	Wet/fresh	Root	Transverse Center		12 Dec 2016	13 Dec 2016	14 Dec 2016			
84-Ip-TransEdge	Sweet Potato	Wet/fresh	Root	Transverse Edge		12 Dec 2016	13 Dec 2016	14 Dec 2016			
85-Ip-TangCenter	Sweet Potato	Wet/fresh	Root	Tangential Center		12 Dec 2016	13 Dec 2016	14 Dec 2016			
86-Ip-TangEdge	Sweet Potato	Wet/fresh	Root	Tangential Edge		12 Dec 2016	13 Dec 2016	14 Dec 2016			
87-Ip-Radial	Sweet Potato	Wet/fresh	Root	Radial		12 Dec 2016	13 Dec 2016	14 Dec 2016			
88-Ip-Trans	Sweet Potato	Carbonized	Root	Transverse		12 Dec 2016			20 Dec 2016	250	2.5
89-Ip-Trans 2	Sweet Potato	Carbonized	Root	Transverse		12 Dec 2016			250	2.5	
90-Ip-Tang	Sweet Potato	Carbonized	Root	Tangential		12 Dec 2016			20 Dec 2016	250	2.5
91-Ip-Tang 2	Sweet Potato	Carbonized	Root	Tangential		12 Dec 2016			250	3.5	
92-Ip-Radial	Sweet Potato	Carbonized	Root	Radial		12 Dec 2016			250	2.5	

Ip=Ipomoea batatas (CONVULVULACEAE)

Ot=Oxalis tuberosa (OXALIDACEAE)

Lm=Lepidium meyenii (BRASSICACEAE)

Me=Manihot esculenta (EUPHORBIACEAE)

Pe=Pachyrzus erosus (FABACEAE)

Ss=Smallanthus sonchifolius (ASTERACEAE)

Sa=Solanum (SOLANACEAE)

Tt=Tropaeolum tuberosum (TROPAEOLACEAE)

Ut=Ullucus tuberosus (BASELLACEAE)

Trans=Tangential

Tang=Tangential

Rad=Radial

C=Center of specimen

E=Edge of specimen (contains periderm)

Lepidium meyenii



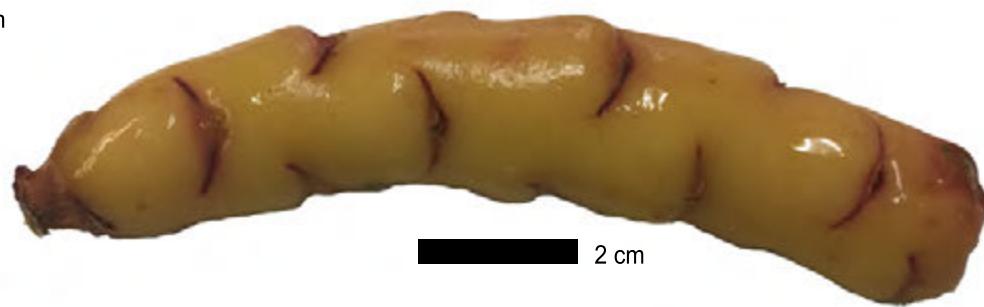
Solanum



Pachyrhizus erosus



Oxalis *tuberosa*



Ullucus tuberosus



Smallanthus sonchifolius



Tropaeolum *tuberosum*

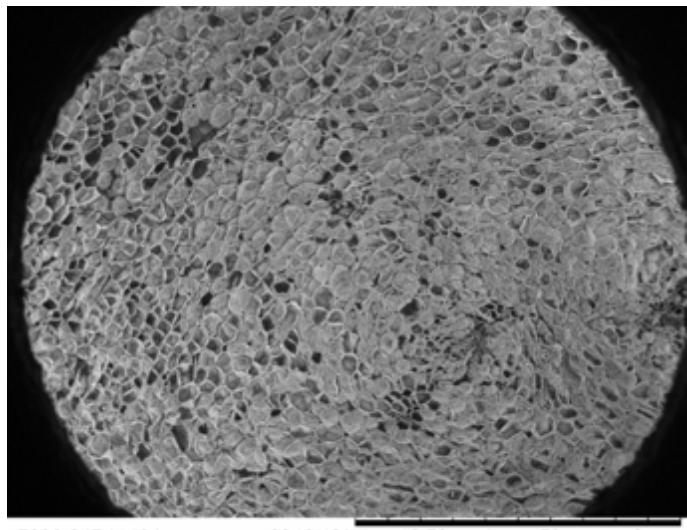


Fresh
Specimen

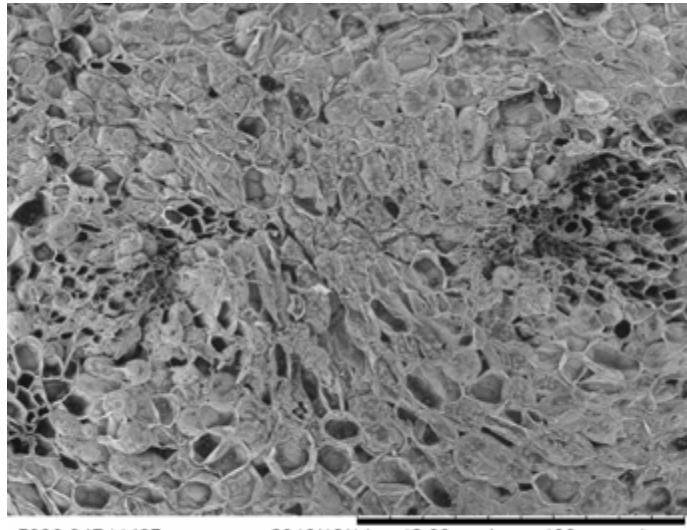
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

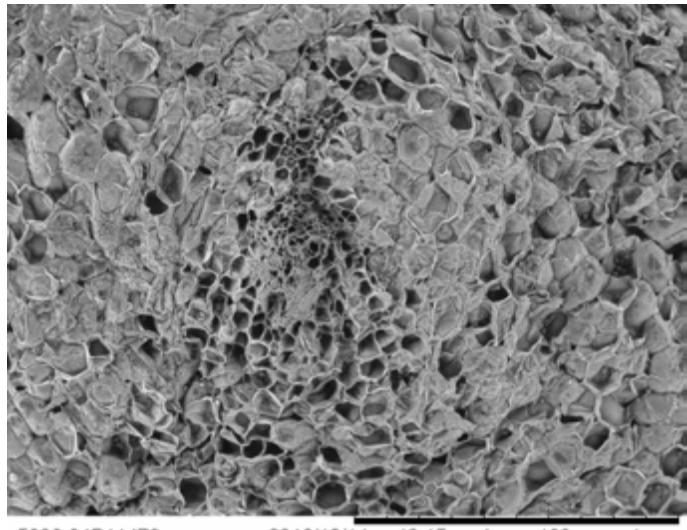
Transverse Center



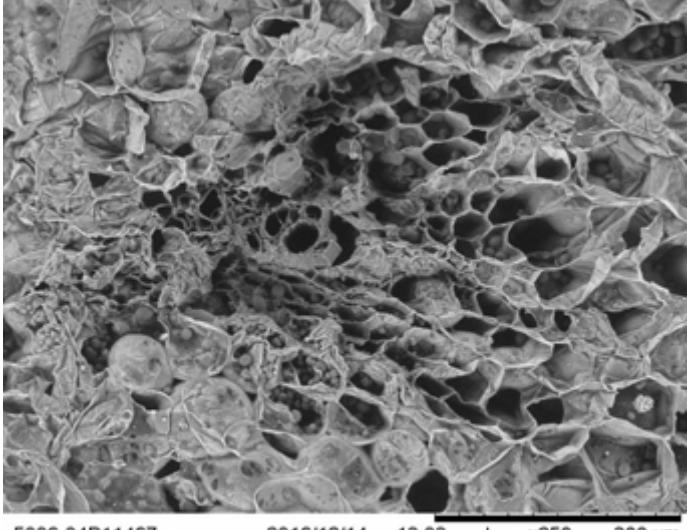
5006-04P11464 2016/12/14 12:59 L x50 2 mm



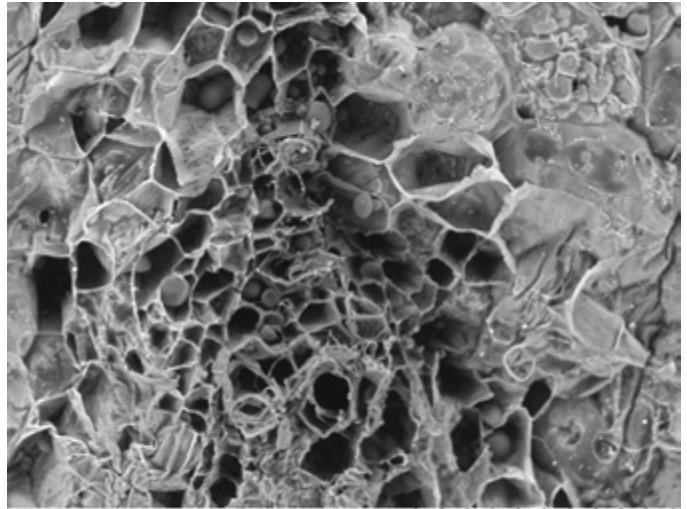
5006-04P11465 2016/12/14 13:00 L x100 1 mm



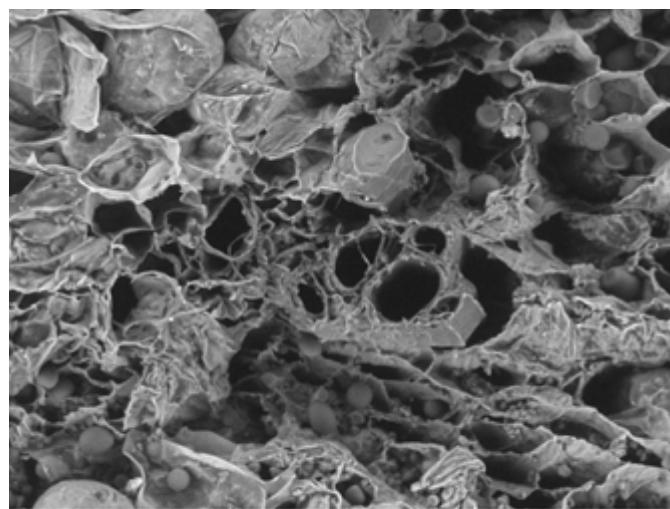
5006-04P11476 2016/12/14 13:15 L x100 1 mm



5006-04P11467 2016/12/14 13:03 L x250 300 μm



5006-04P11479 2016/12/14 13:19 L x400 200 μm

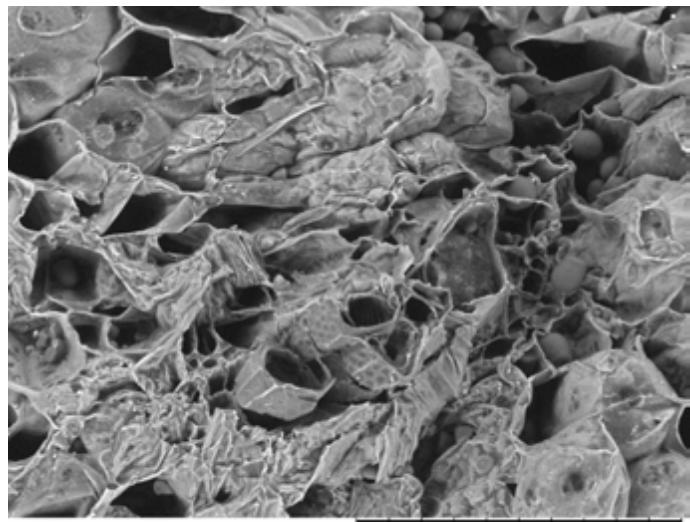


5006-04P11468 2016/12/14 13:04 L x500 200 μm

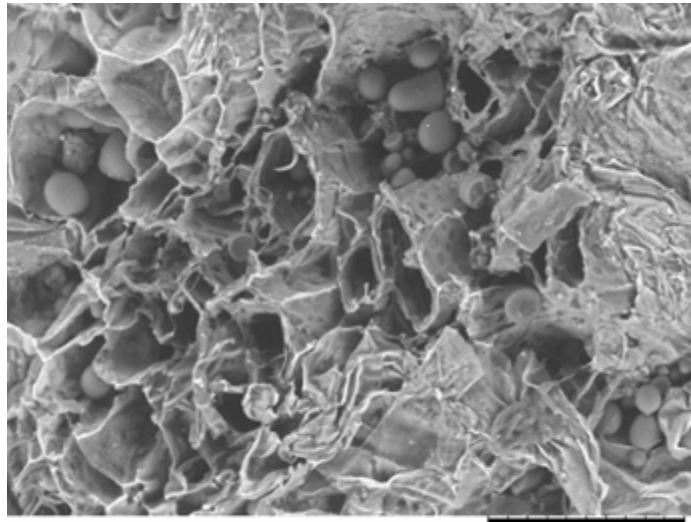
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

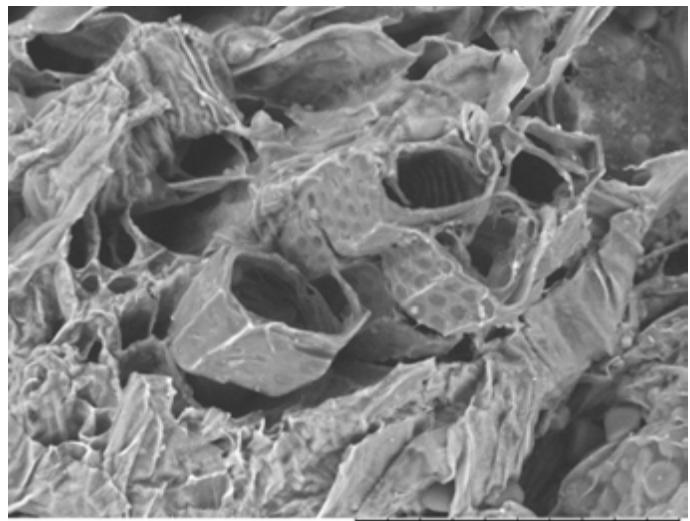
Transverse Center (continued)



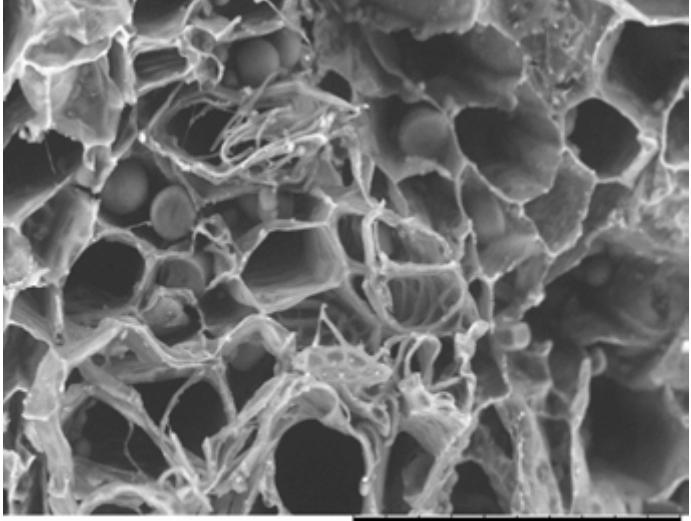
5006-04P11471 2016/12/14 13:08 L x500 200 um



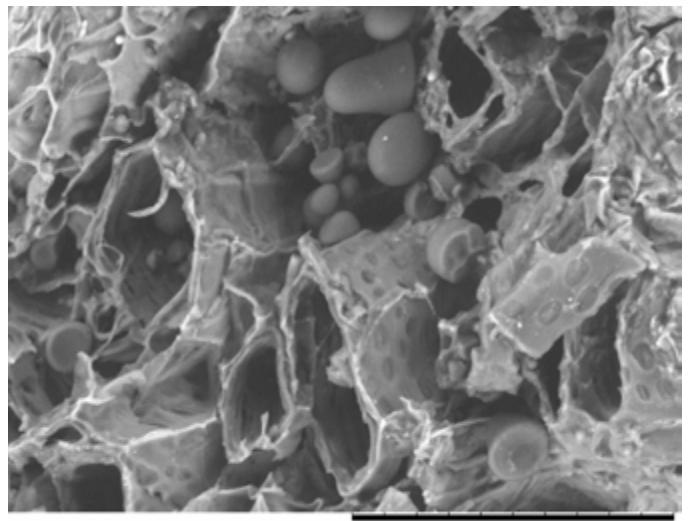
5006-04P11483 2016/12/14 13:25 L x600 100 um



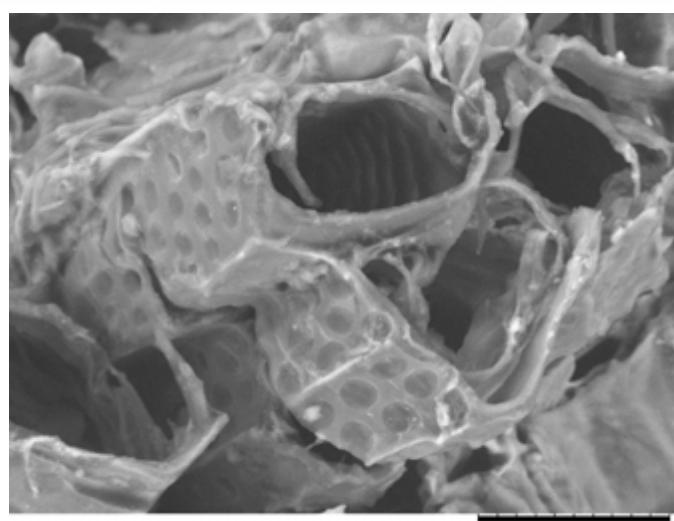
5006-04P11472 2016/12/14 13:10 L x1.0k 100 um



5006-04P11482 2016/12/14 13:23 L x1.0k 100 um



5006-04P11484 2016/12/14 13:26 L x1.0k 100 um

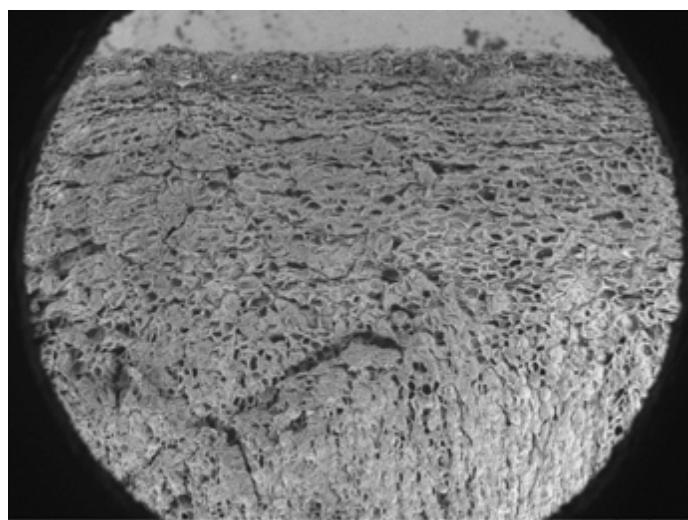


5006-04P11473 2016/12/14 13:11 L x2.0k 30 um

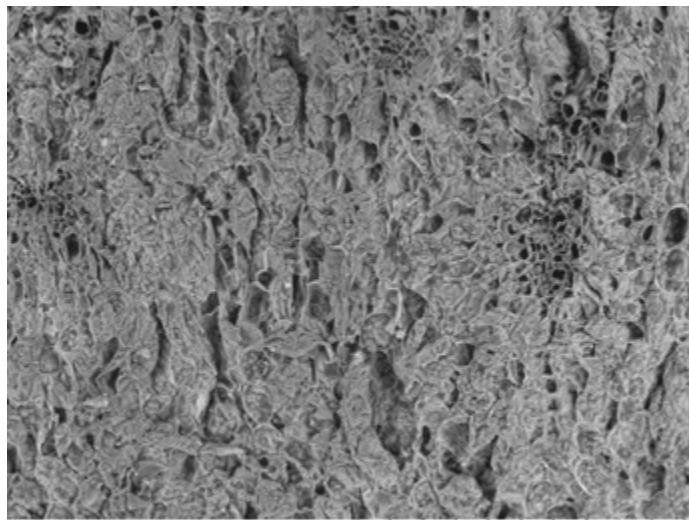
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

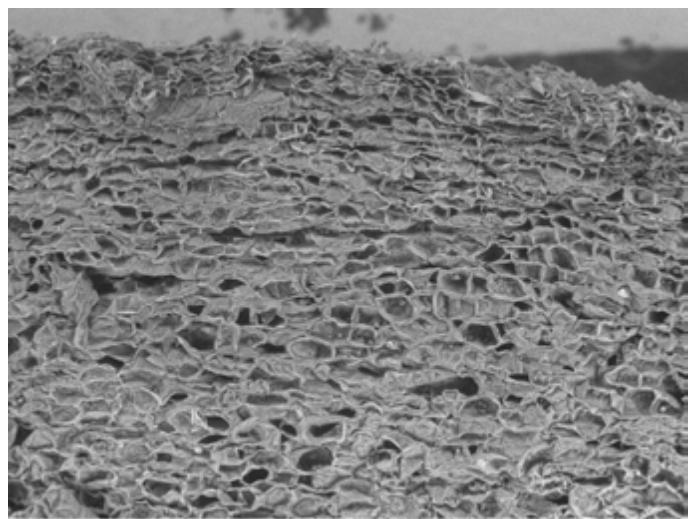
Transverse Edge



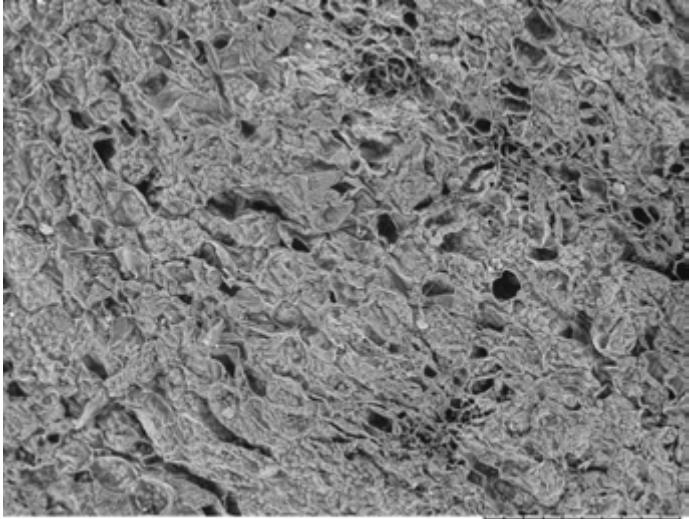
5006-04P11485 2016/12/14 13:34 L x50 2 mm



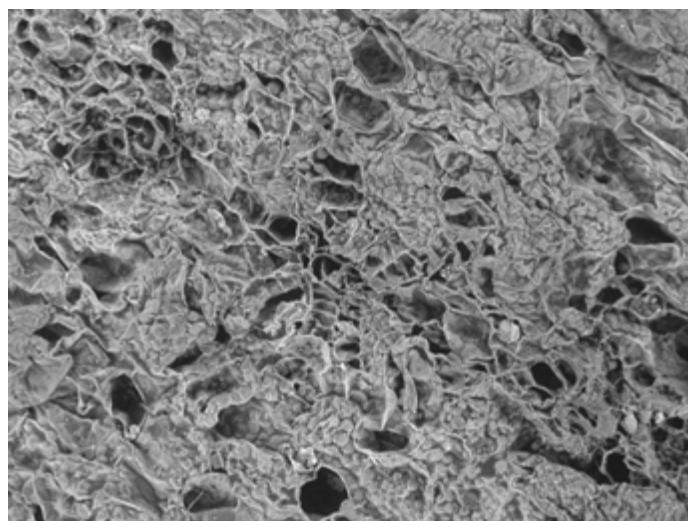
5006-04P11489 2016/12/14 13:41 L x100 1 mm



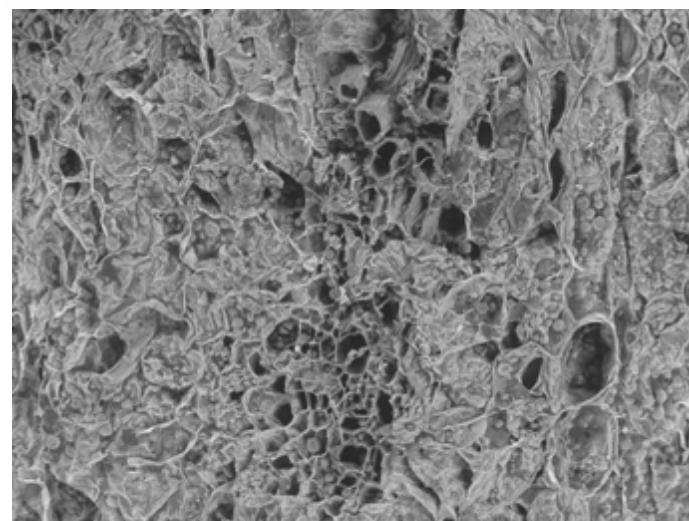
5006-04P11486 2016/12/14 13:37 L x100 1 mm



5006-04P11496 2016/12/14 13:53 L x120 500 um



5006-04P11497 2016/12/14 13:54 L x200 500 um

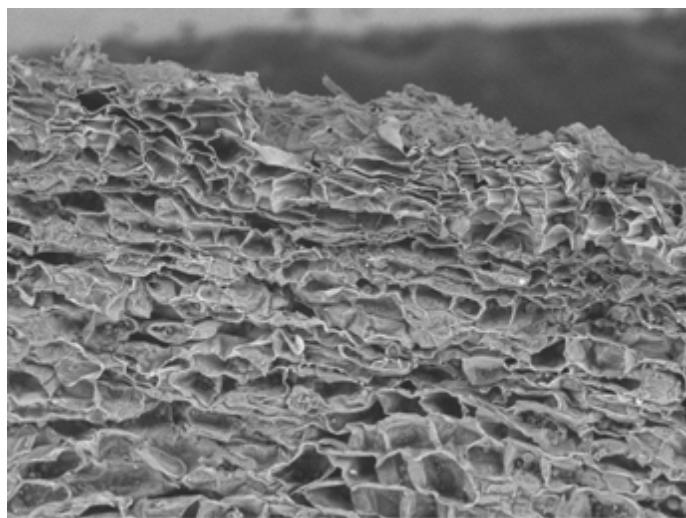


5006-04P11490 2016/12/14 13:42 L x200 500 um

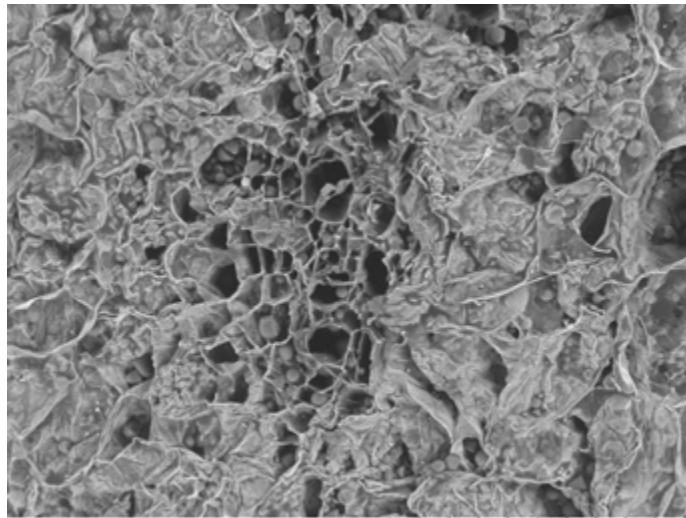
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

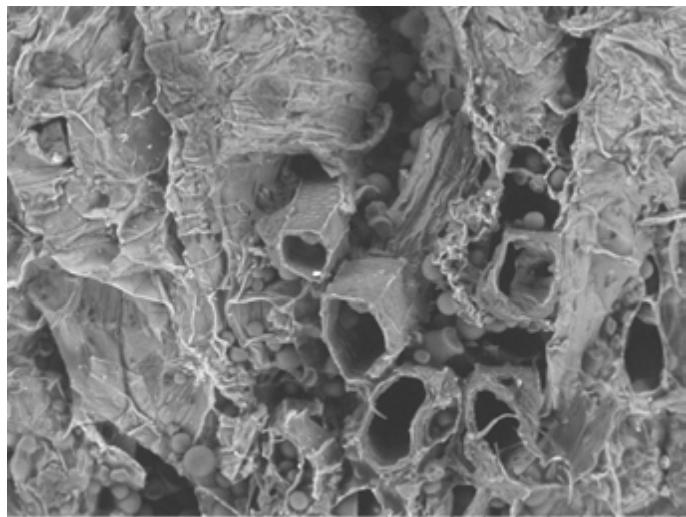
Transverse Edge (Continued)



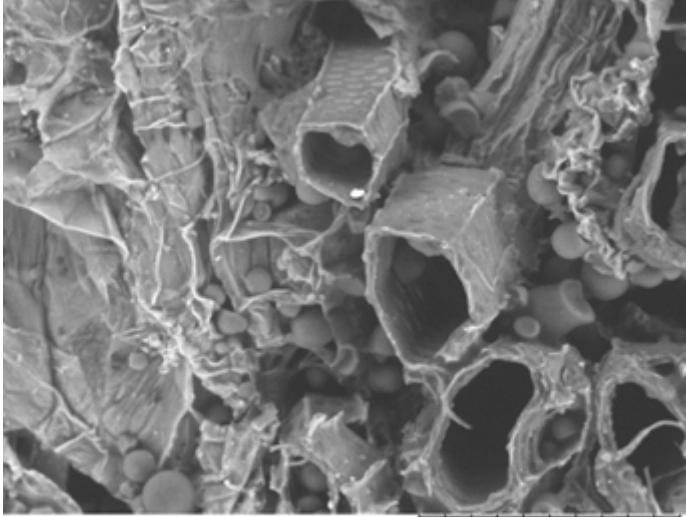
5006-04P11487 2016/12/14 13:38 L x200 500 um



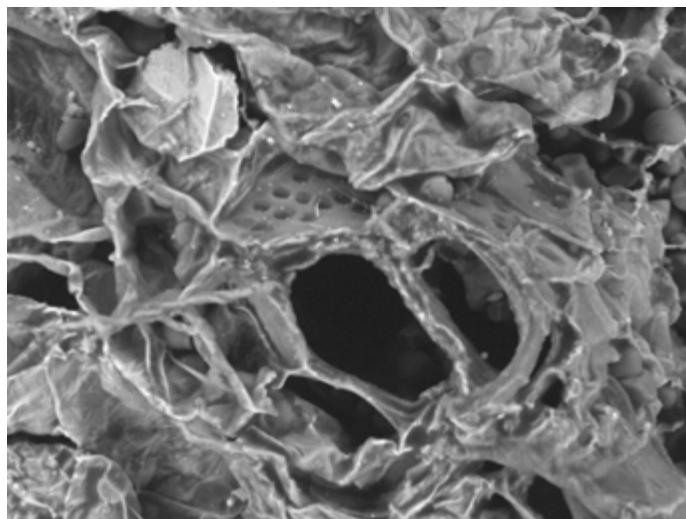
5006-04P11491 2016/12/14 13:43 L x300 300 um



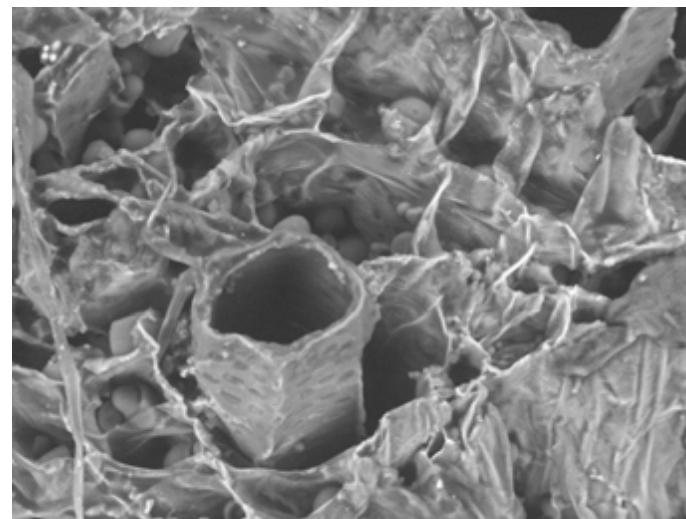
5006-04P11492 2016/12/14 13:45 L x500 200 um



5006-04P11493 2016/12/14 13:47 L x800 100 um



5006-04P11498 2016/12/14 13:55 L x1.0k 100 um

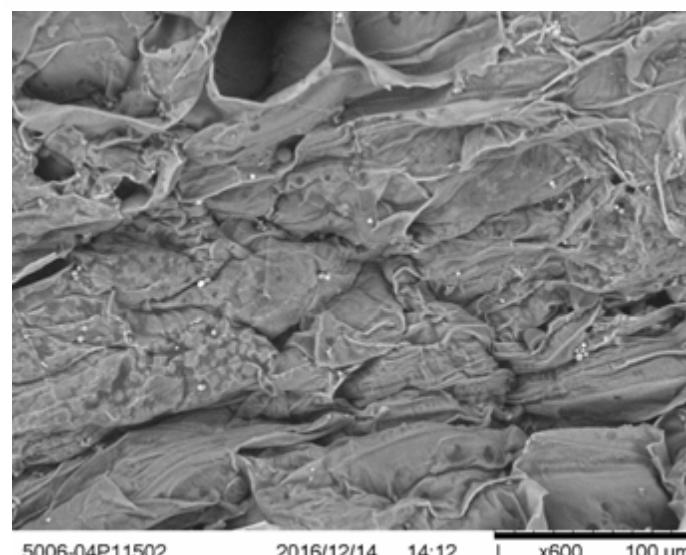
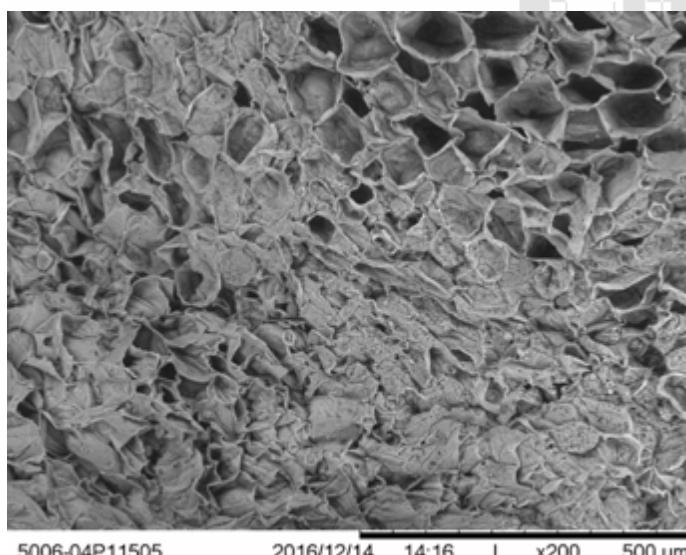
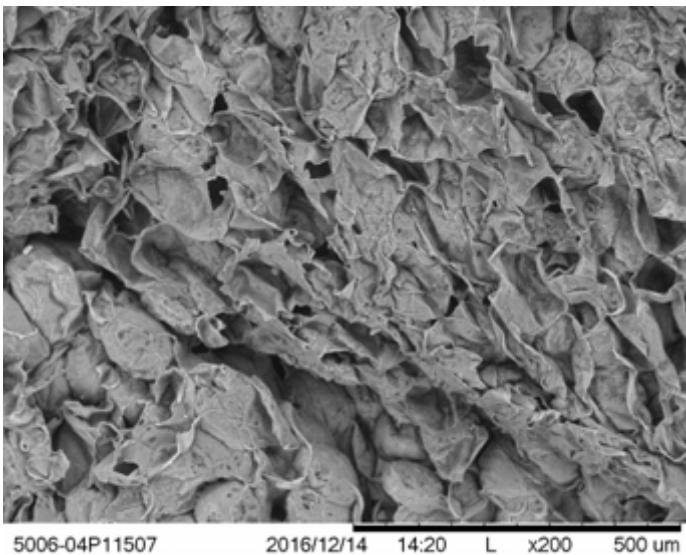
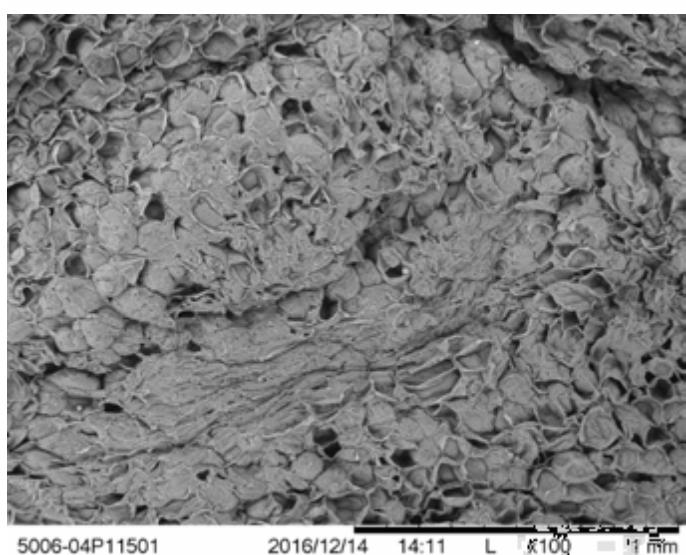
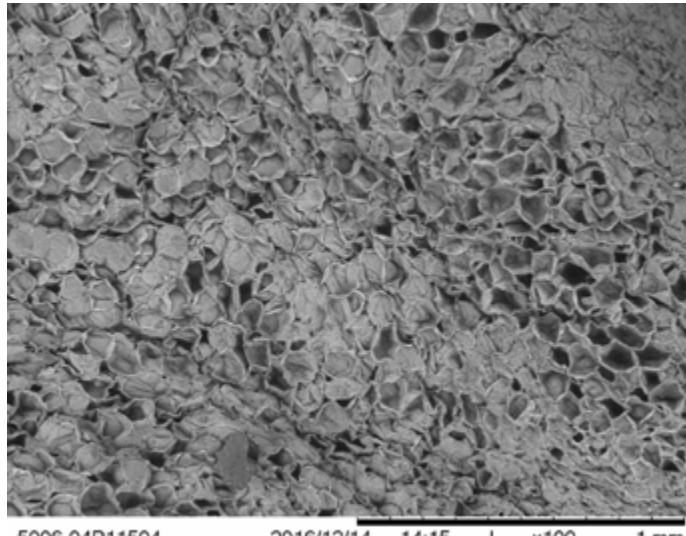
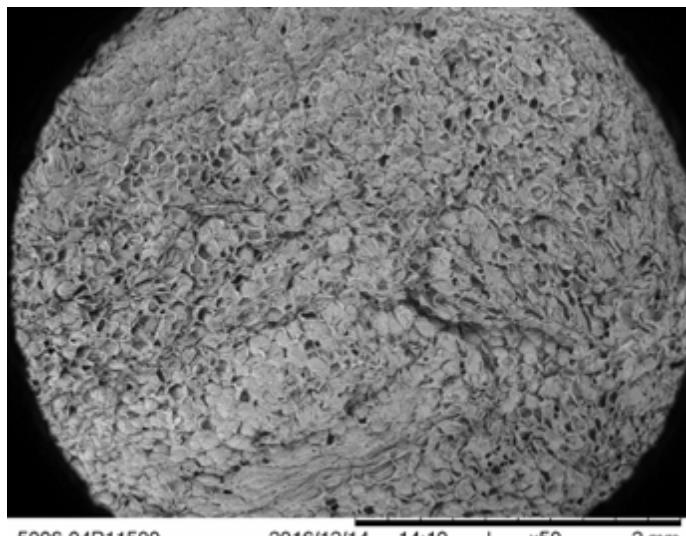


5006-04P11494 2016/12/14 13:50 L x1.0k 100 um

Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

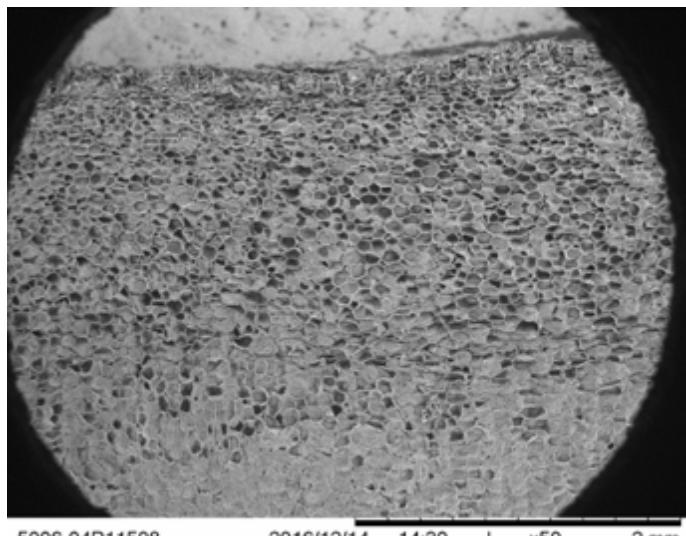
Tangential Center



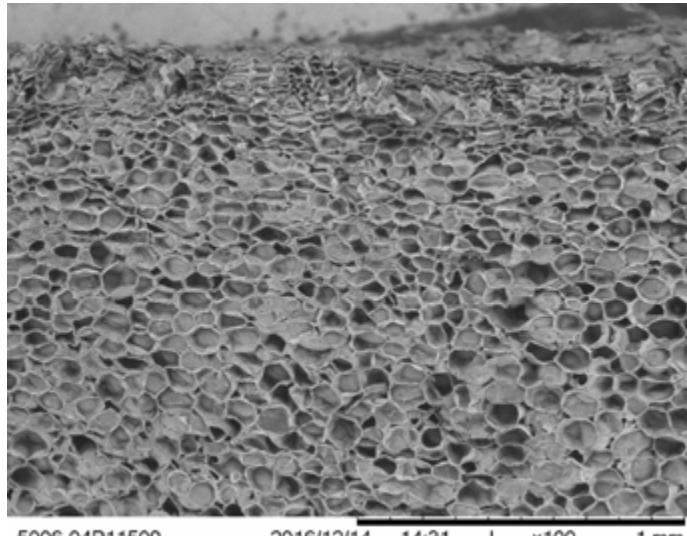
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

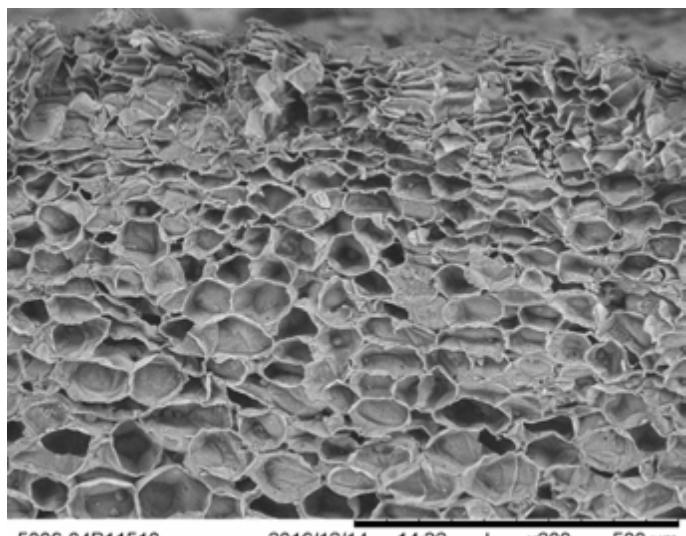
Tangential Edge



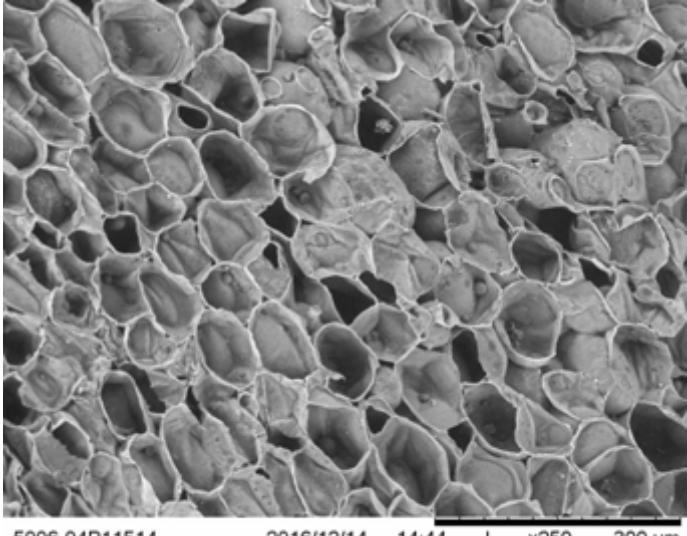
5006-04P11508 2016/12/14 14:30 L x50 2 mm



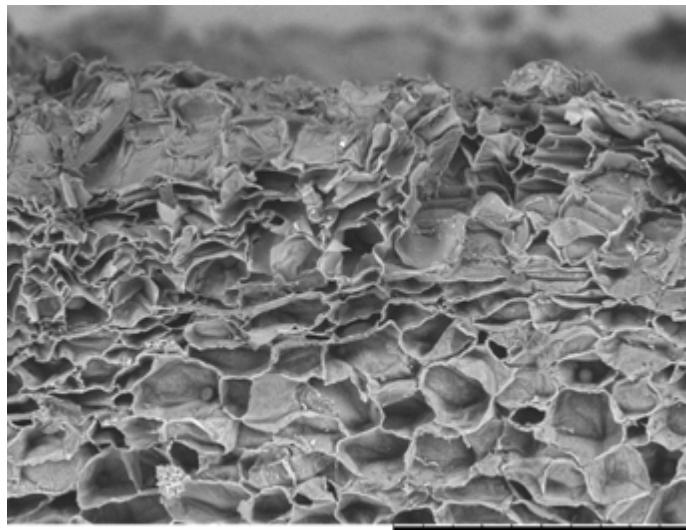
5006-04P11509 2016/12/14 14:31 L x100 1 mm



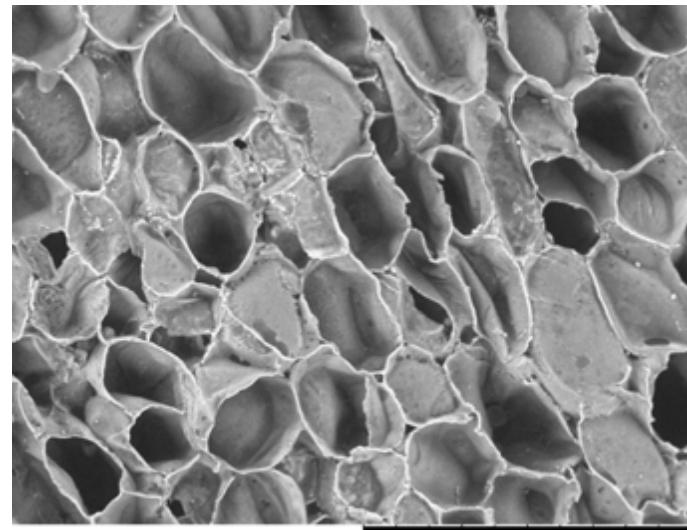
5006-04P11510 2016/12/14 14:32 L x200 500 um



5006-04P11514 2016/12/14 14:44 L x250 300 um



5006-04P11511 2016/12/14 14:33 L x300 300 um

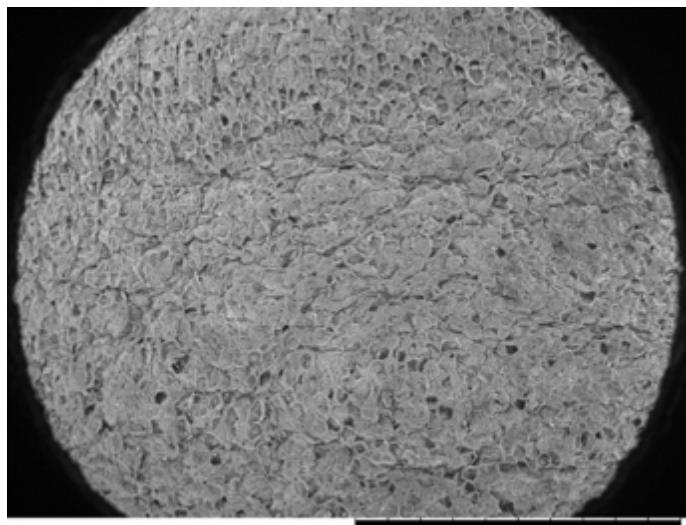


5006-04P11515 2016/12/14 14:46 L x500 200 um

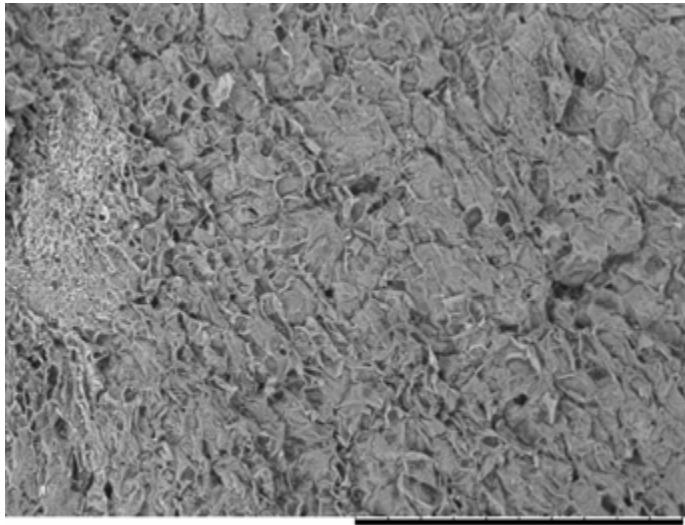
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

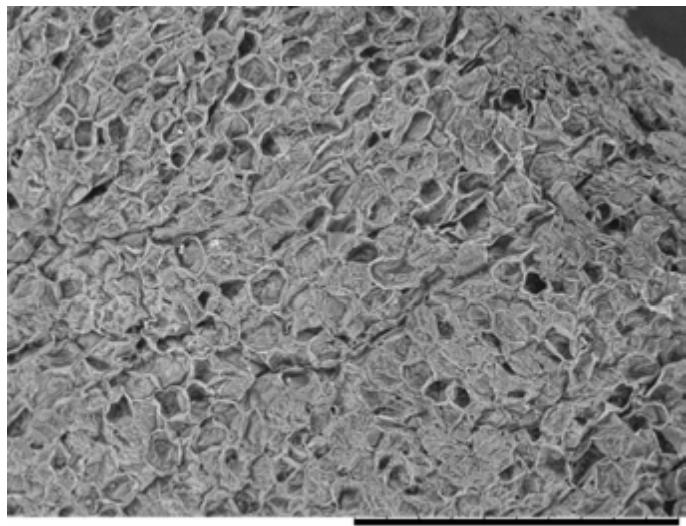
Radial



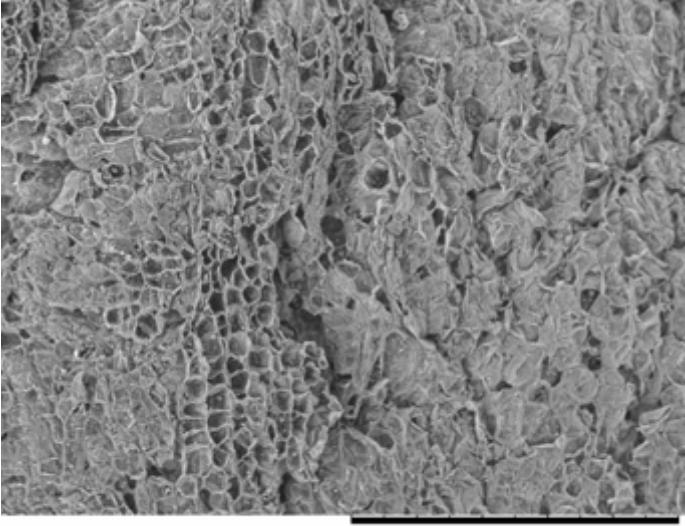
5006-04P11518 2016/12/14 14:59 L x50 2 mm



5006-04P11519 2016/12/14 15:00 L x100 1 mm



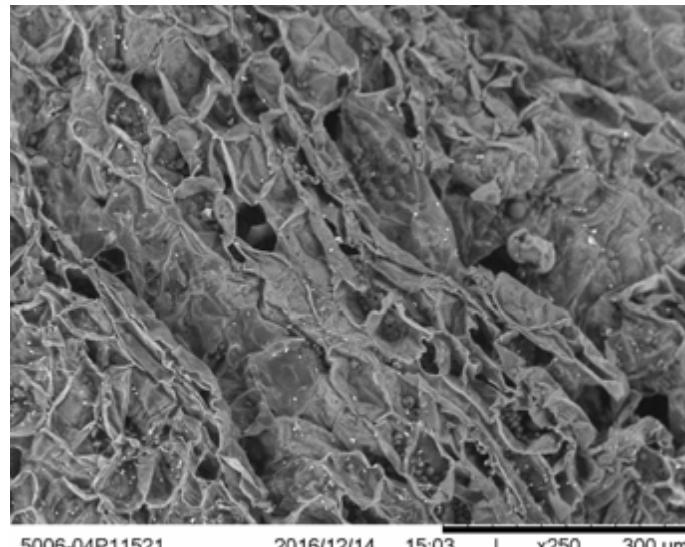
5006-04P11522 2016/12/14 15:05 L x100 1 mm



5006-04P11517 2016/12/14 14:57 L x100 1 mm



5006-04P11520 2016/12/14 15:01 L x150 500 µm

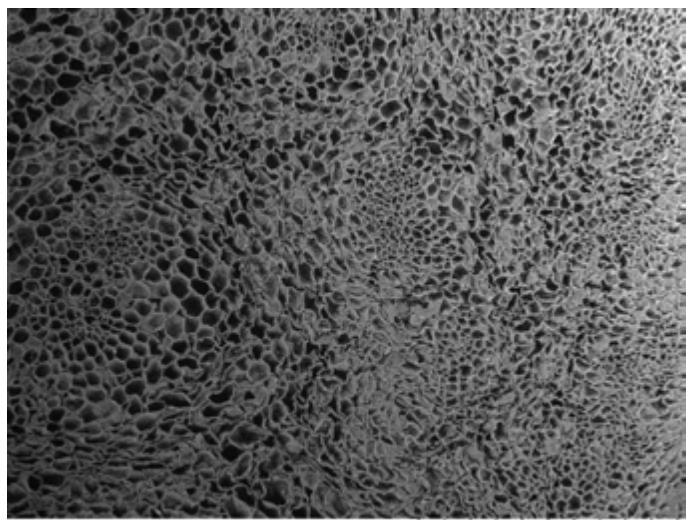


5006-04P11521 2016/12/14 15:03 L x250 300 µm

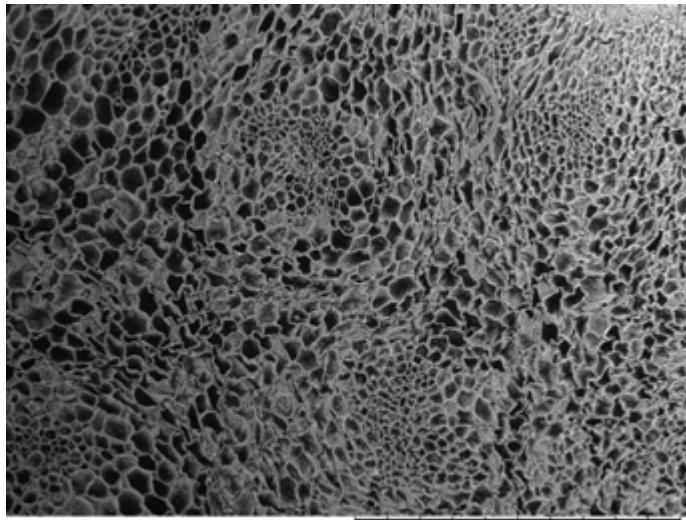
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

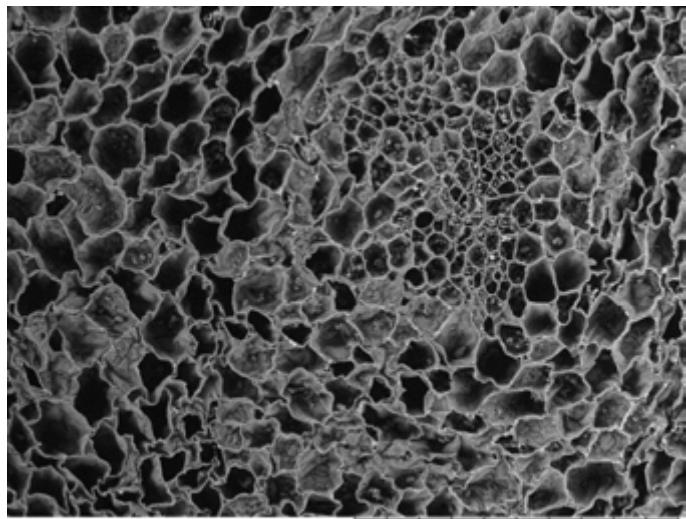
Transverse Center



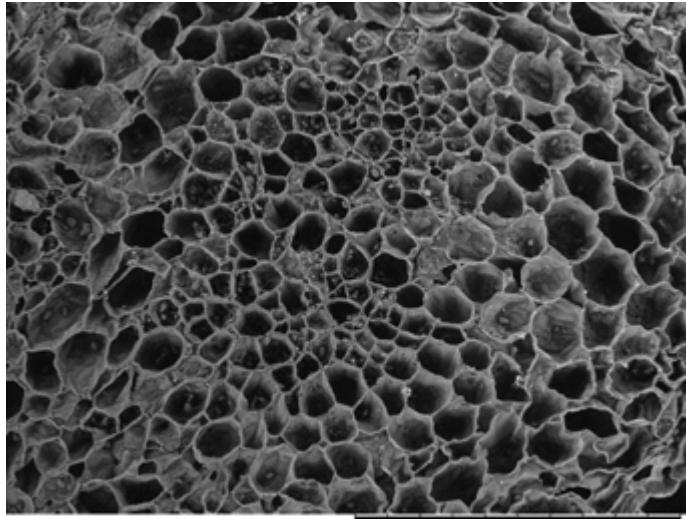
5006-04P10061 2016/10/14 11:41 L x80 1 mm



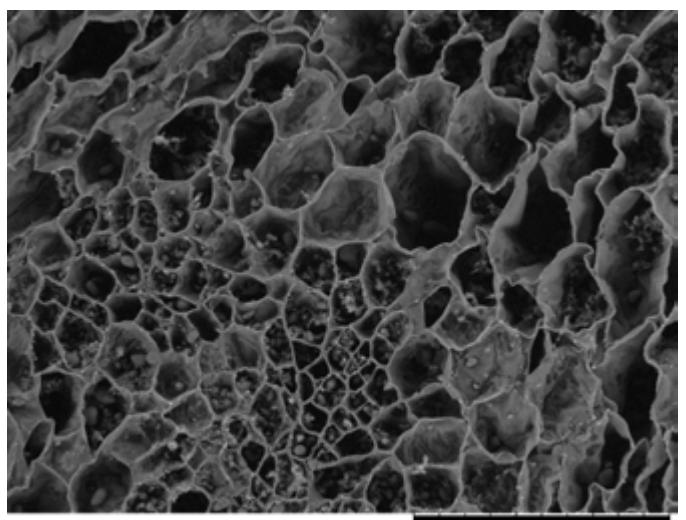
5006-04P10059 2016/10/14 11:37 L x100 1 mm



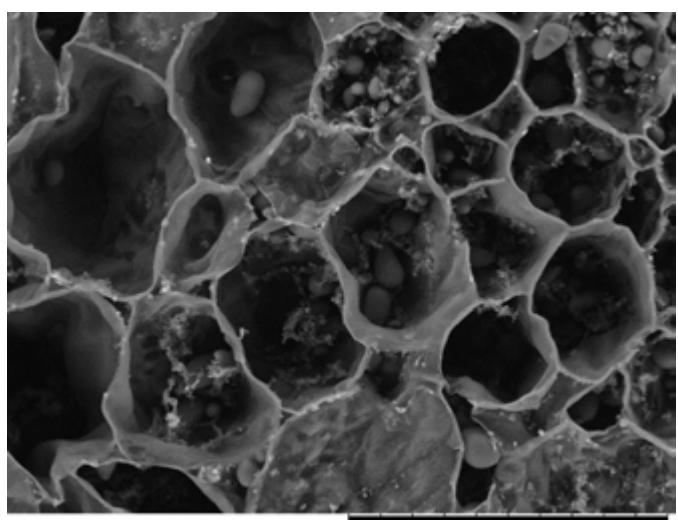
5006-04P10057 2016/10/14 11:33 L x200 500 um



5006-04P10062 2016/10/14 11:43 L x200 500 um



5006-04P10058 2016/10/14 11:34 L x400 200 um

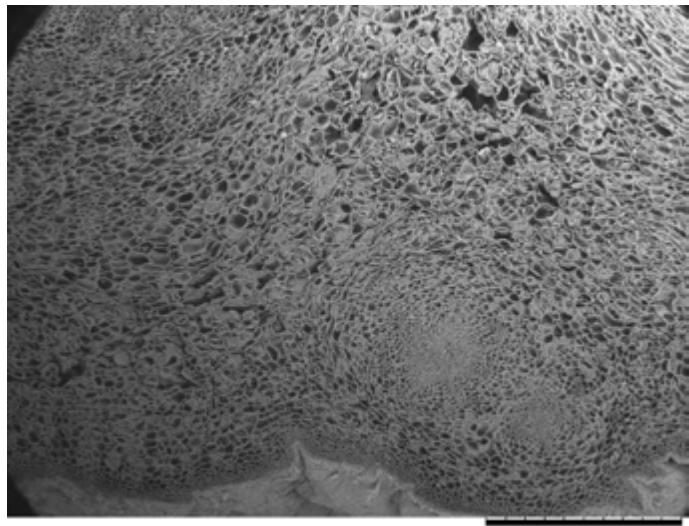


5006-04P10060 2016/10/14 11:40 L x1.0k 100 um

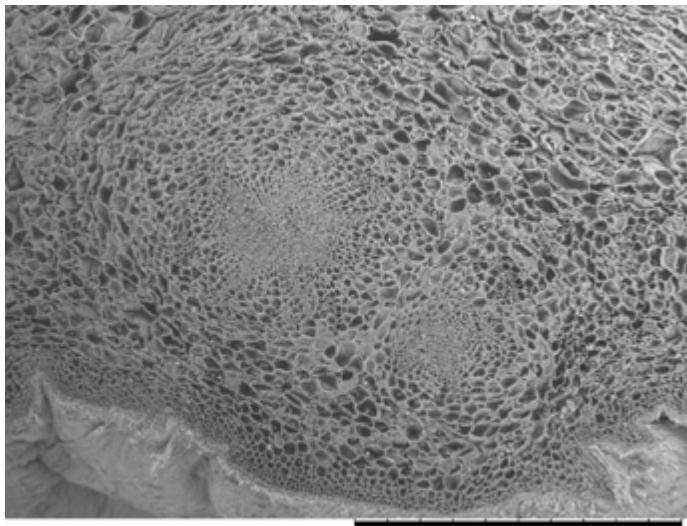
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

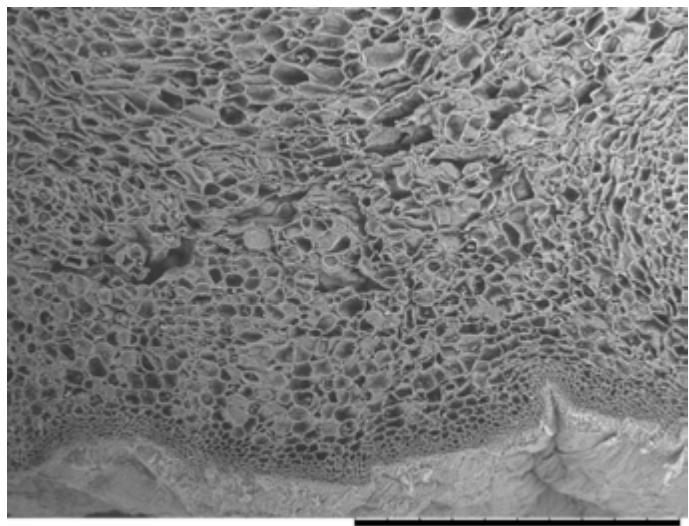
Transverse Edge



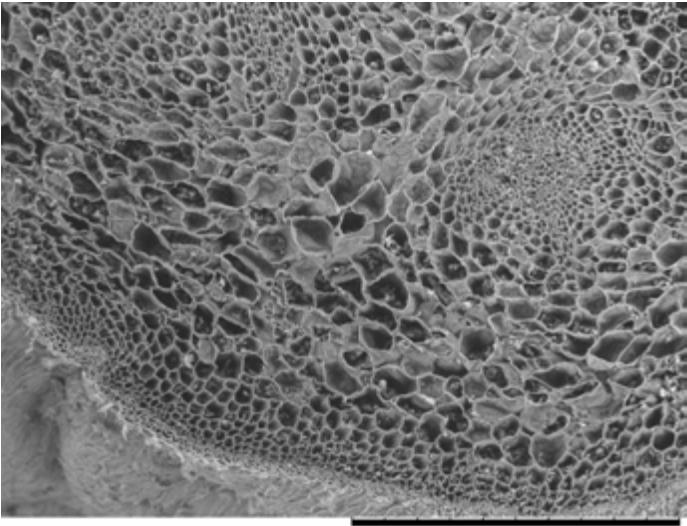
5006-04P10069 2016/10/14 12:07 L x60 1 mm



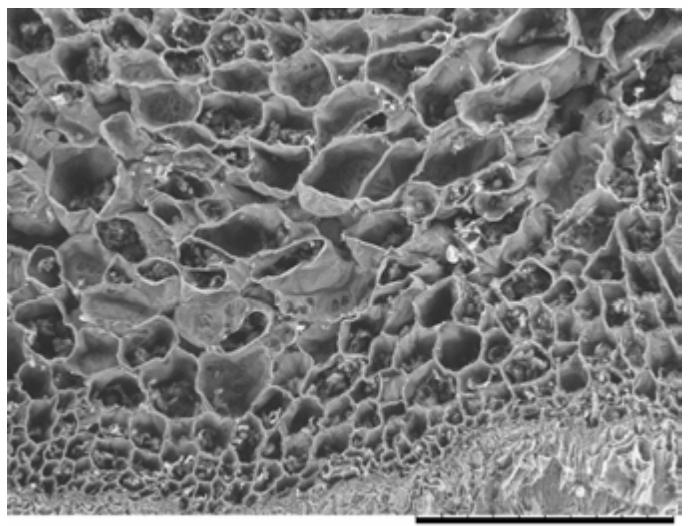
5006-04P10064 2016/10/14 11:58 L x100 1 mm



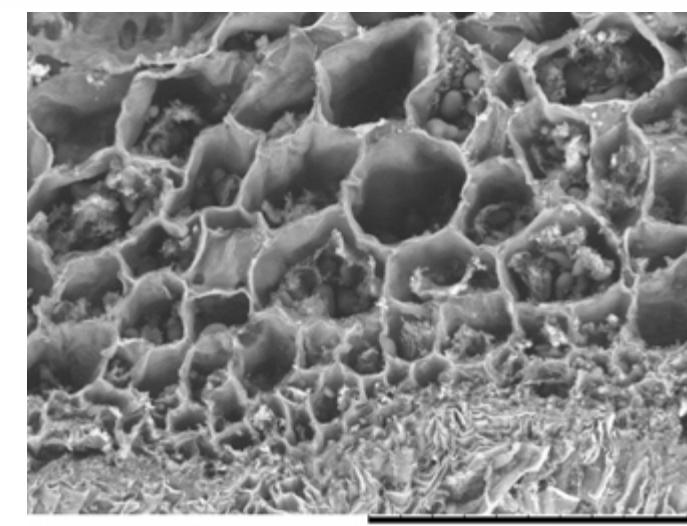
5006-04P10063 2016/10/14 11:56 L x100 1 mm



5006-04P10068 2016/10/14 12:05 L x200 500 um



5006-04P10066 2016/10/14 12:02 L x400 200 um

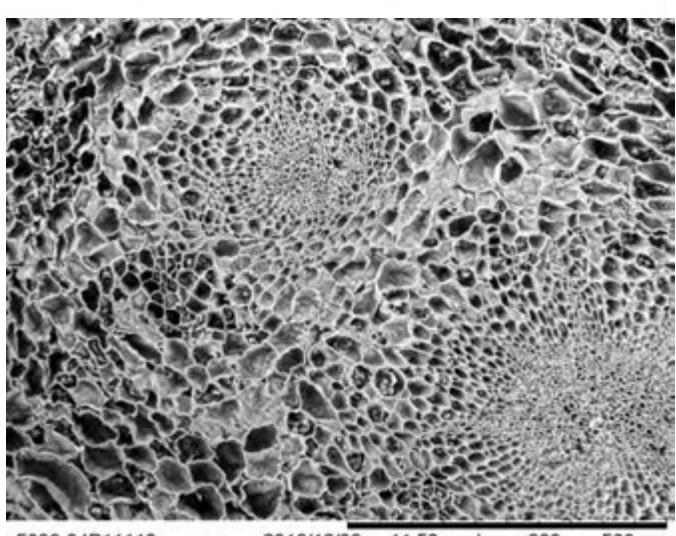
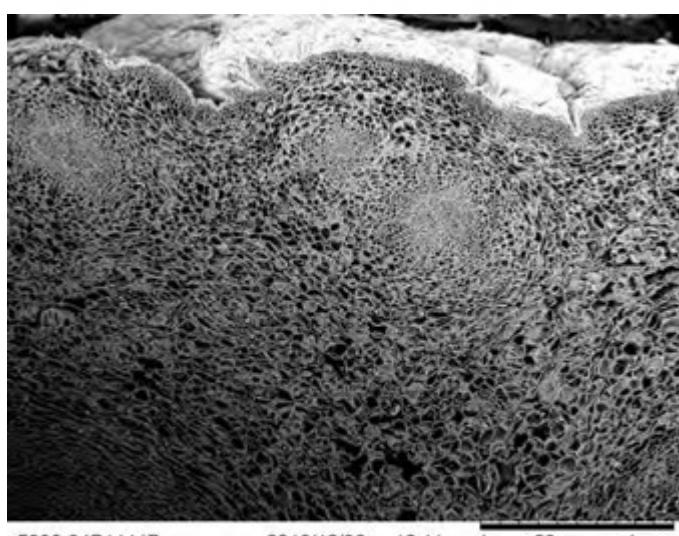
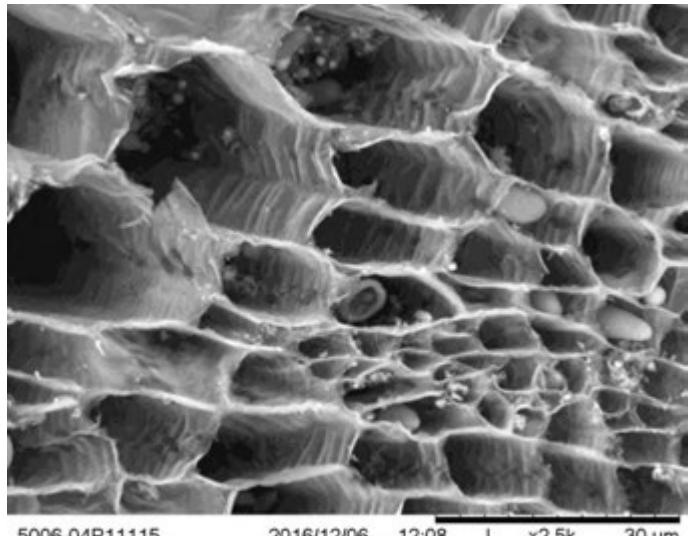
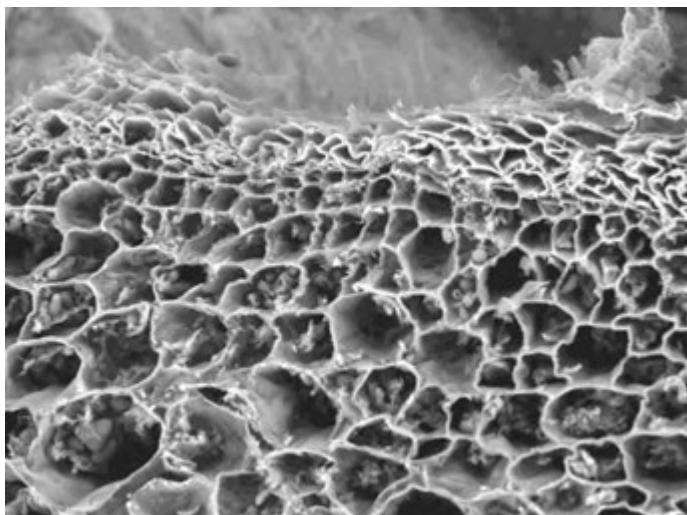
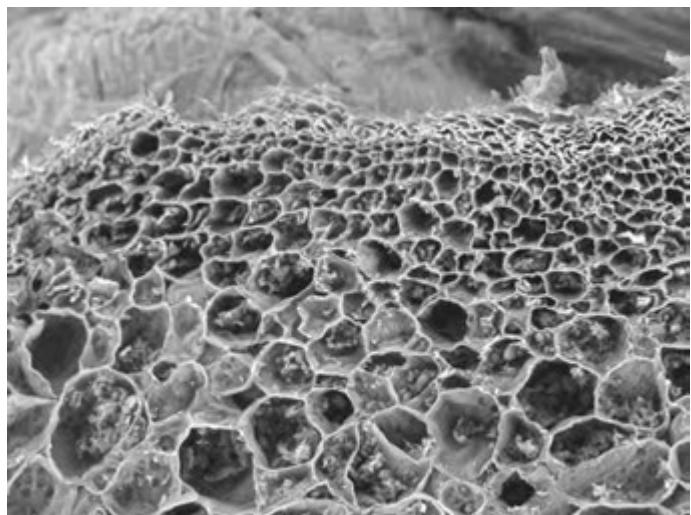


5006-04P10067 2016/10/14 12:03 L x1.0k 100 um

Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

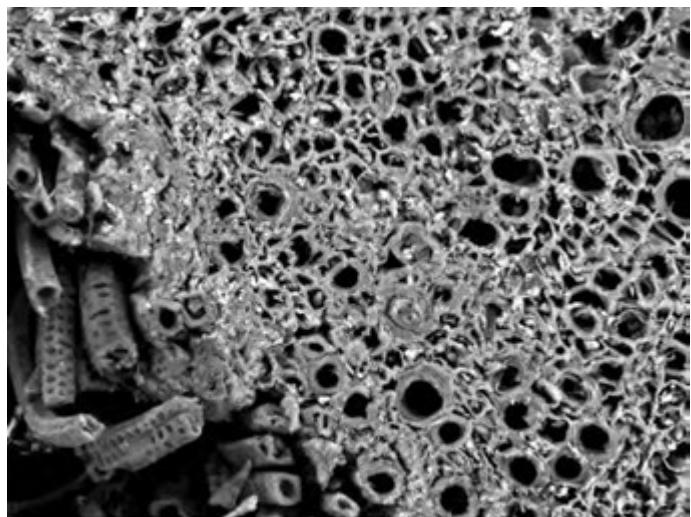
Transverse Edge (Continued)



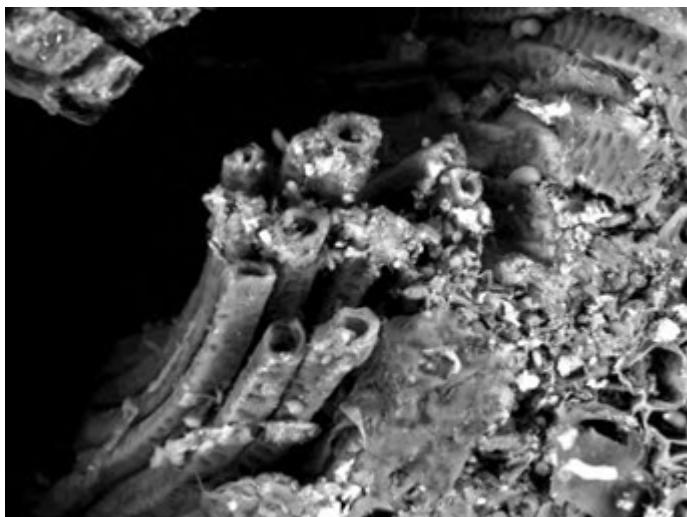
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

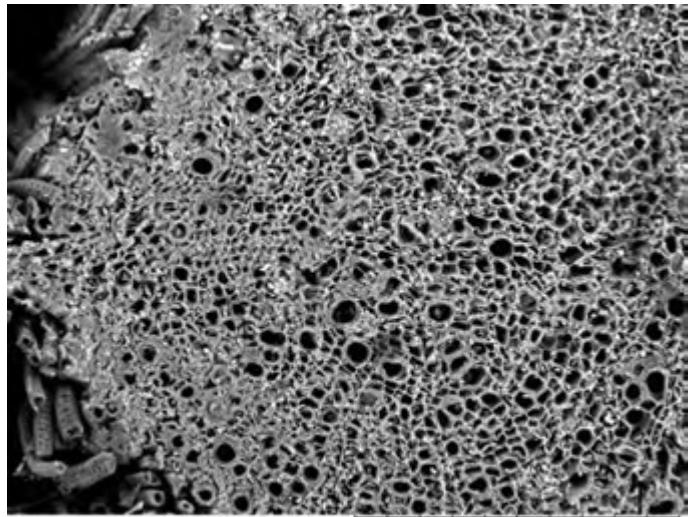
Transverse Edge (Continued 2)



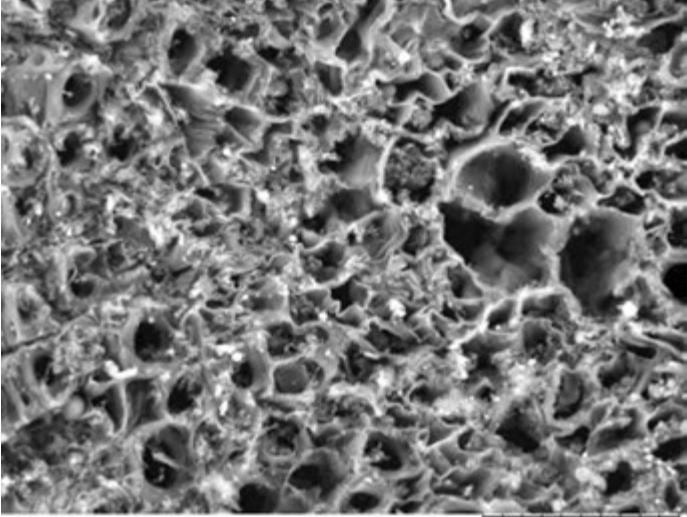
5006-04P11121 2016/12/06 12:19 L x1.0k 100 um



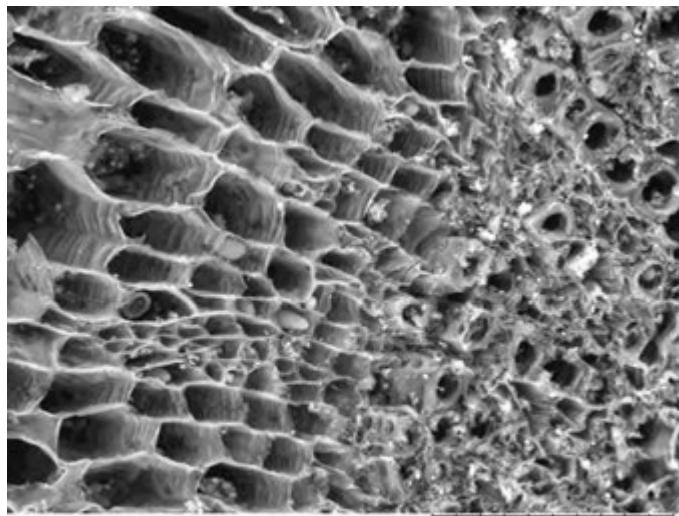
5006-04P11120 2016/12/06 12:16 L x1.5k 50 um



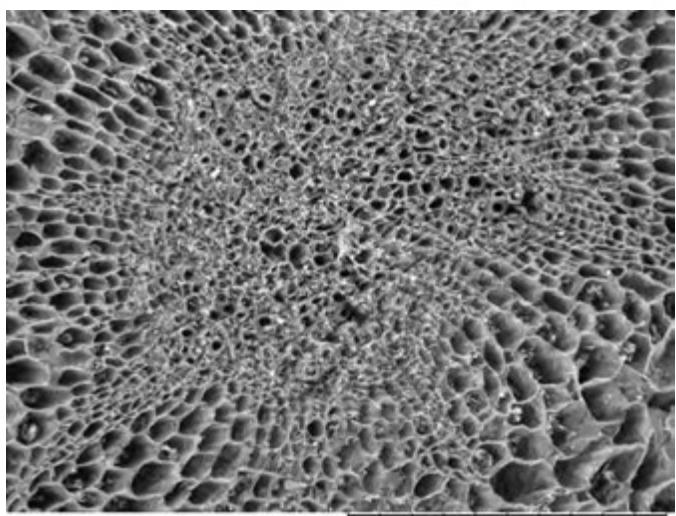
5006-04P11119 2016/12/06 12:14 L x500 200 um



5006-04P11116 2016/12/06 12:09 L x2.0k 30 um



5006-04P11114 2016/12/06 12:06 L x1.5k 50 um

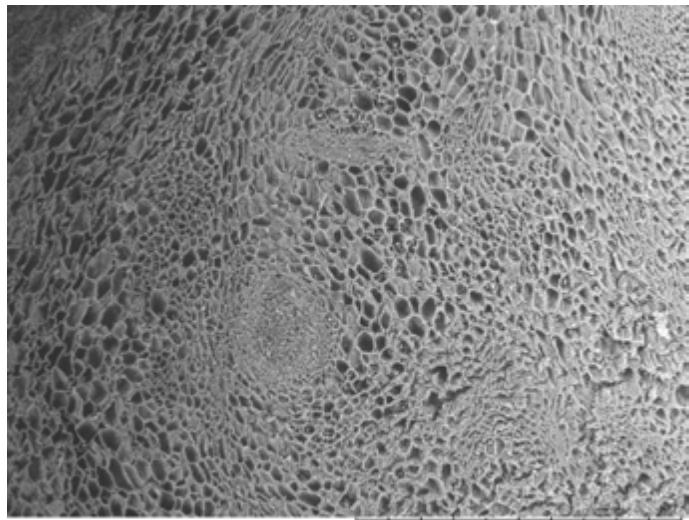


5006-04P11113 2016/12/06 12:05 L x500 200 um

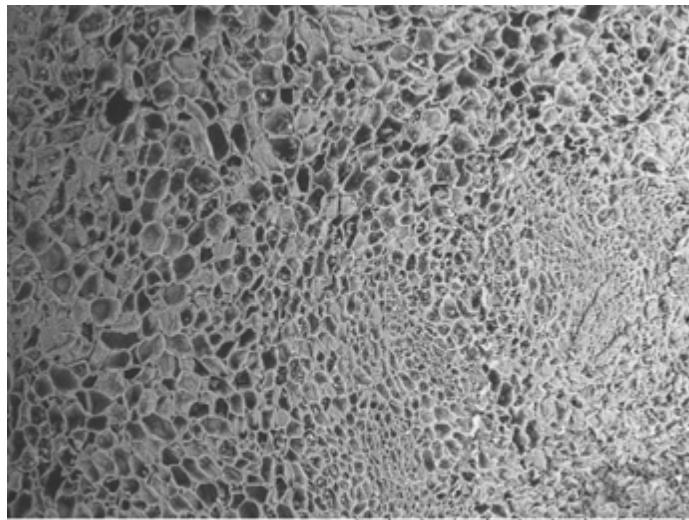
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

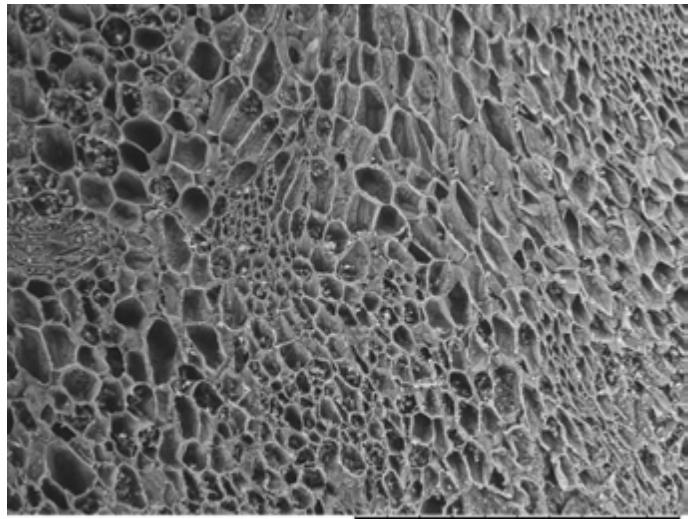
Tangential Center



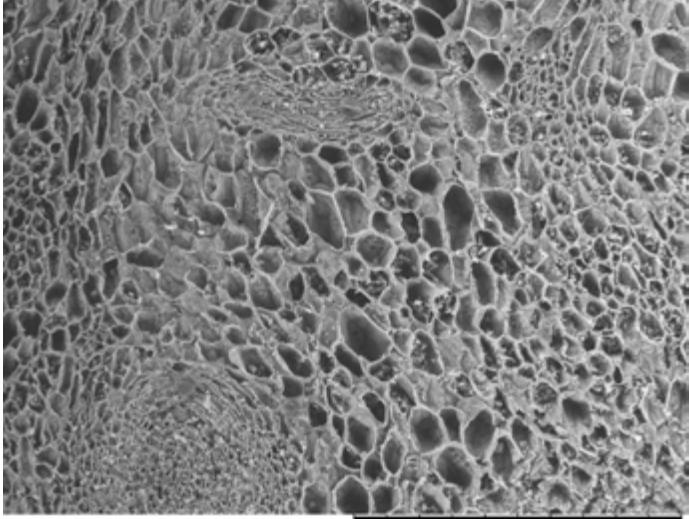
5006-04P10071 2016/10/14 12:23 L x100 1 mm



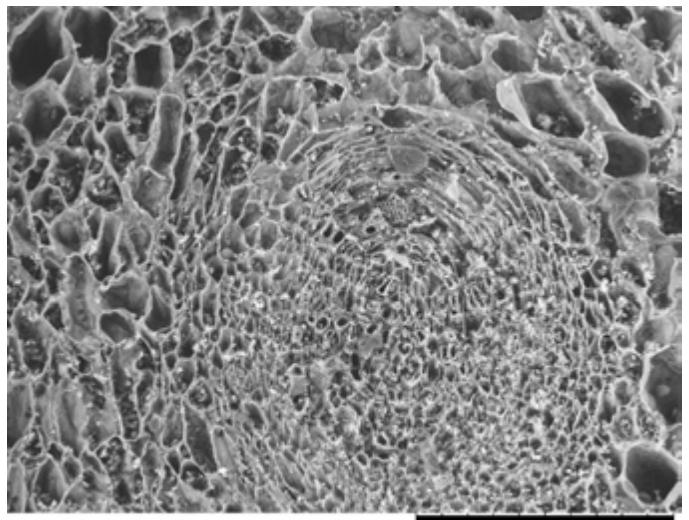
5006-04P10070 2016/10/14 12:21 L x100 1 mm



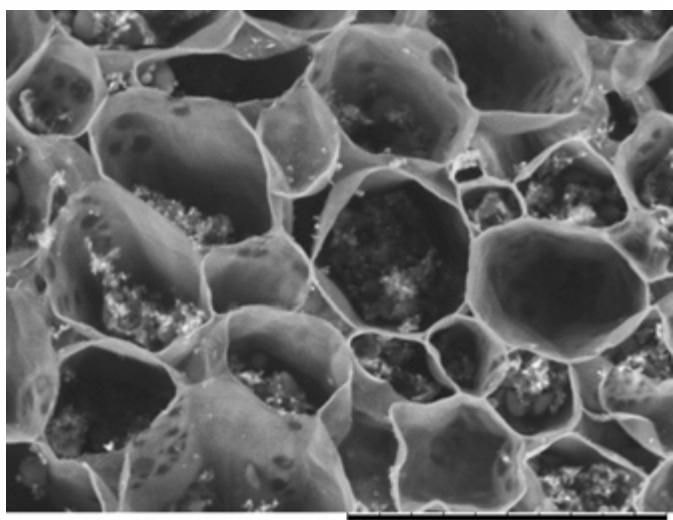
5006-04P10074 2016/10/14 12:27 L x200 500 um



5006-04P10072 2016/10/14 12:24 L x200 500 um



5006-04P10073 2016/10/14 12:25 L x400 200 um

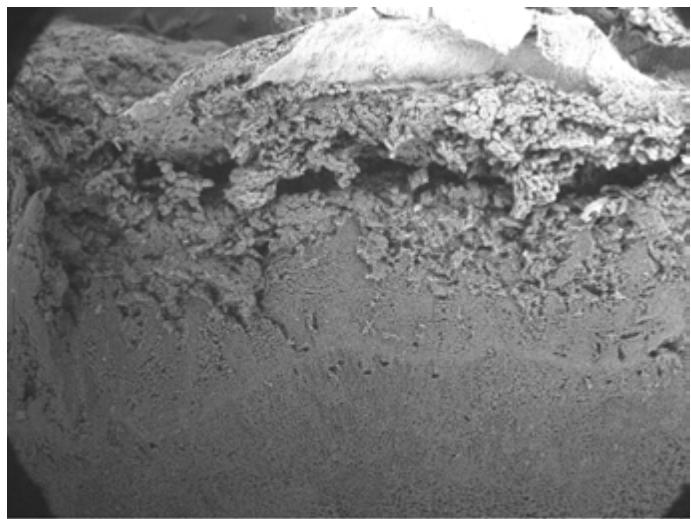


5006-04P10075 2016/10/14 12:29 L x10k 100 um

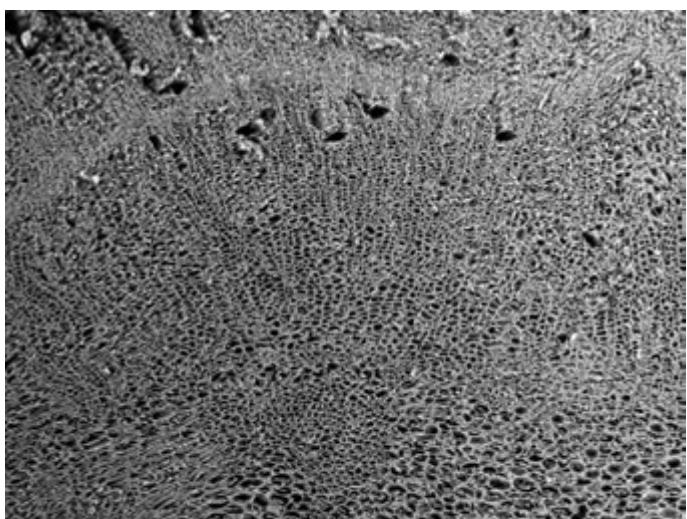
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

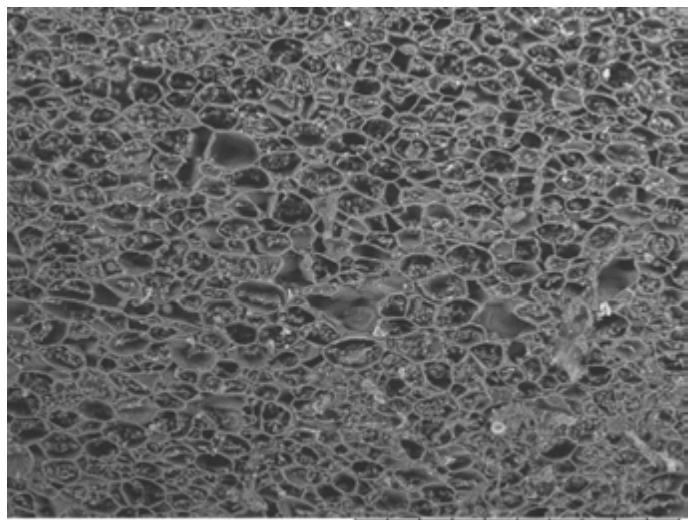
Tangential Edge



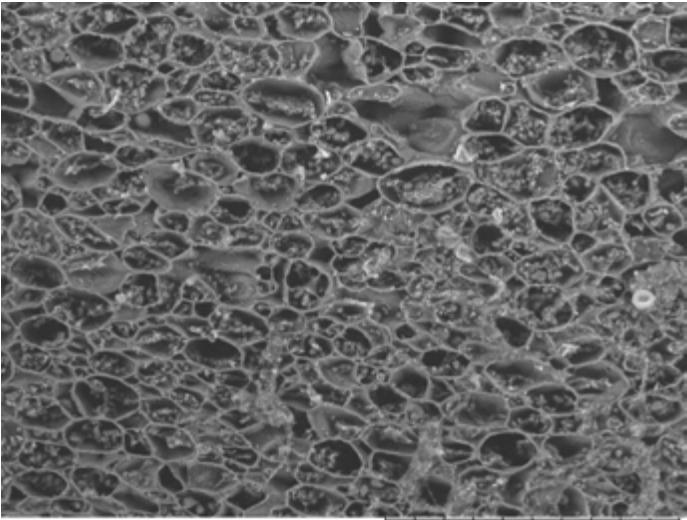
5006-04P10083 2016/10/21 10:15 L x60 1 mm



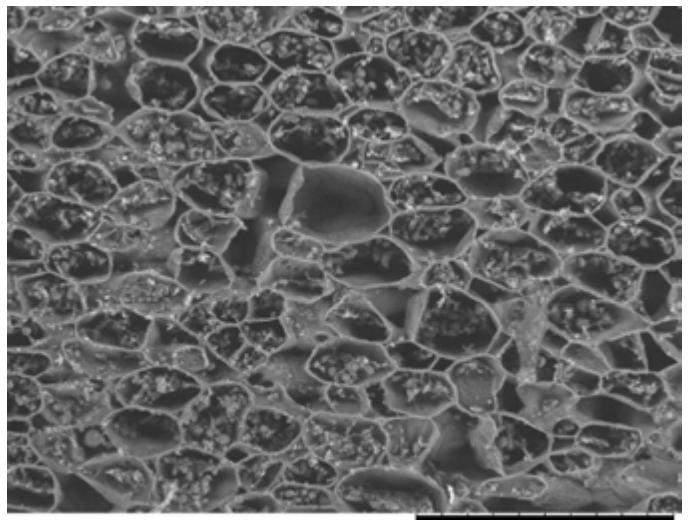
5006-04P11127 2016/12/06 12:36 L x150 500 um



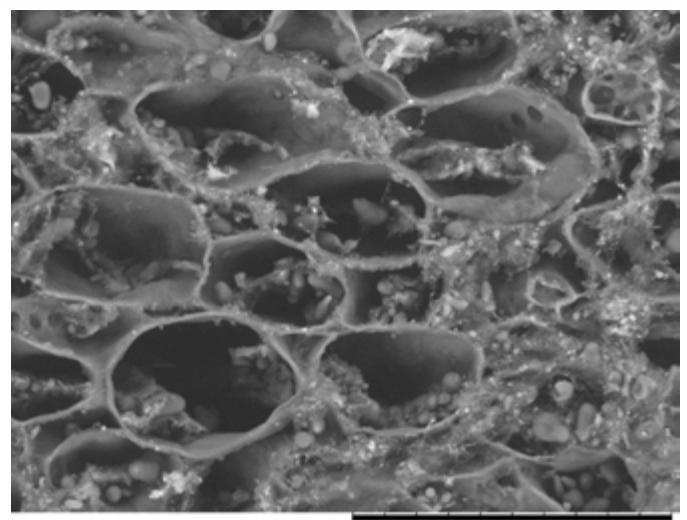
5006-04P10088 2016/10/21 10:23 L x200 500 um



5006-04P10091 2016/10/21 10:27 L x300 300 um



5006-04P10089 2016/10/21 10:25 L x400 200 um

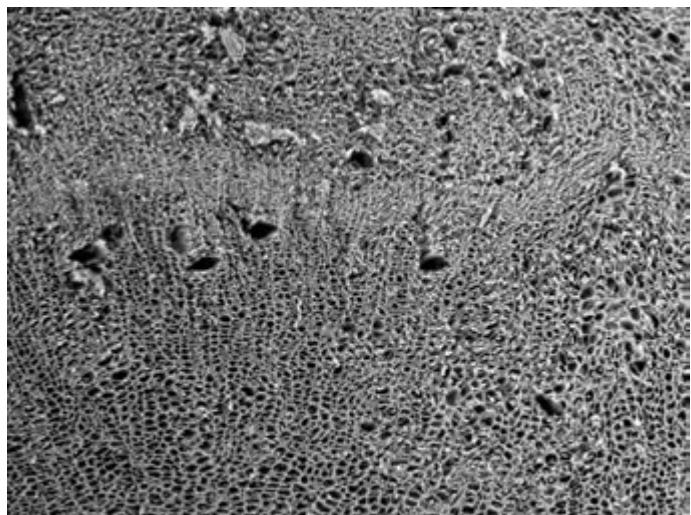


5006-04P10092 2016/10/21 10:29 L x10k 100 um

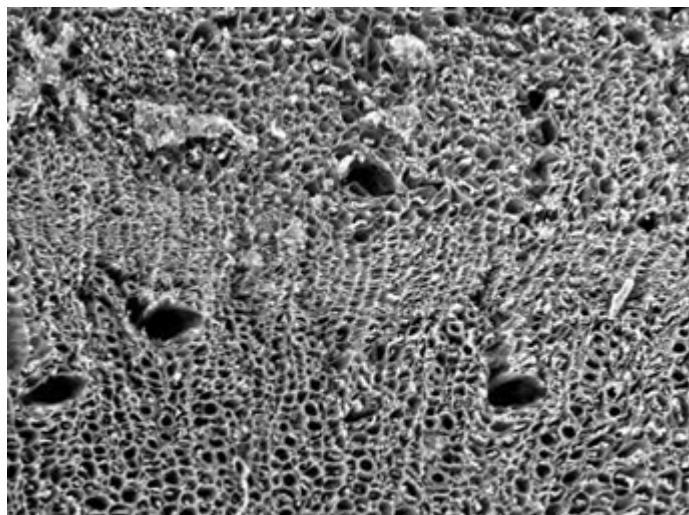
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

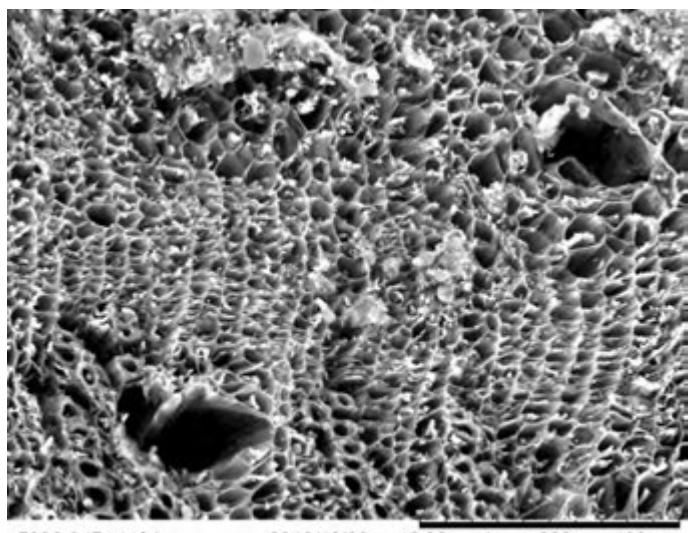
Tangential Edge (cont.)



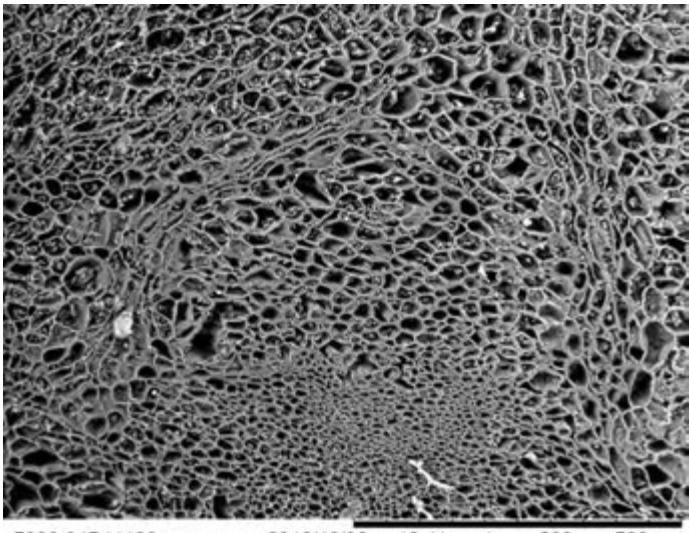
5006-04P11122 2016/12/06 12:29 L x200 500 um



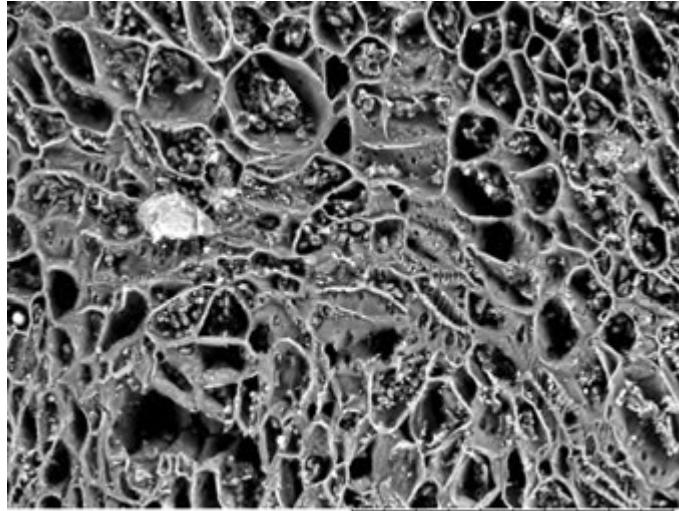
5006-04P11123 2016/12/06 12:31 L x400 200 um



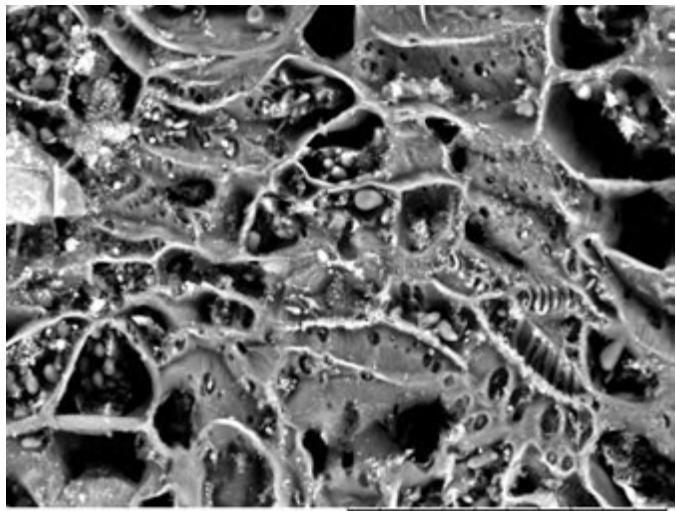
5006-04P11124 2016/12/06 12:32 L x800 100 um



5006-04P11130 2016/12/06 12:41 L x200 500 um



5006-04P11131 2016/12/06 12:42 L x500 200 um

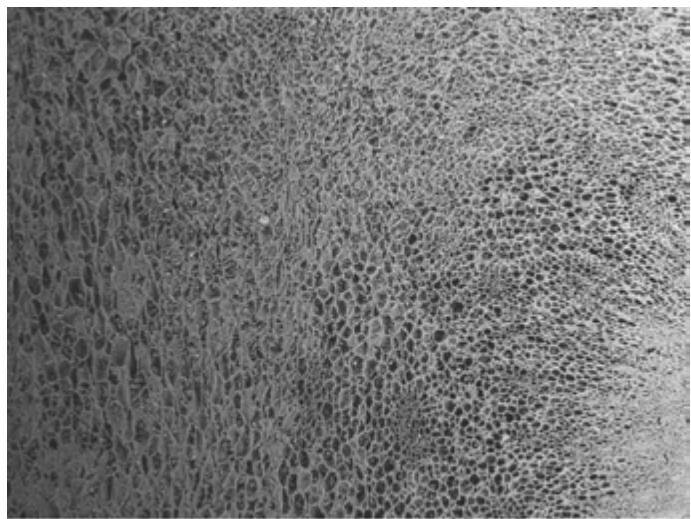


5006-04P11132 2016/12/06 12:43 L x10k 100 um

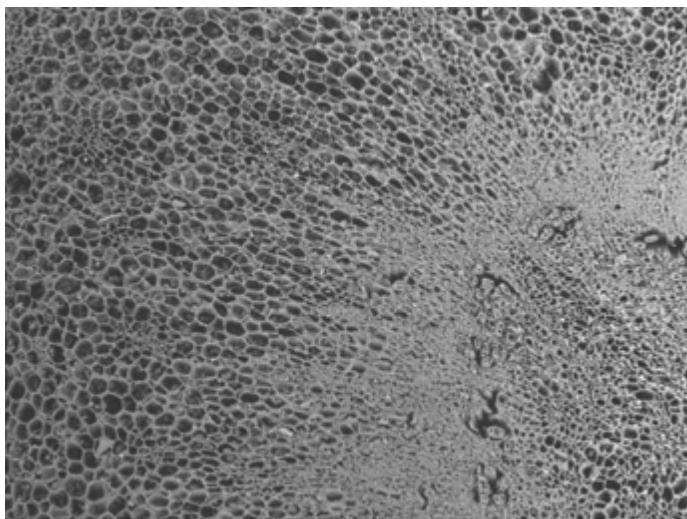
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

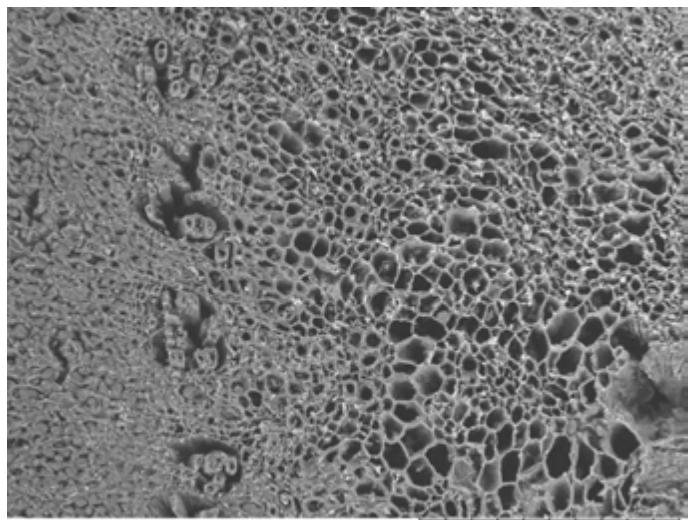
Radial Center



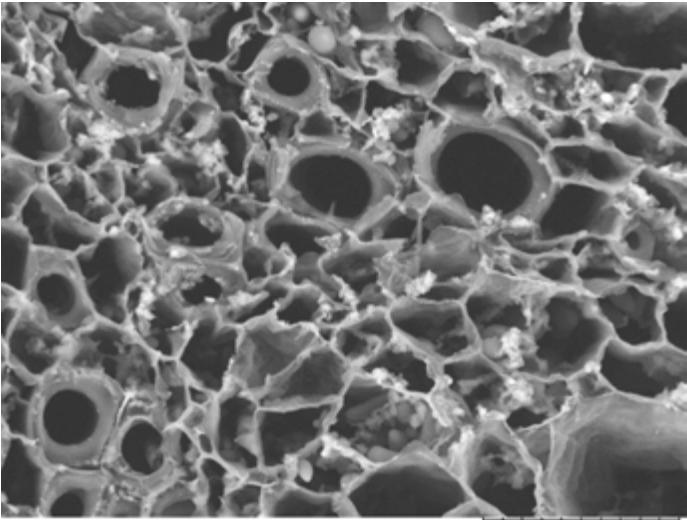
5006-04P10095 2016/10/21 10:43 L x100 1 mm



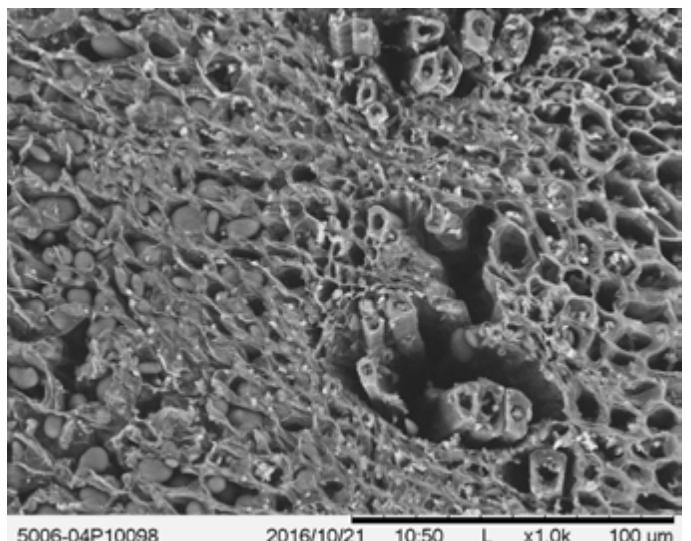
5006-04P10096 2016/10/21 10:45 L x200 500 um



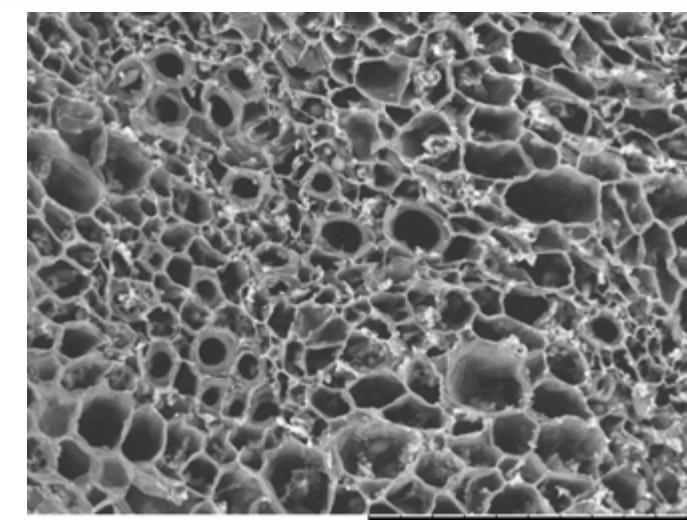
5006-04P10097 2016/10/21 10:47 L x400 200 um



5006-04P10100 2016/10/21 10:52 L x2.0k 30 um



5006-04P10098 2016/10/21 10:50 L x1.0k 100 um

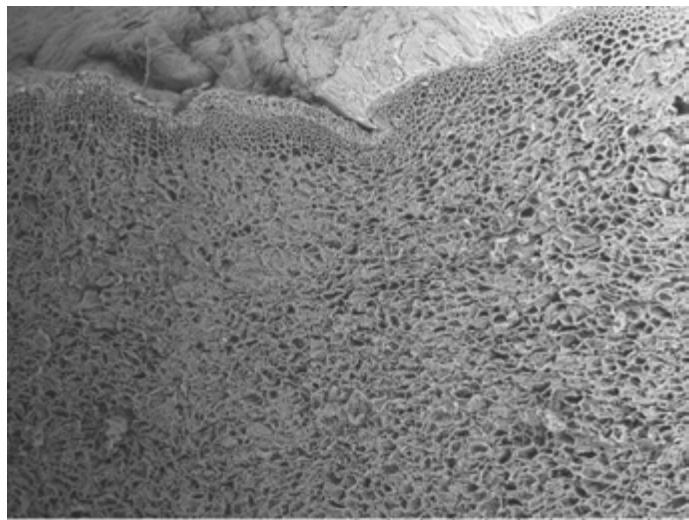


5006-04P10099 2016/10/21 10:51 L x1.0k 100 um

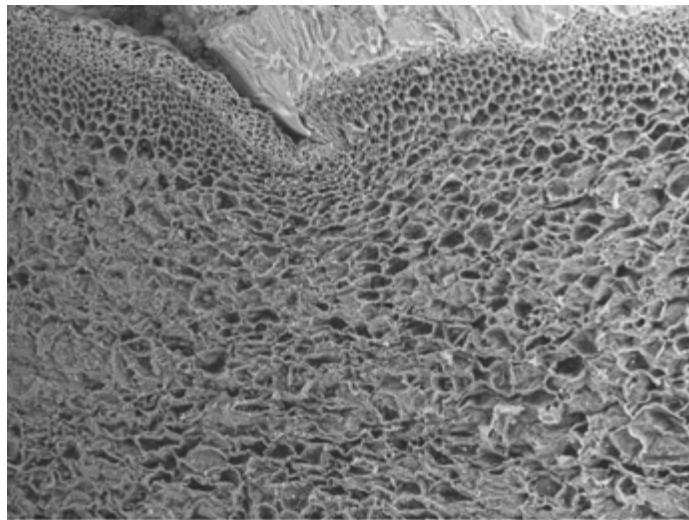
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Wet/Fresh

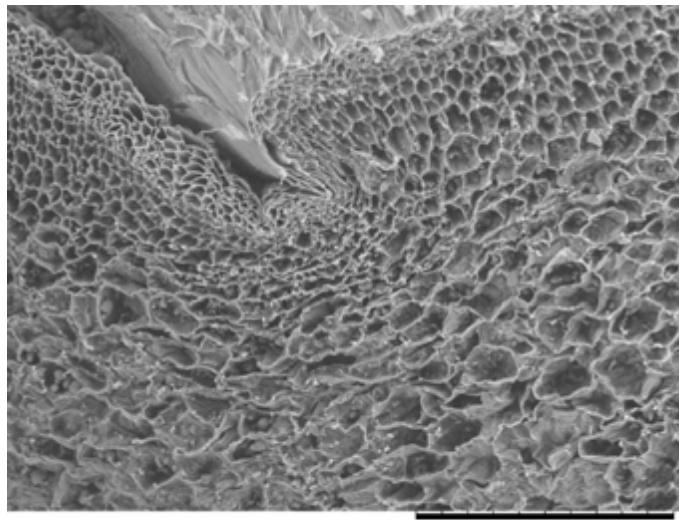
Radial Edge



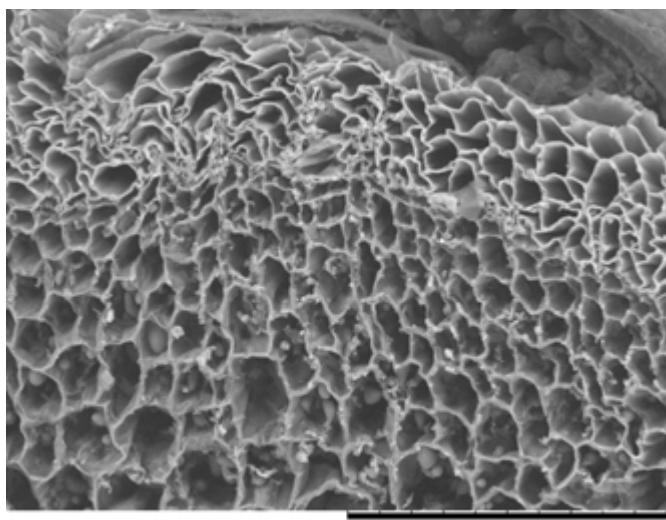
5006-04P10101 2016/10/21 10:55 L x100 1 mm



5006-04P10102 2016/10/21 10:57 L x200 500 um



5006-04P10103 2016/10/21 10:59 L x400 200 um

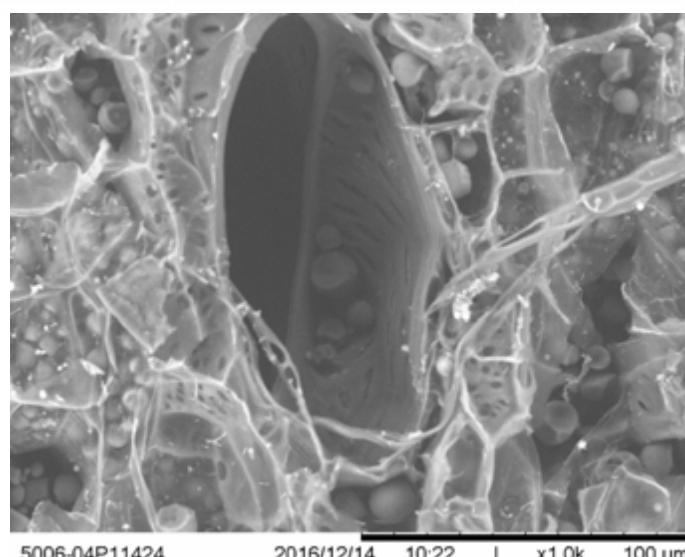
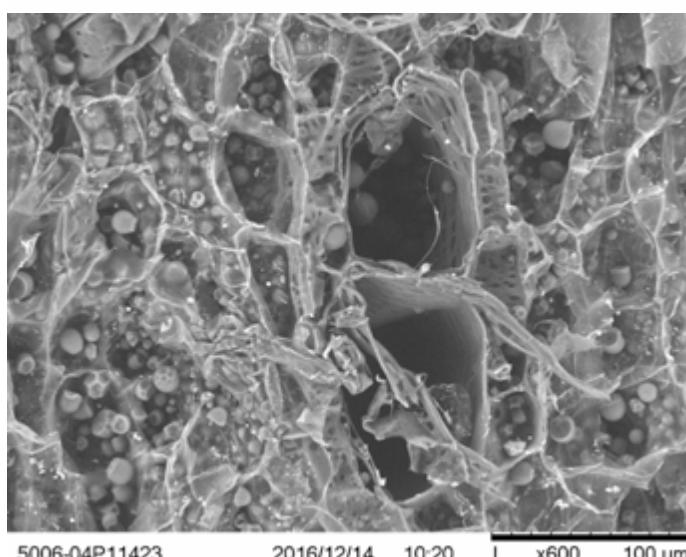
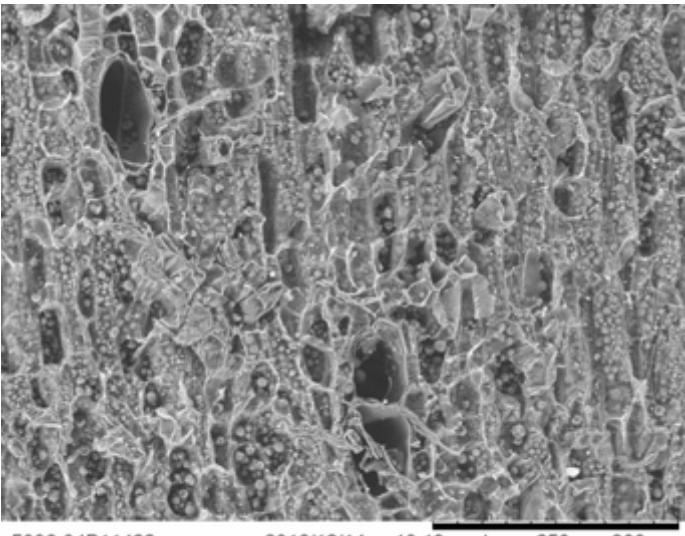
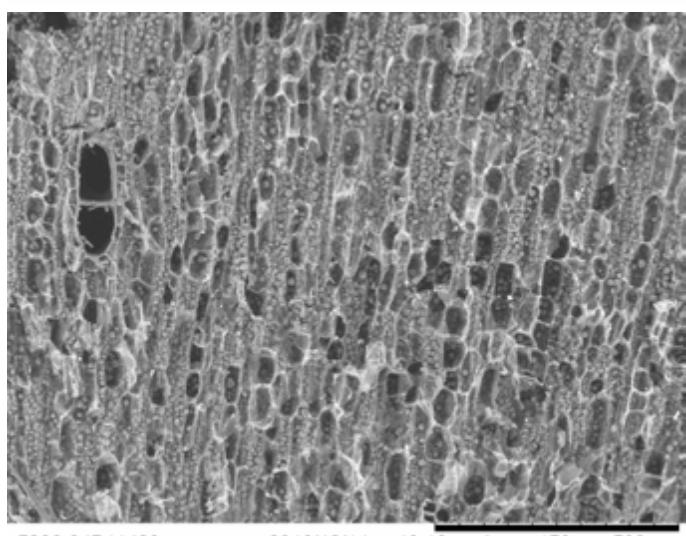
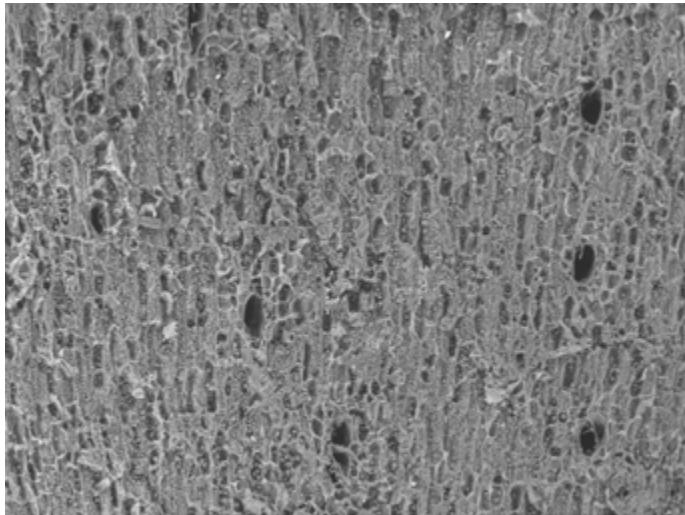
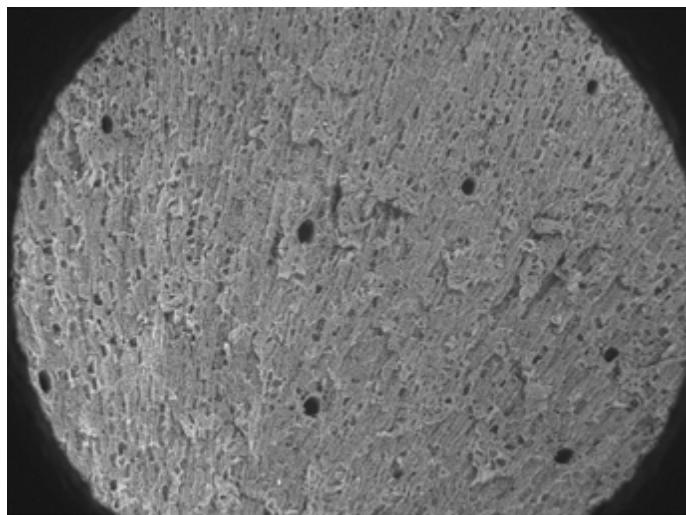


5006-04P10104 2016/10/21 11:02 L x1.0k 100 um

Manihot esculenta
EUPHORBIACEAE

Common Name: Manioc
Sample Type: Wet/Fresh

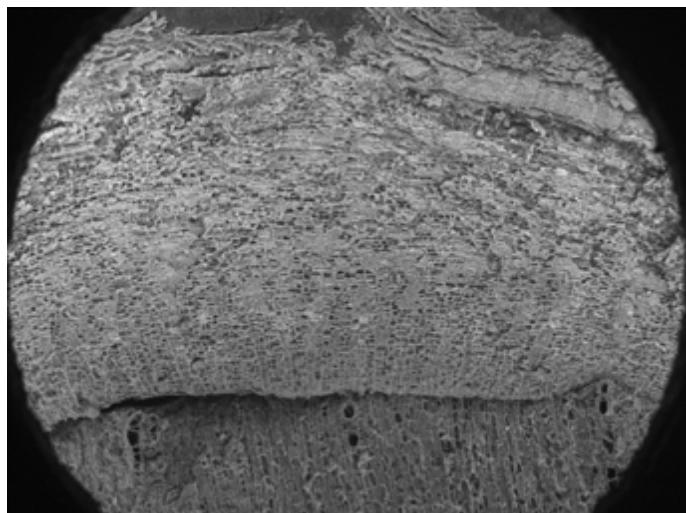
Transverse Center



Manihot esculenta
EUPHORBIACEAE

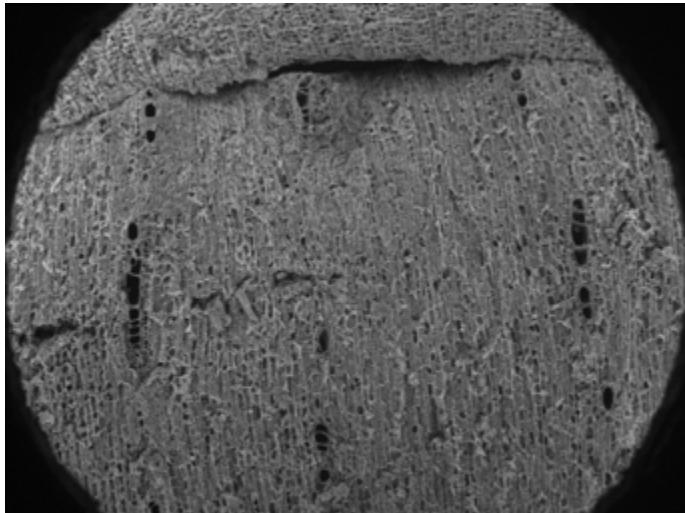
Common Name: Manioc
Sample Type: Wet/Fresh

Transverse Edge



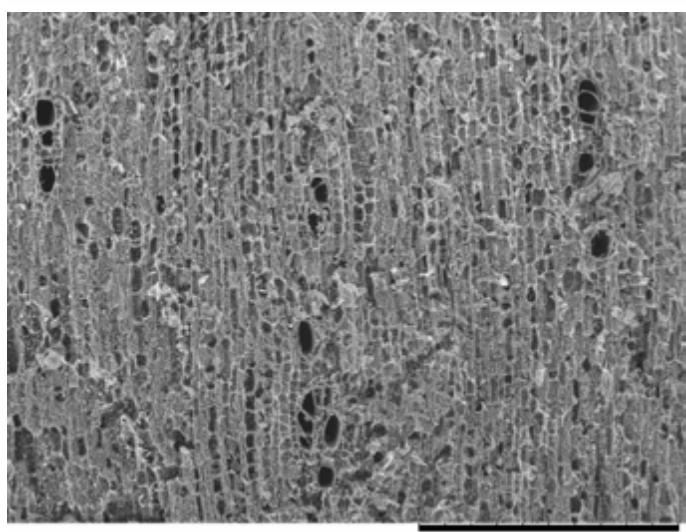
5006-04P11403

2016/12/14 09:45 L x50 2 mm



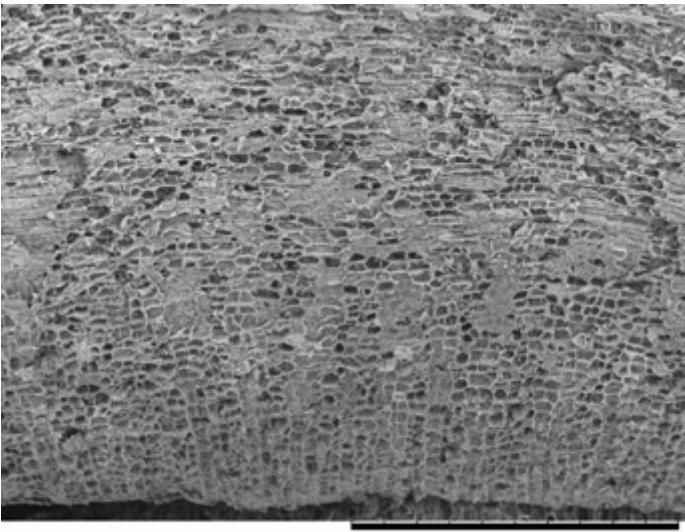
5006-04P11405

2016/12/14 09:47 L x50 2 mm



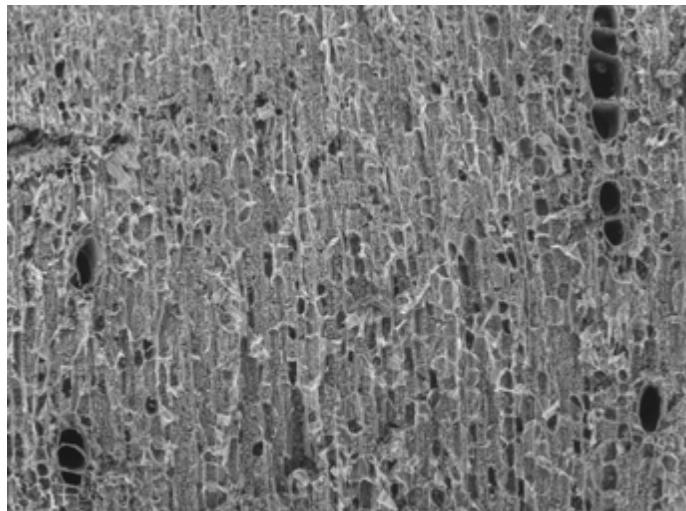
5006-04P11414

2016/12/14 10:01 L x80 1 mm



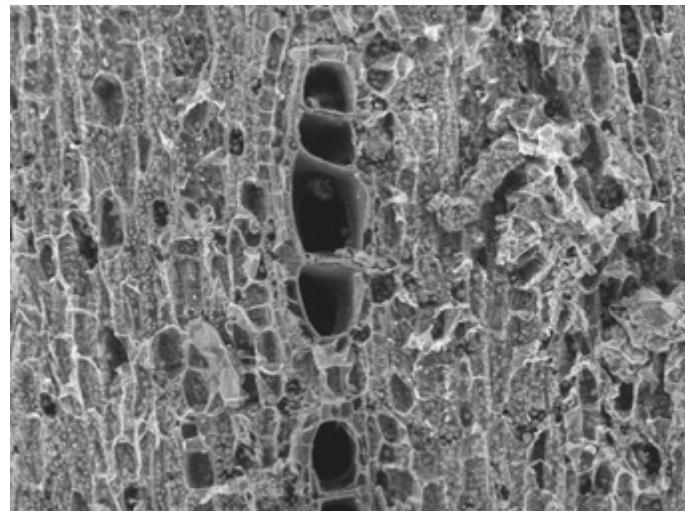
5006-04P11404

2016/12/14 09:46 L x100 1 mm



5006-04P11407

2016/12/14 09:50 L x100 1 mm



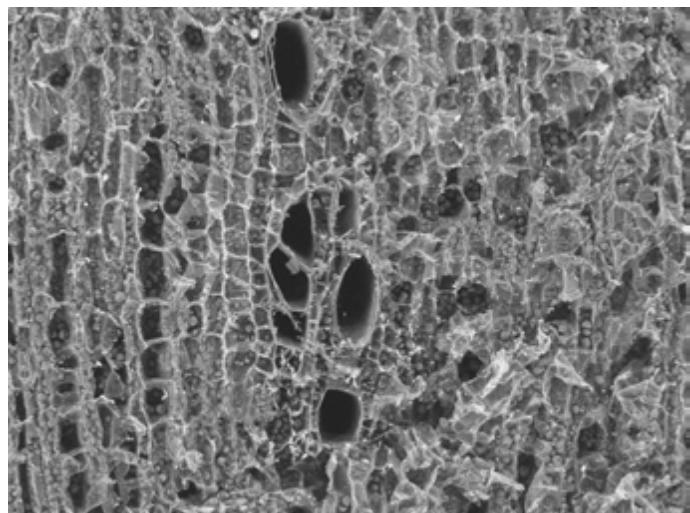
5006-04P11408

2016/12/14 09:51 L x200 500 um

Manihot esculenta
EUPHORBIACEAE

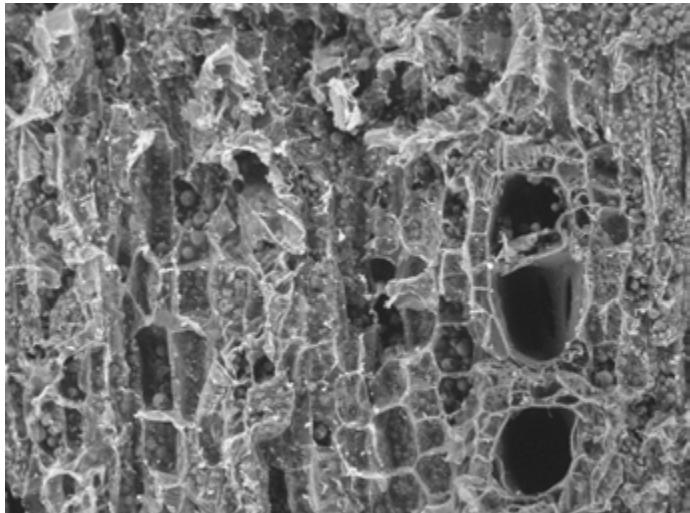
Common Name: Manioc
Sample Type: Wet/Fresh

Transverse Edge (Continued)



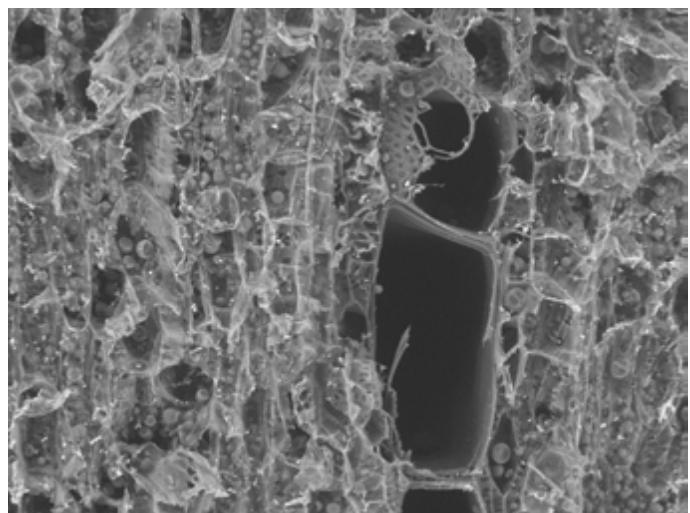
5006-04P11415

2016/12/14 10:02 L x200 500 um



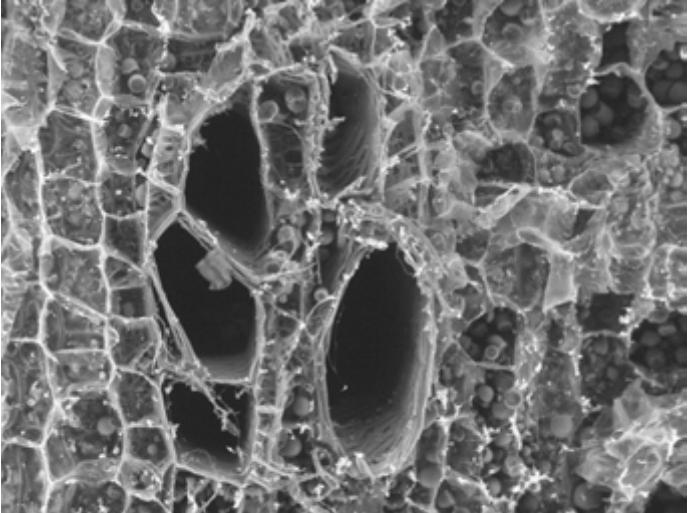
5006-04P11410

2016/12/14 09:55 L x300 300 um



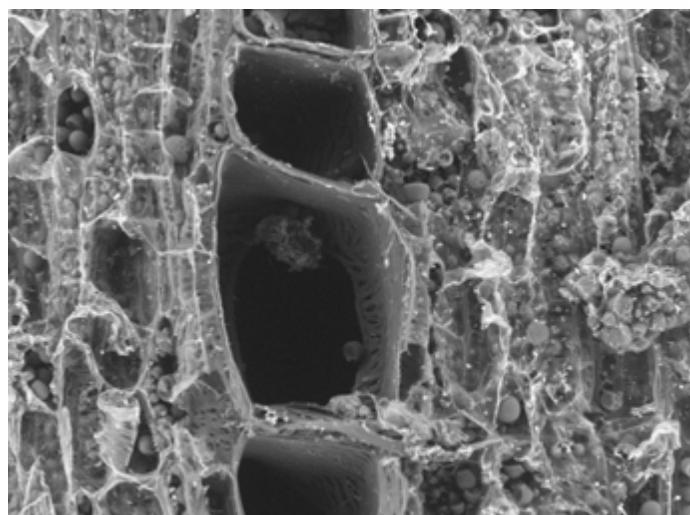
5006-04P11412

2016/12/14 09:59 L x400 200 um



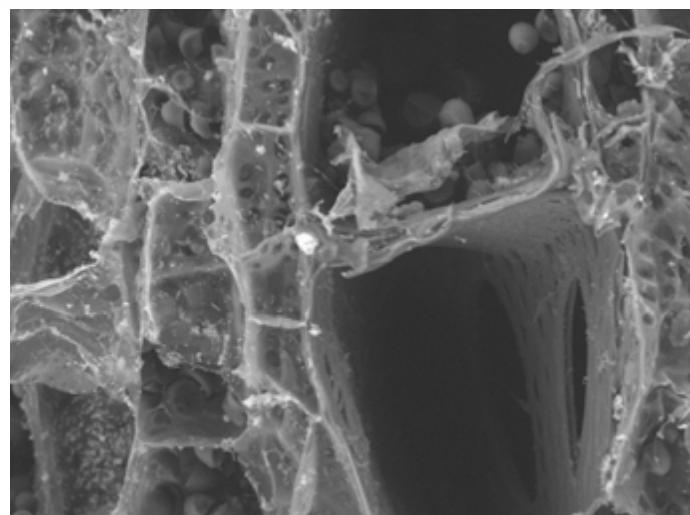
5006-04P11416

2016/12/14 10:04 L x500 200 um



5006-04P11409

2016/12/14 09:52 L x500 200 um



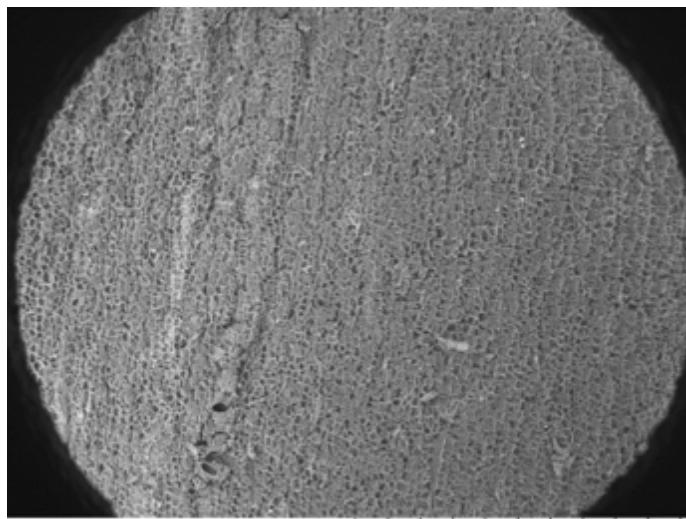
5006-04P11411

2016/12/14 09:57 L x1.0k 100 um

Manihot esculenta
EUPHORBIACEAE

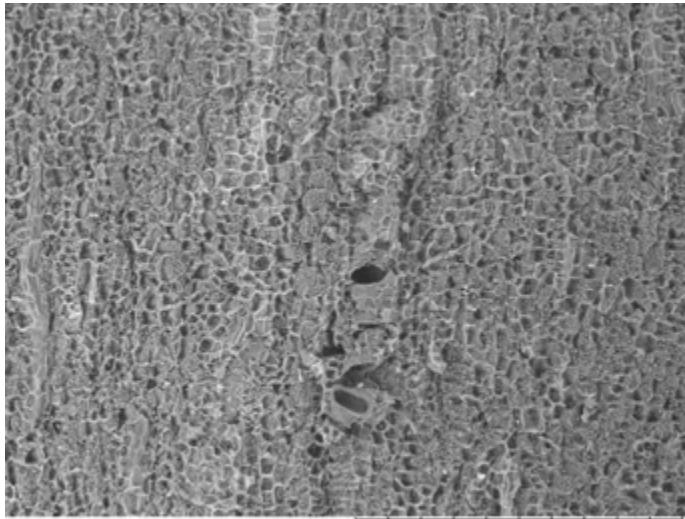
Common Name: Manioc
Sample Type: Wet/Fresh

Tangential Center



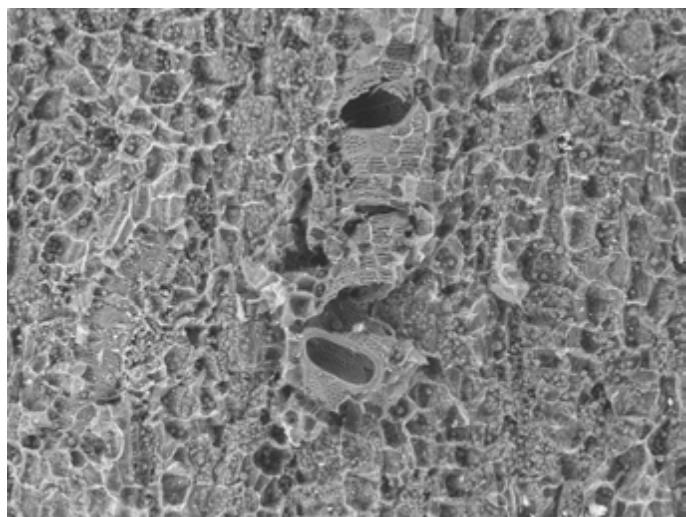
5006-04P11438

2016/12/14 10:57 L x50 2 mm



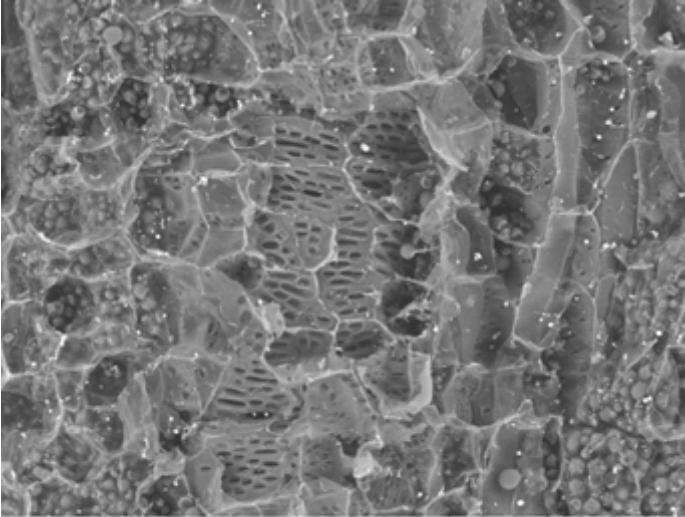
5006-04P11439

2016/12/14 10:58 L x100 1 mm



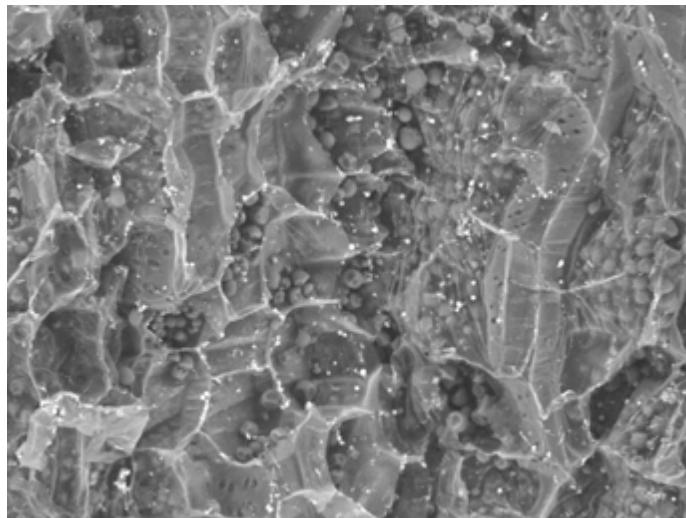
5006-04P11440

2016/12/14 10:59 L x200 500 um



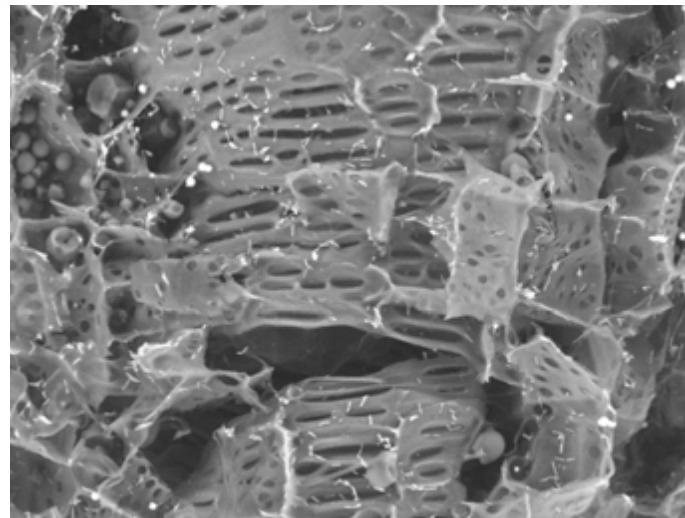
5006-04P11445

2016/12/14 11:05 L x500 200 um



5006-04P11446

2016/12/14 11:06 L x600 100 um



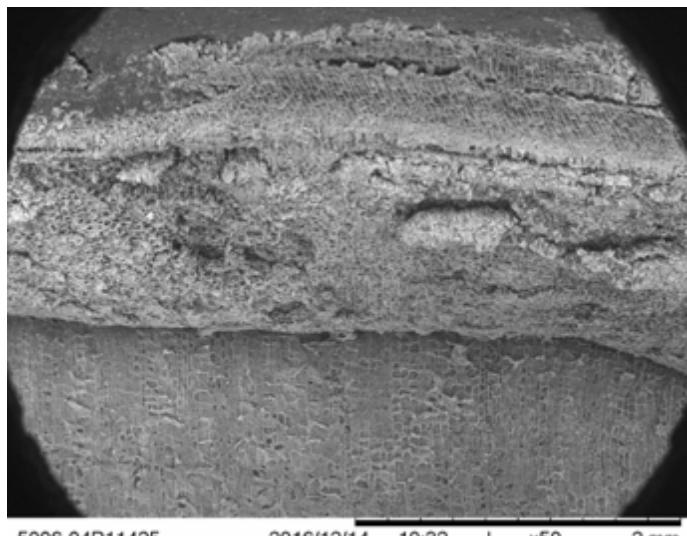
5006-04P11442

2016/12/14 11:02 L x1.0k 100 um

Manihot esculenta
EUPHORBIACEAE

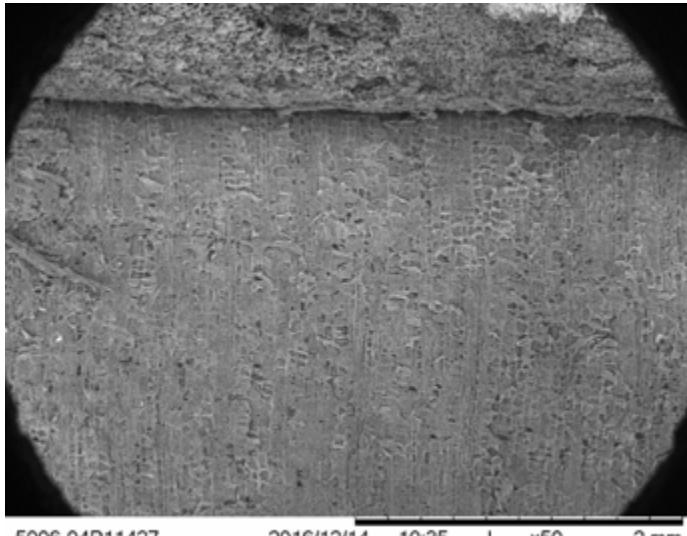
Common Name: Manioc
Sample Type: Wet/Fresh

Tangential Edge



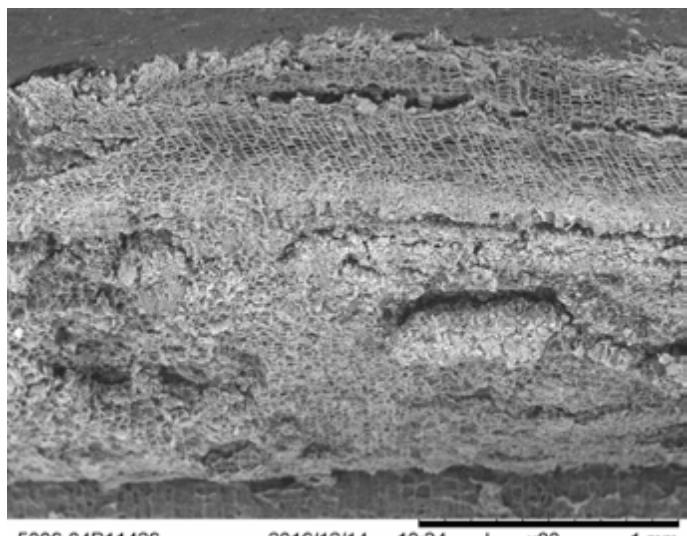
5006-04P11425

2016/12/14 10:32 L x50 2 mm



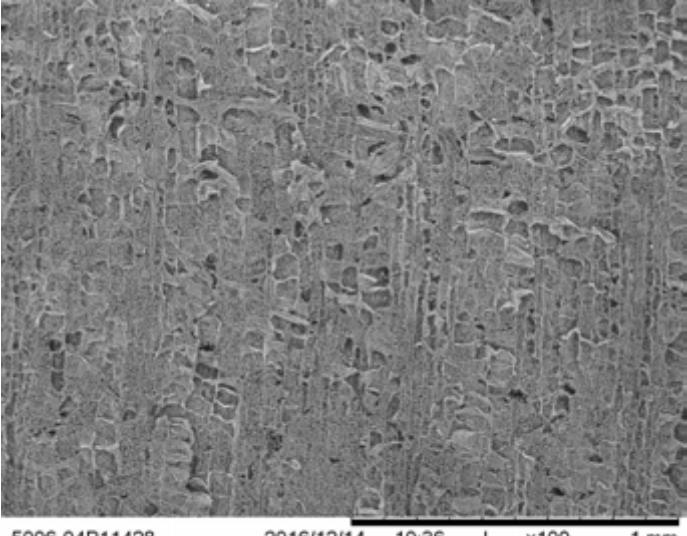
5006-04P11427

2016/12/14 10:35 L x50 2 mm



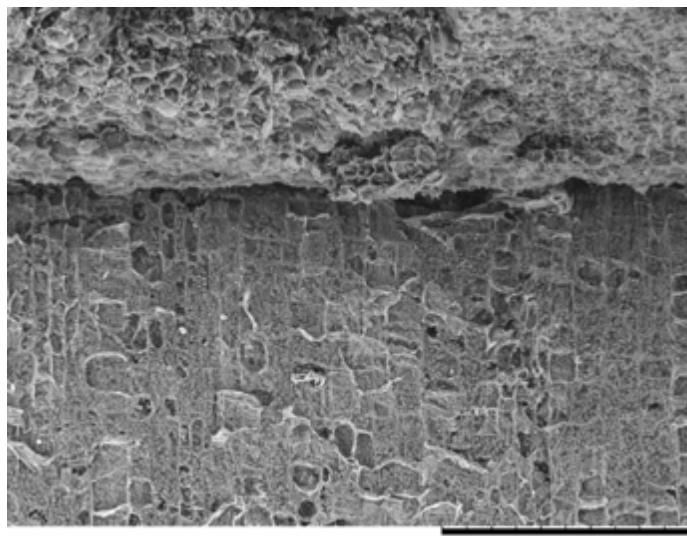
5006-04P11426

2016/12/14 10:34 L x80 1 mm



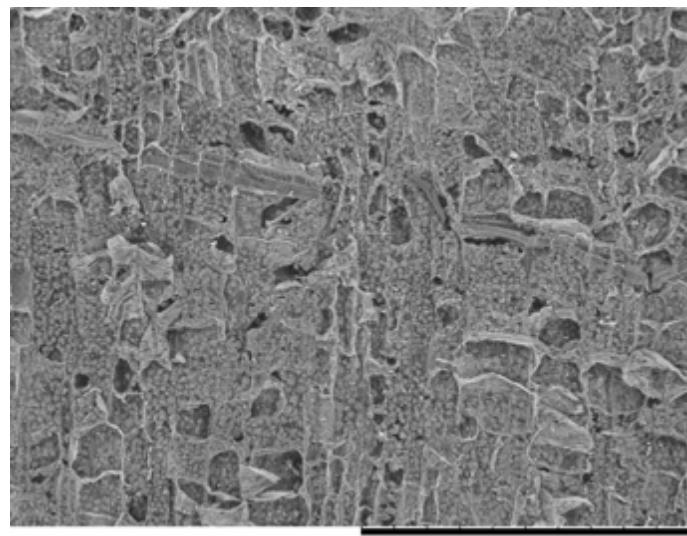
5006-04P11428

2016/12/14 10:36 L x100 1 mm



5006-04P11437

2016/12/14 10:48 L x150 500 µm



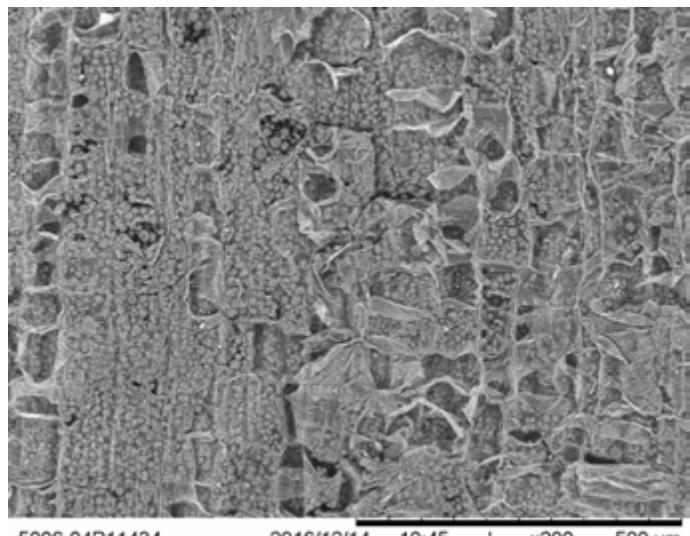
5006-04P11429

2016/12/14 10:37 L x200 500 µm

Manihot esculenta
EUPHORBIACEAE

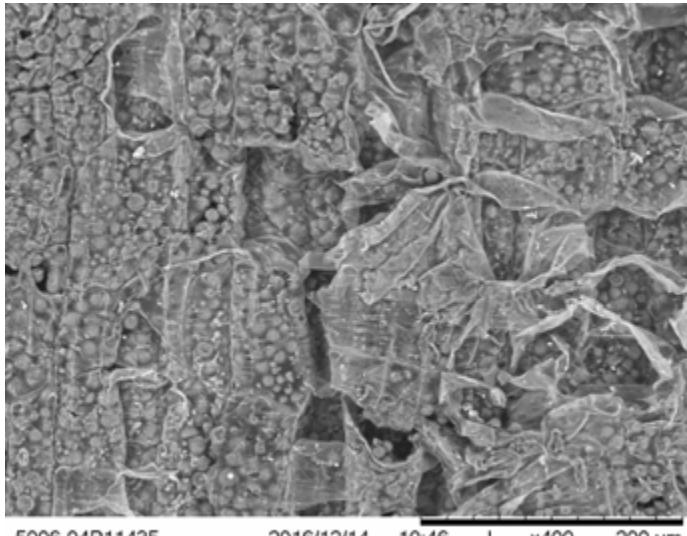
Common Name: Manioc
Sample Type: Wet/Fresh

Tangential Edge (Continued)



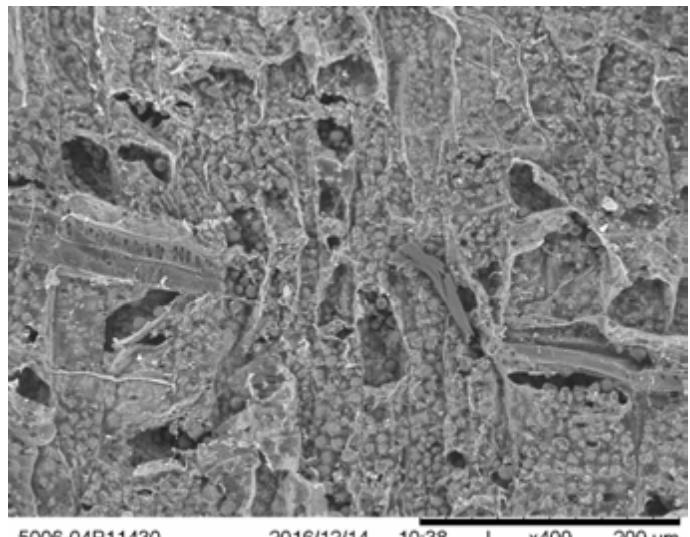
5006-04P11434

2016/12/14 10:45 L x200 500 um



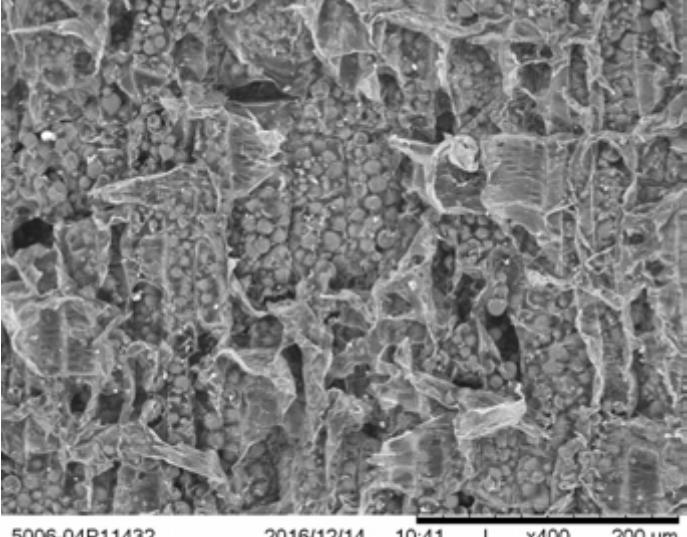
5006-04P11435

2016/12/14 10:46 L x400 200 um



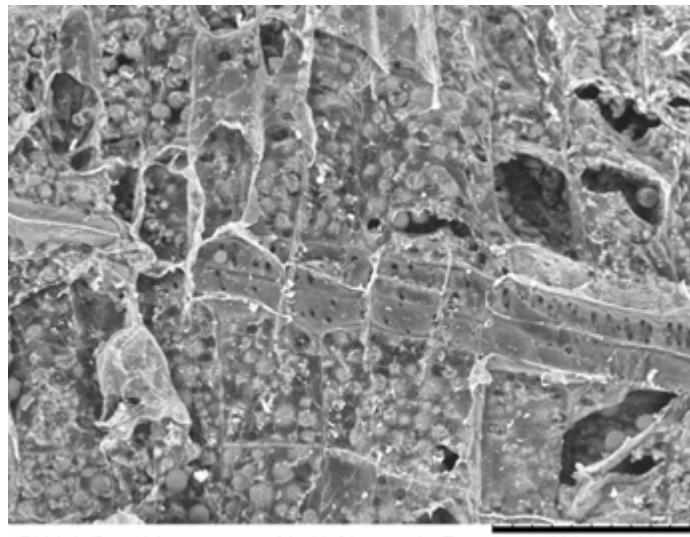
5006-04P11430

2016/12/14 10:38 L x400 200 um



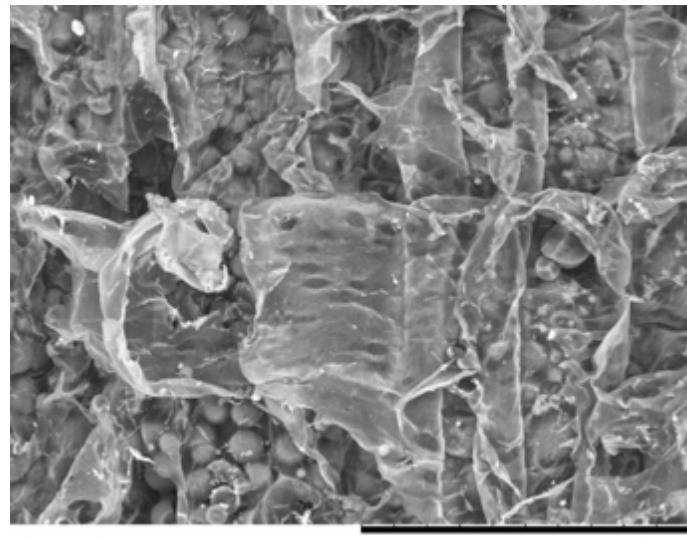
5006-04P11432

2016/12/14 10:41 L x400 200 um



5006-04P11436

2016/12/14 10:47 L x600 100 um



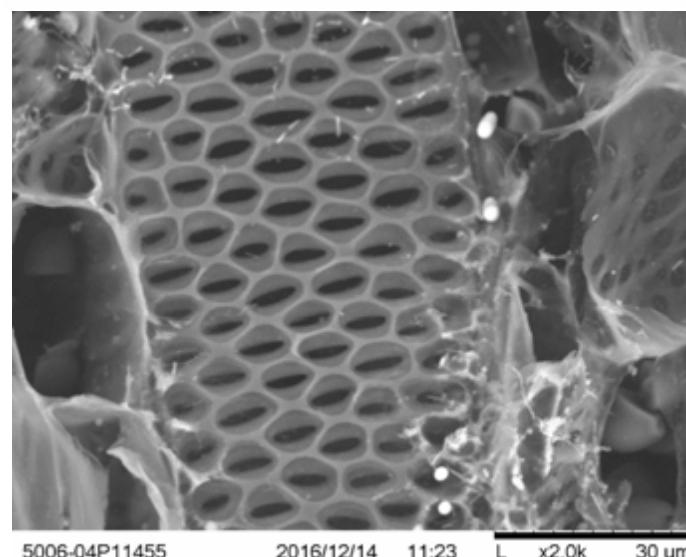
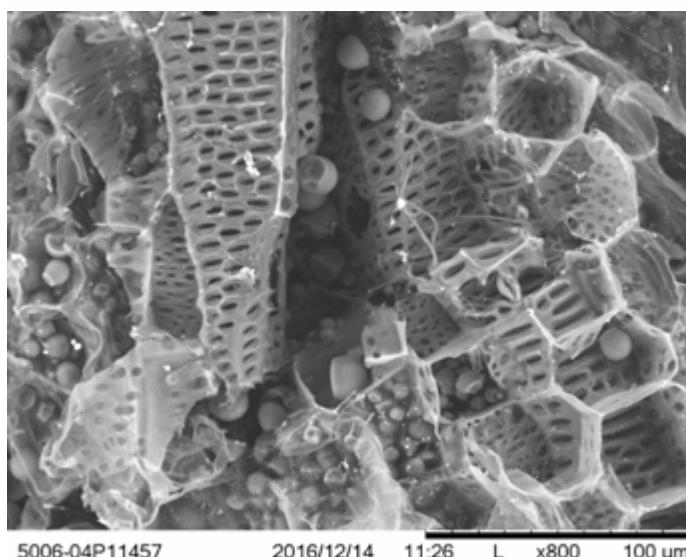
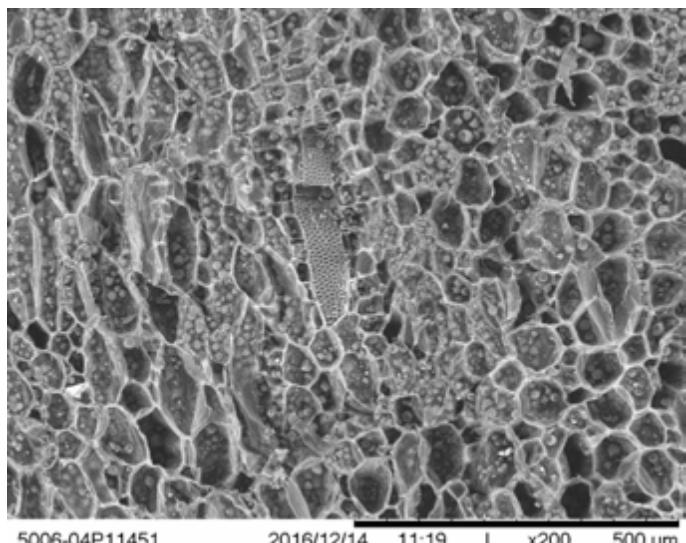
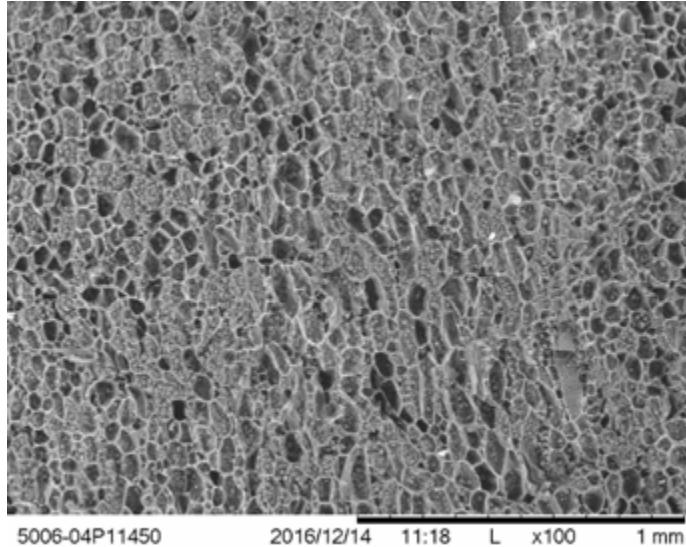
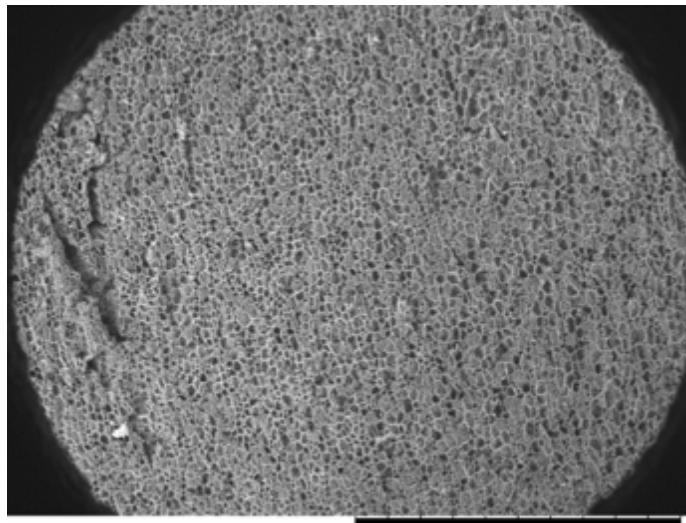
5006-04P11433

2016/12/14 10:43 L x1.0k 100 um

Manihot esculenta
EUPHORBIACEAE

Common Name: Manioc
Sample Type: Wet/Fresh

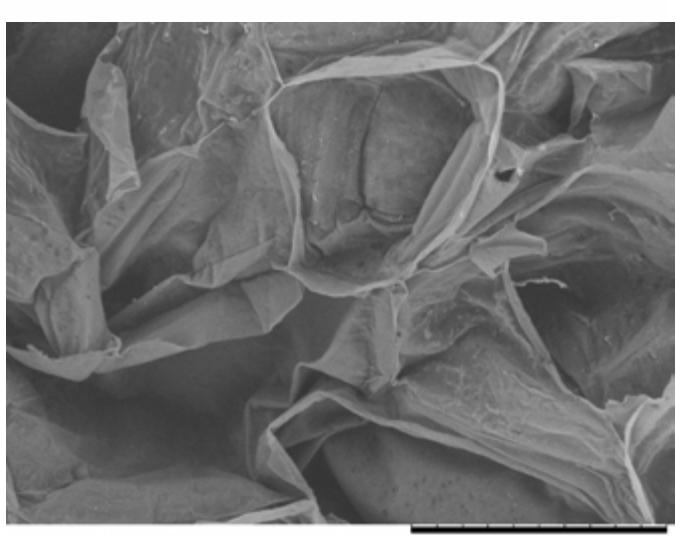
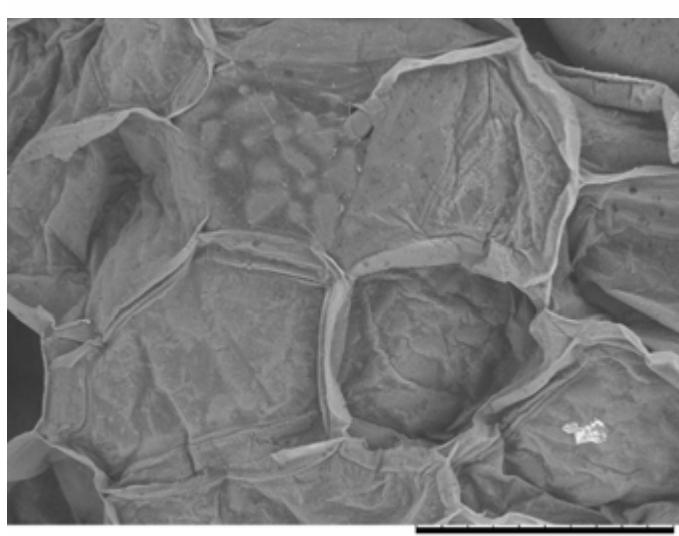
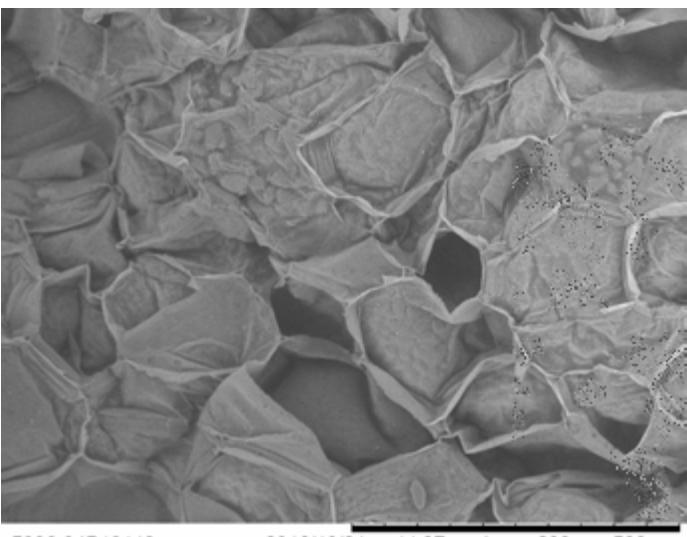
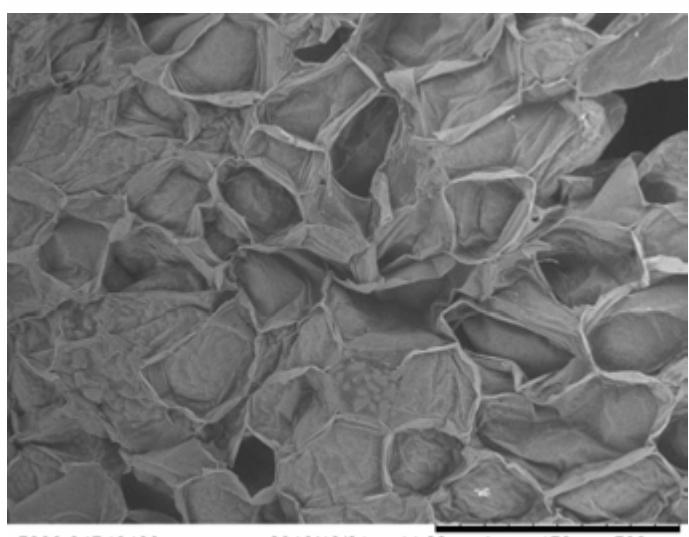
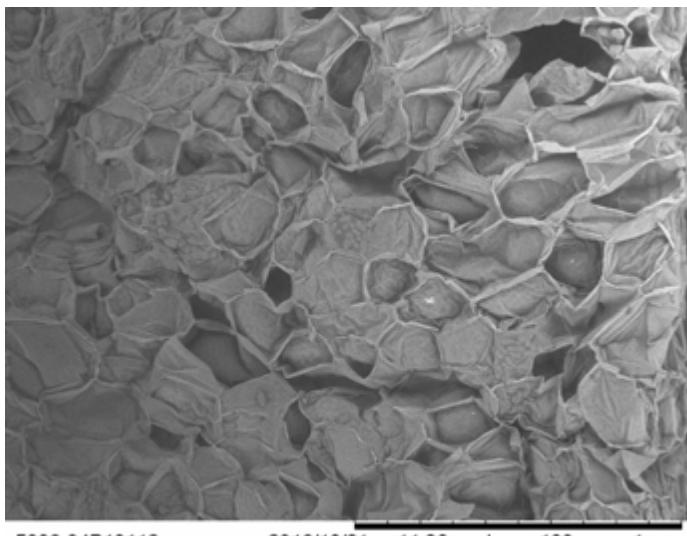
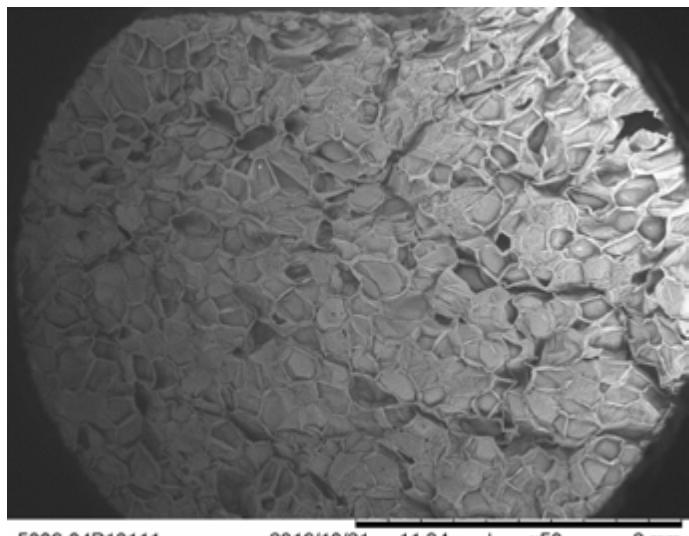
Radial



Oxalis *tuberosa*
OXALIDACEAE

Common Name: Oca
Sample Type: Wet/Fresh

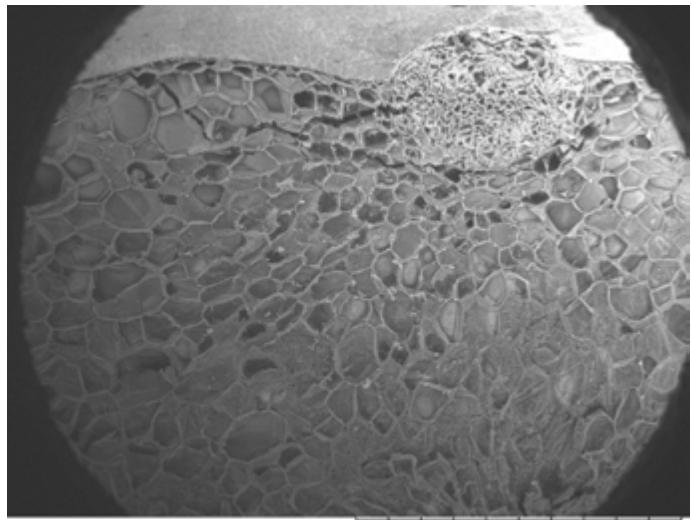
Transverse Center



Oxalis tuberosa
OXALIDACEAE

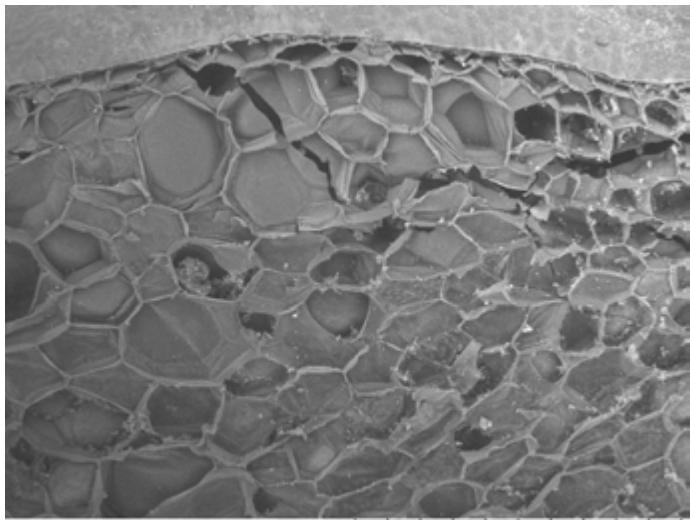
Common Name: Oca
Sample Type: Wet/Fresh

Transverse Edge



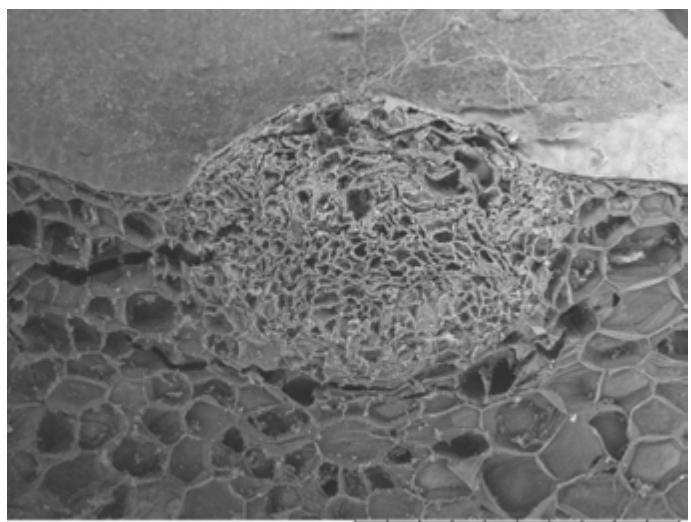
5006-04P10114

2016/10/21 11:48 L x50 2 mm



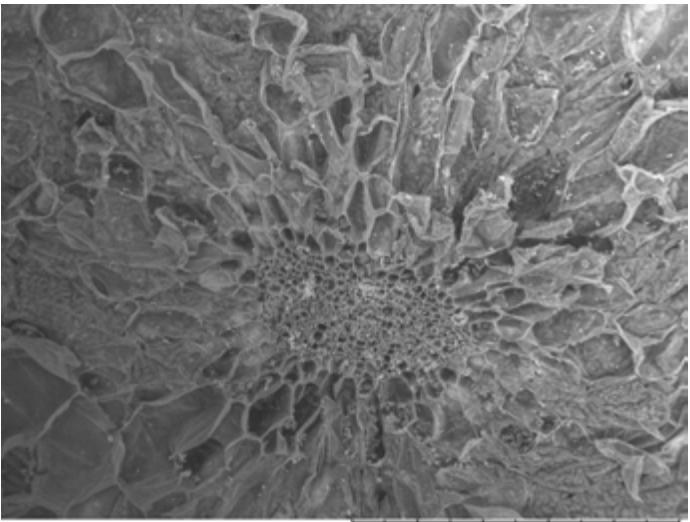
5006-04P10115

2016/10/21 11:49 L x100 1 mm



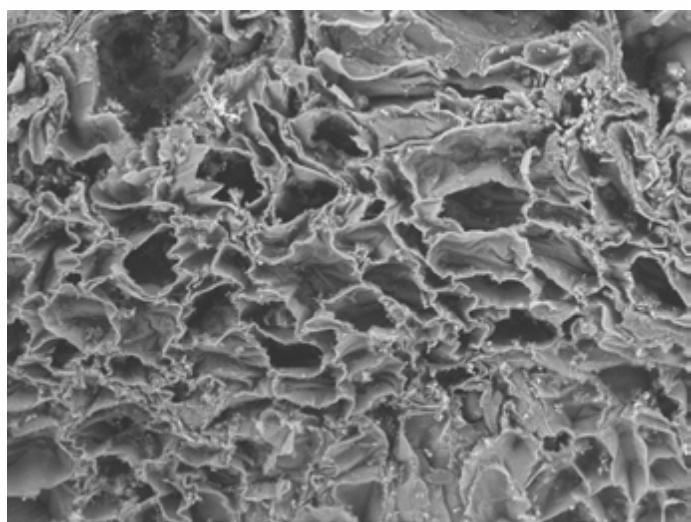
5006-04P10118

2016/10/21 11:55 L x100 1 mm



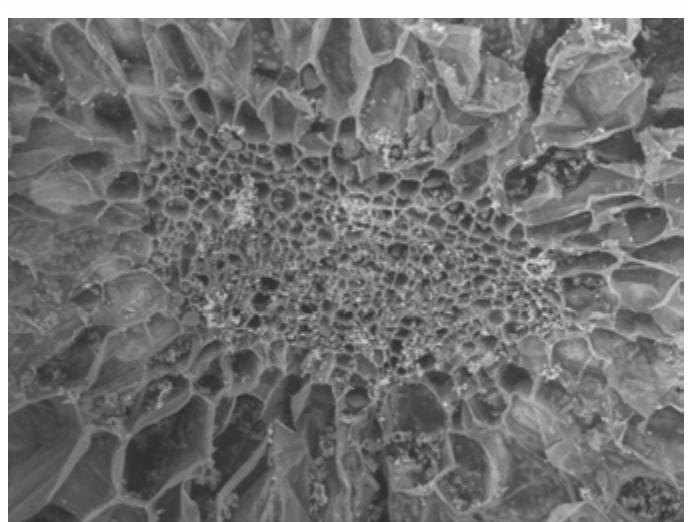
5006-04P10121

2016/10/21 12:00 L x100 1 mm



5006-04P10120

2016/10/21 11:57 L x400 200 um



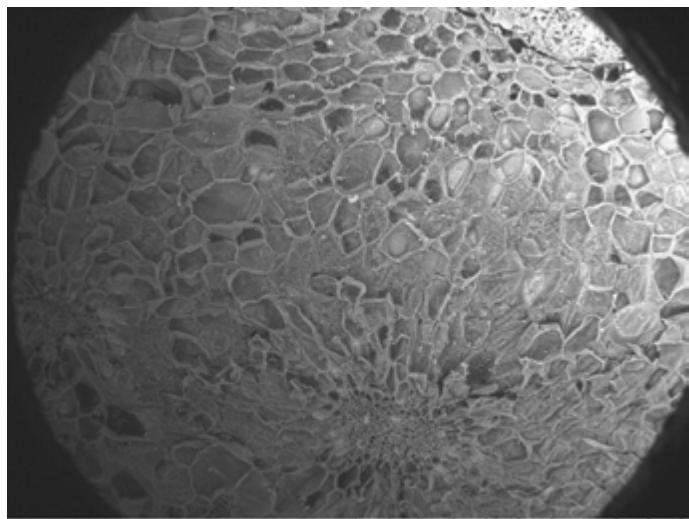
5006-04P10122

2016/10/21 12:01 L x200 500 um

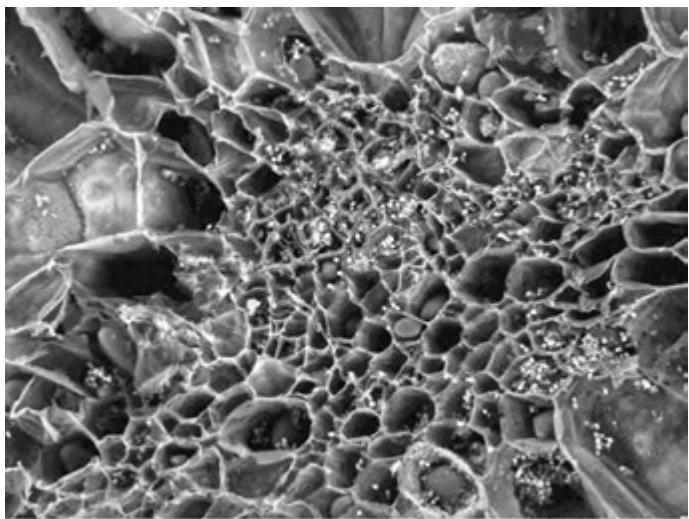
Oxalis tuberosa
OXALIDACEAE

Common Name: Oca
Sample Type: Wet/Fresh

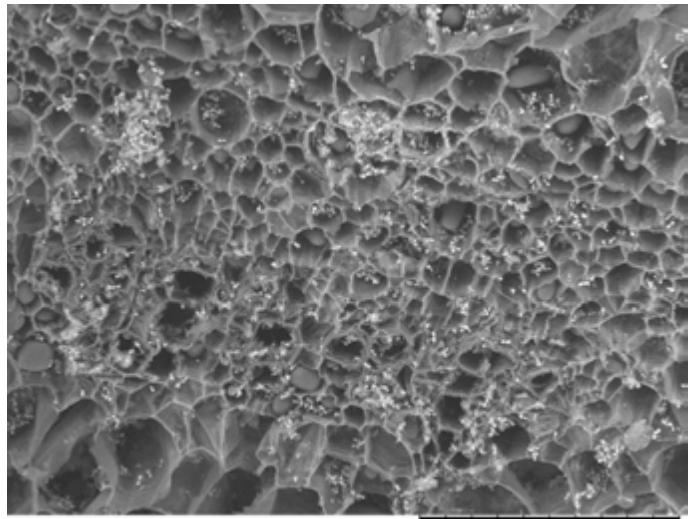
Transverse Edge
(Continued)



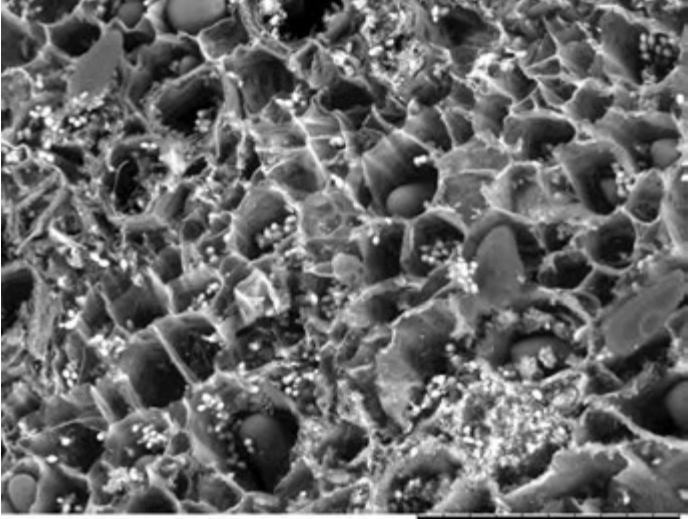
5006-04P10125 2016/10/21 12:05 L x50 2 mm



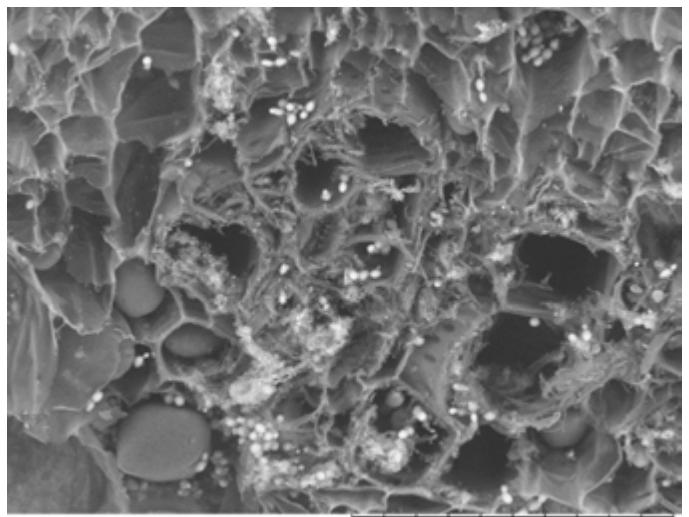
5006-04P11133 2016/12/06 12:55 L x500 200 um



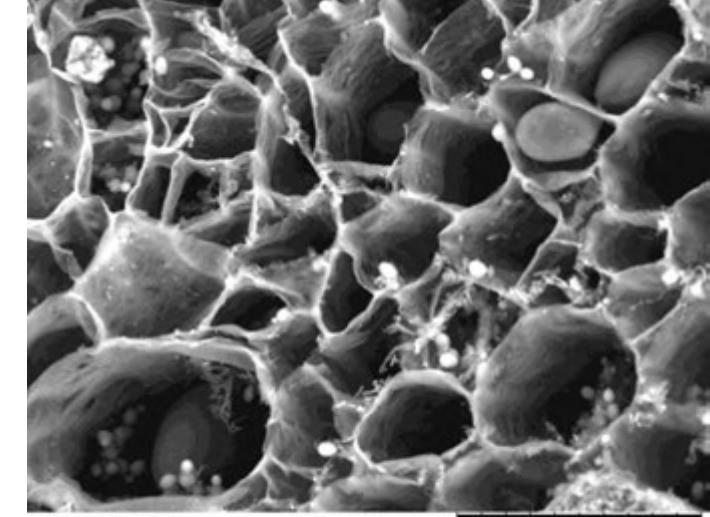
5006-04P10123 2016/10/21 12:02 L x400 200 um



5006-04P11137 2016/12/06 13:02 L x800 100 um



5006-04P10124 2016/10/21 12:04 L x1.0k 100 um

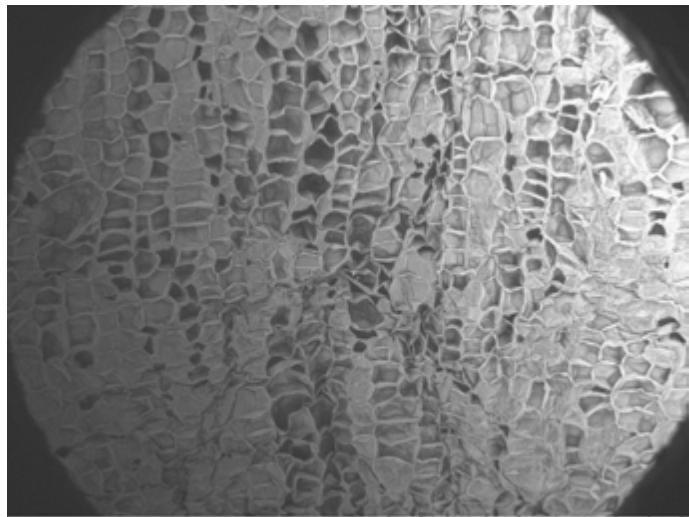


5006-04P11135 2016/12/06 12:59 L x1.5k 50 um

Oxalis tuberosa
OXALIDACEAE

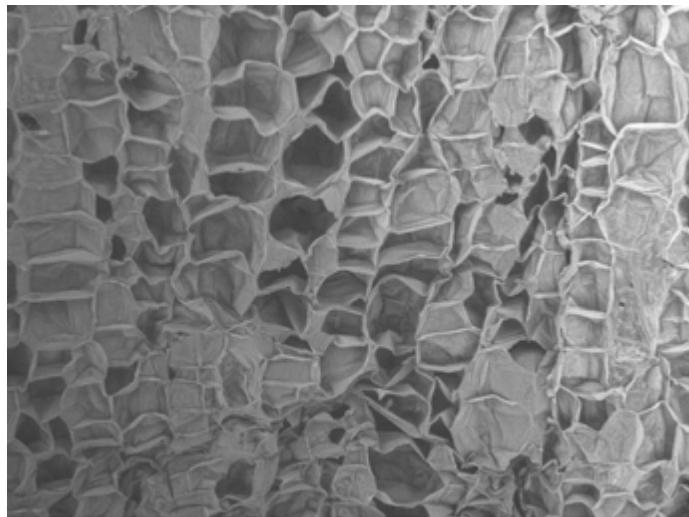
Common Name: Oca
Sample Type: Wet/Fresh

Tangential Center



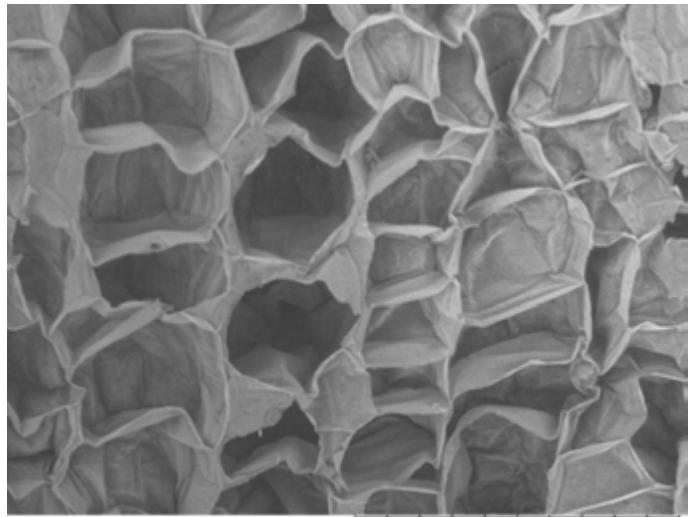
5006-04P10126

2016/10/21 12:14 L x50 2 mm



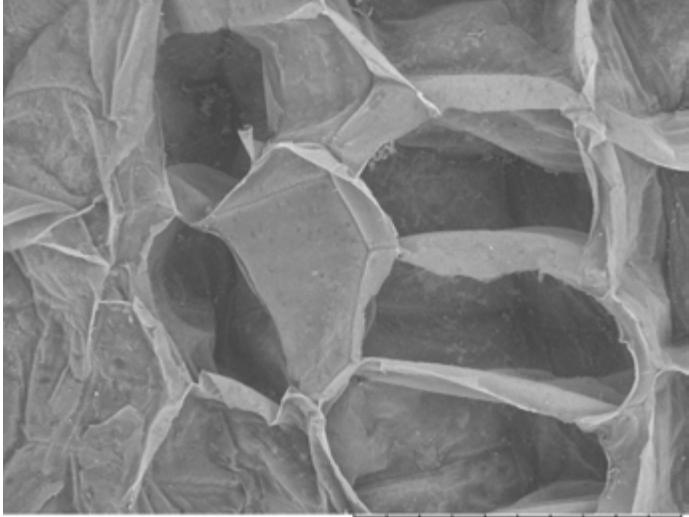
5006-04P10127

2016/10/21 12:15 L x100 1 mm



5006-04P10128

2016/10/21 12:17 L x200 500 um



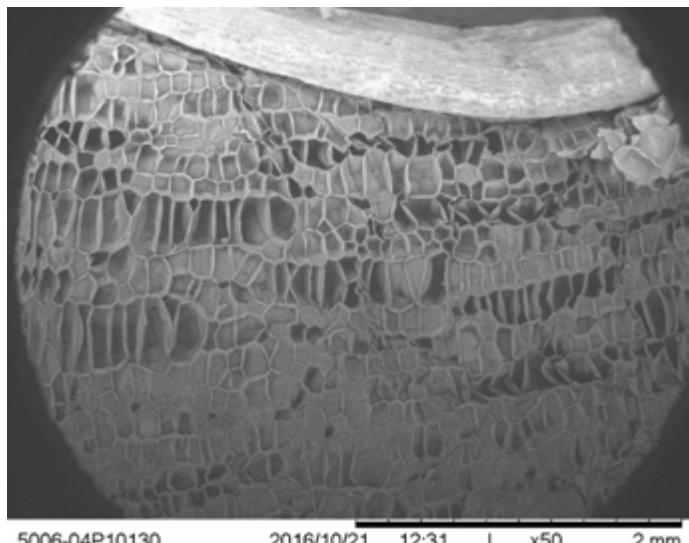
5006-04P10129

2016/10/21 12:19 L x500 200 um

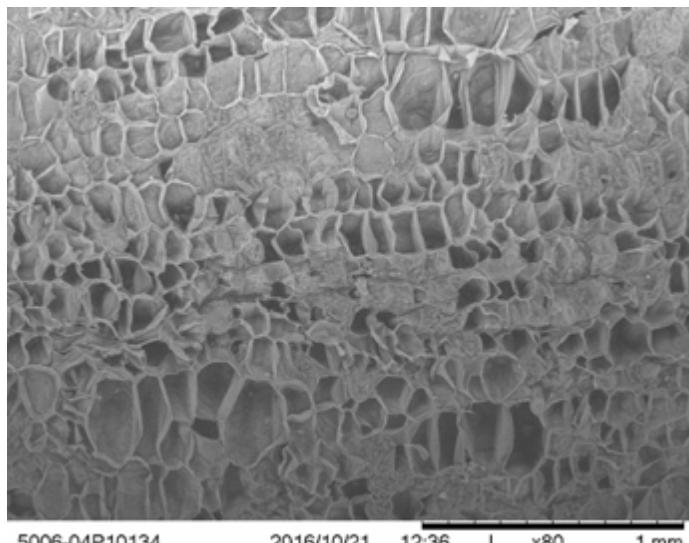
Oxalis *tuberosa*
OXALIDACEAE

Common Name: Oca
Sample Type: Wet/Fresh

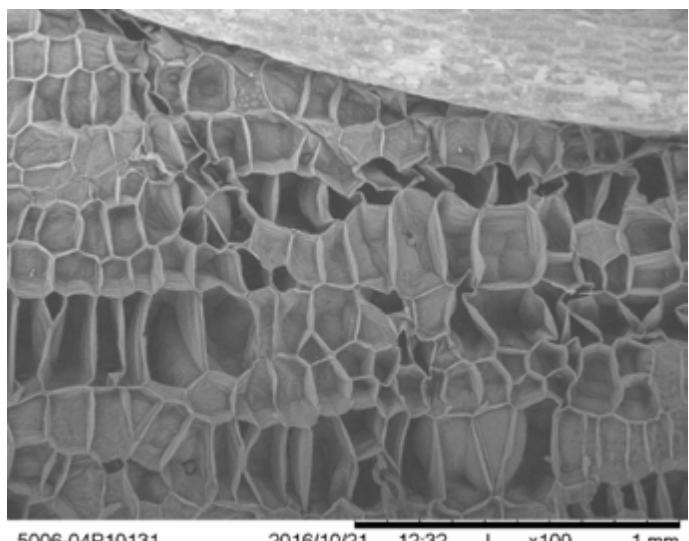
Tangential Edge



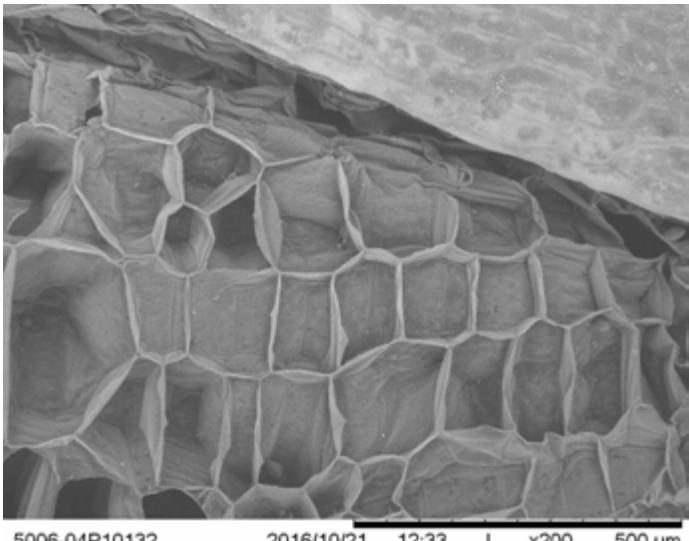
5006-04P10130 2016/10/21 12:31 L x50 2 mm



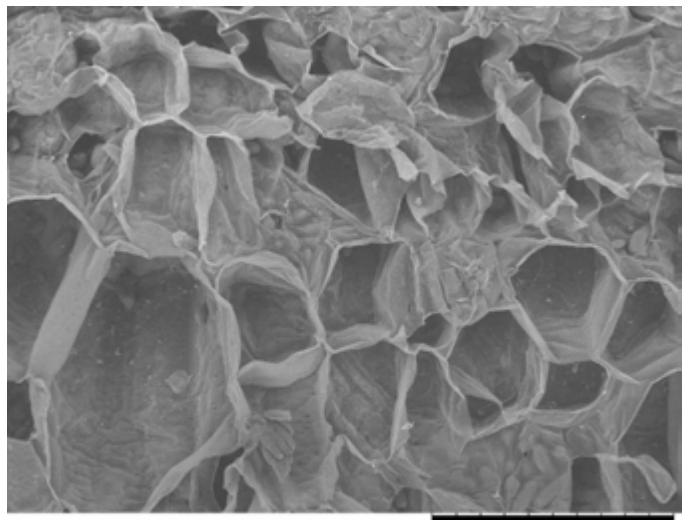
5006-04P10134 2016/10/21 12:36 L x80 1 mm



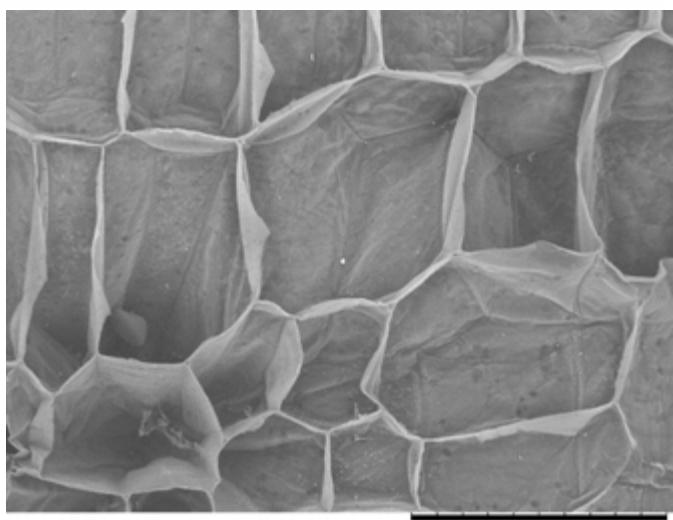
5006-04P10131 2016/10/21 12:32 L x100 1 mm



5006-04P10132 2016/10/21 12:33 L x200 500 um



5006-04P10135 2016/10/21 12:37 L x250 300 um

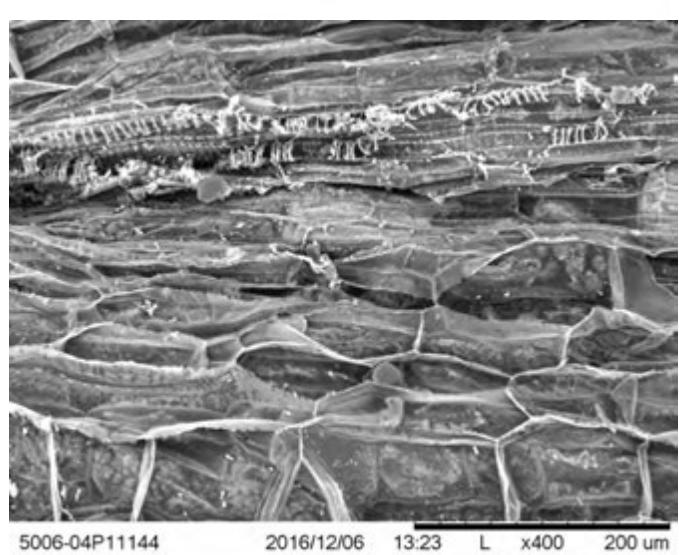
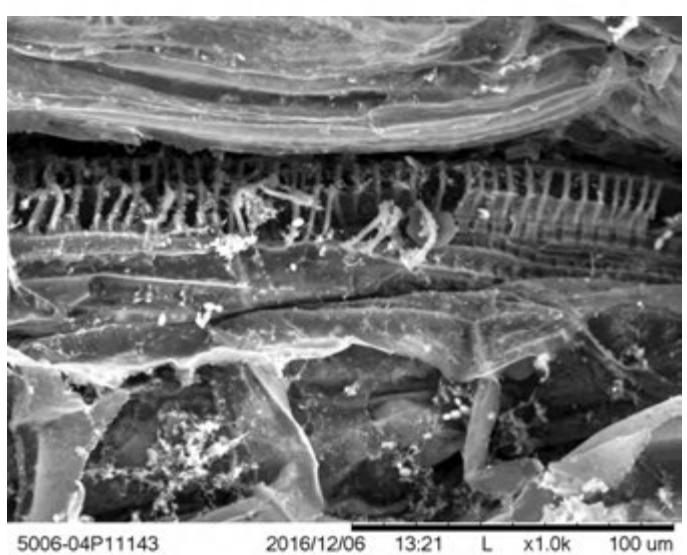
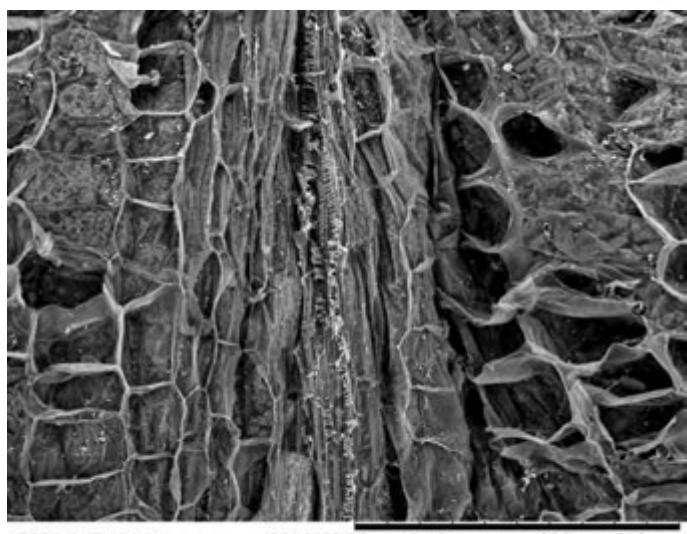
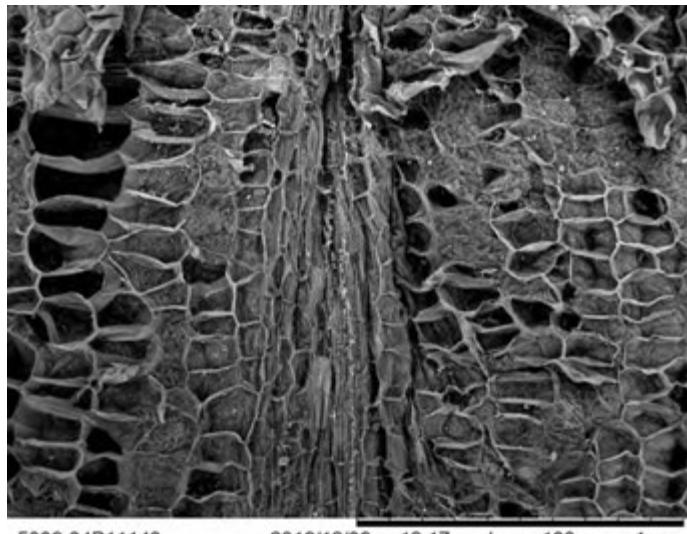
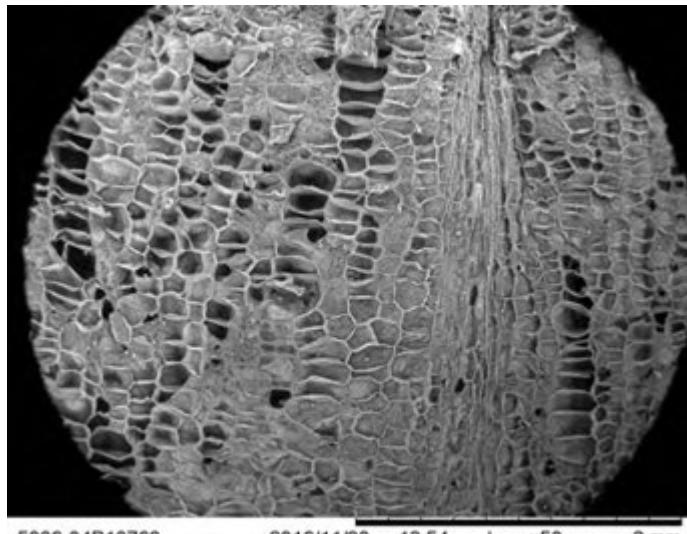


5006-04P10133 2016/10/21 12:34 L x400 200 um

Oxalis *tuberosa*
OXALIDACEAE

Common Name: Oca
Sample Type: Wet/Fresh

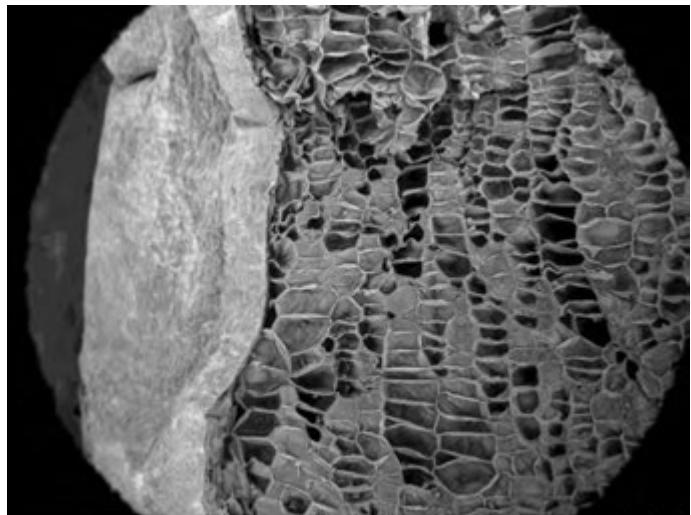
Radial



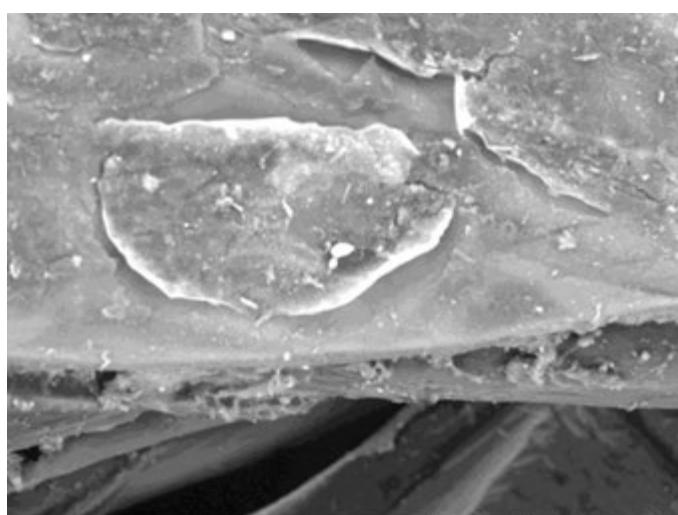
Oxalis tuberosa
OXALIDACEAE

Common Name: Oca
Sample Type: Wet/Fresh

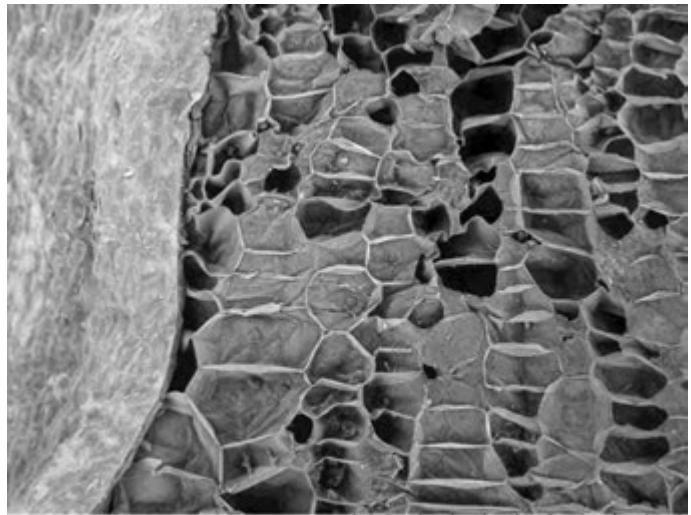
Radial Edge



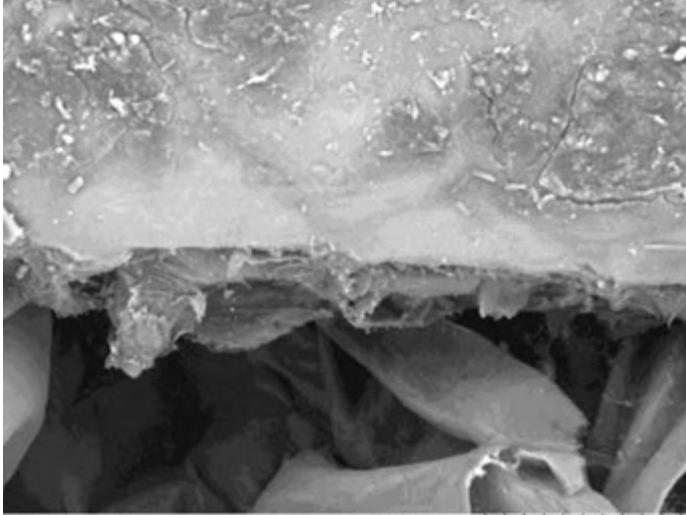
5006-04P10770 2016/11/30 13:56 L x50 2 mm



5006-04P10773 2016/11/30 14:03 L x1.5k 50 μm



5006-04P10771 2016/11/30 13:58 L x100 1 mm

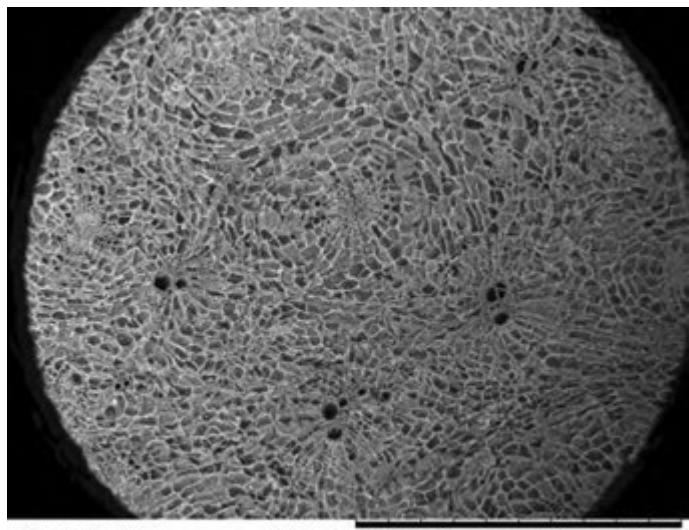


5006-04P10772 2016/11/30 14:00 L x1.2k 50 μm

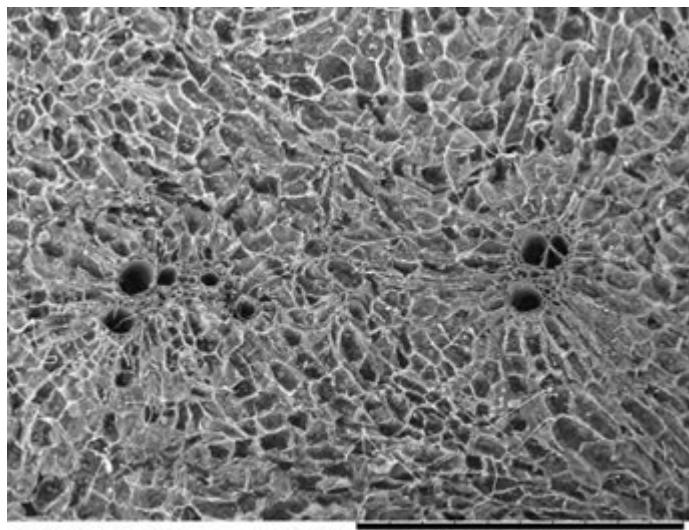
Pachyrhizus erosus
FABACEAE

Common Name: Jicama
Sample Type: Wet/Fresh

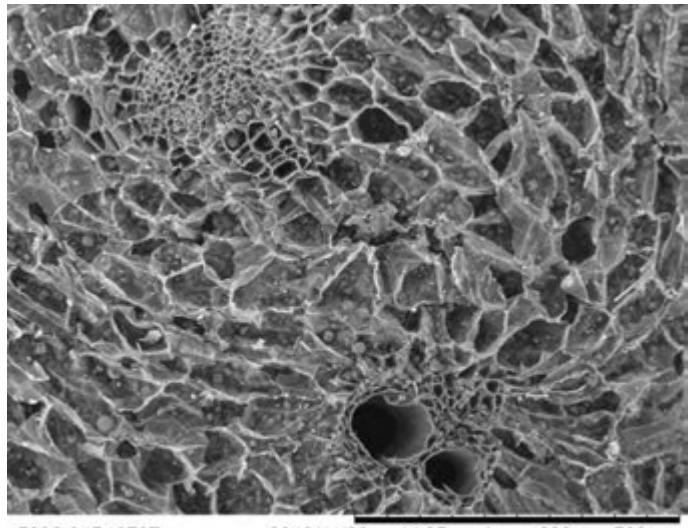
Transverse Center



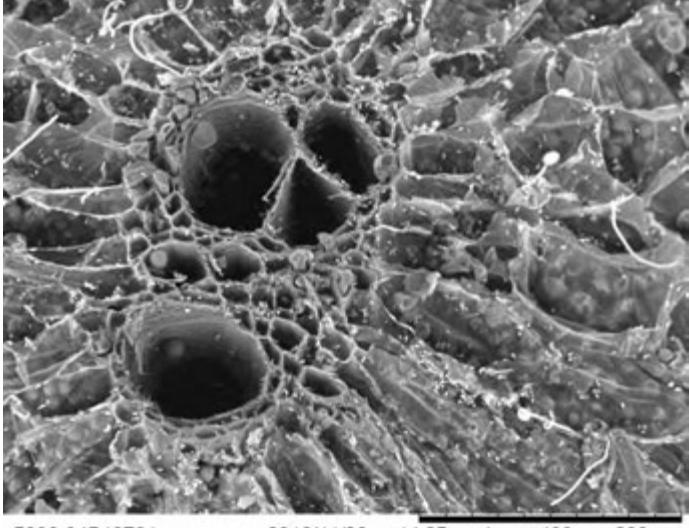
5006-04P10790 2016/11/30 14:39 L x50 2 mm



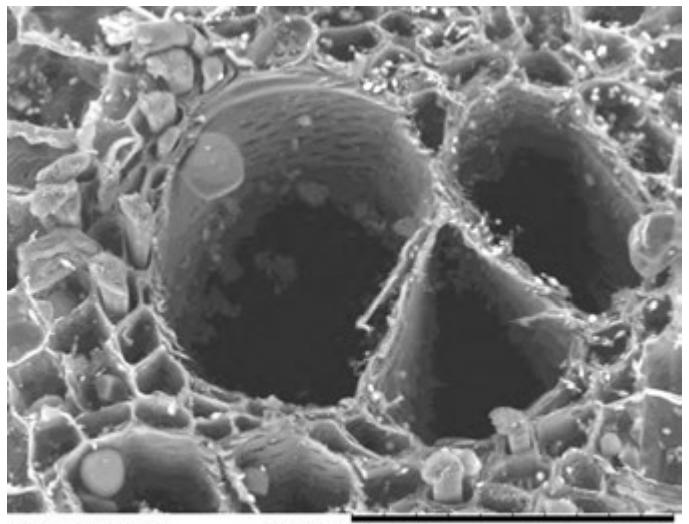
5006-04P10779 2016/11/30 14:23 L x100 1 mm



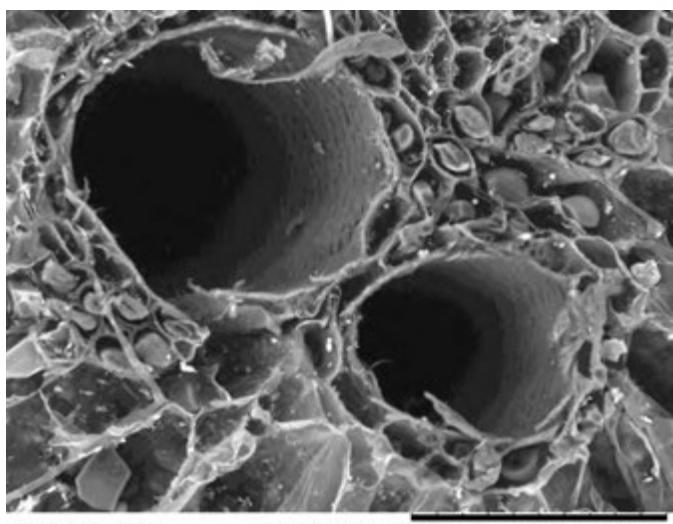
5006-04P10787 2016/11/30 14:35 L x200 500 um



5006-04P10781 2016/11/30 14:25 L x400 200 um



5006-04P10782 2016/11/30 14:28 L x1.0k 100 um

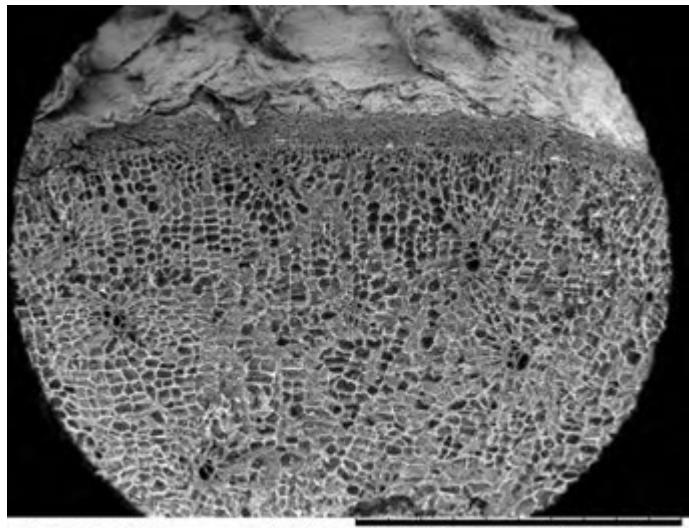


5006-04P10789 2016/11/30 14:37 L x800 100 um

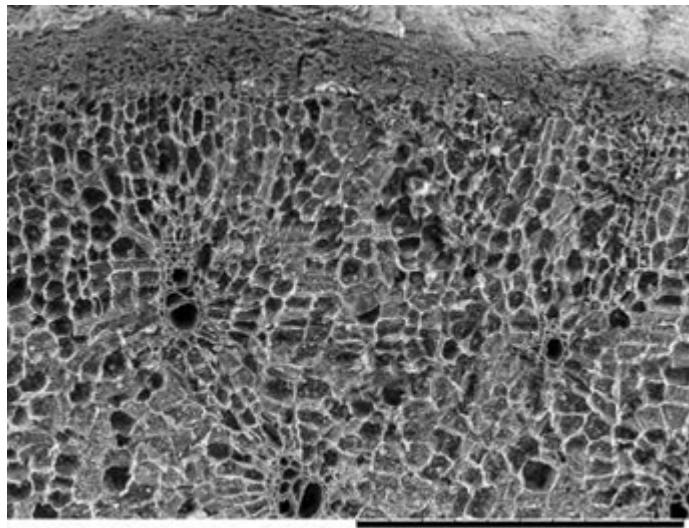
Pachyrhizus erosus
FABACEAE

Common Name: Jicama
Sample Type: Wet/Fresh

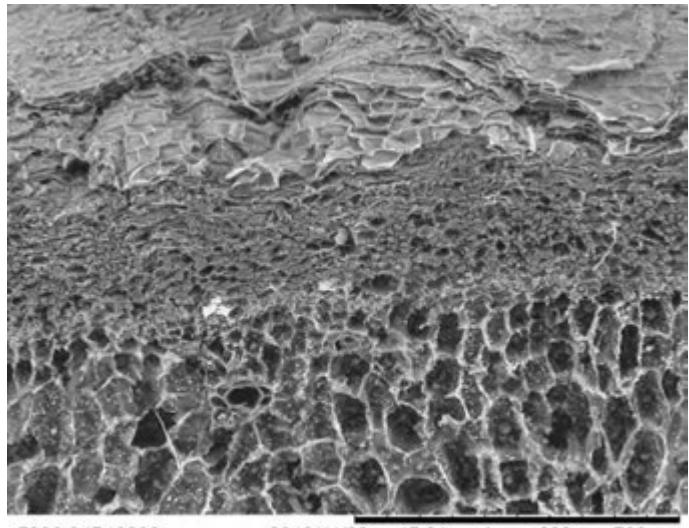
Transverse Edge



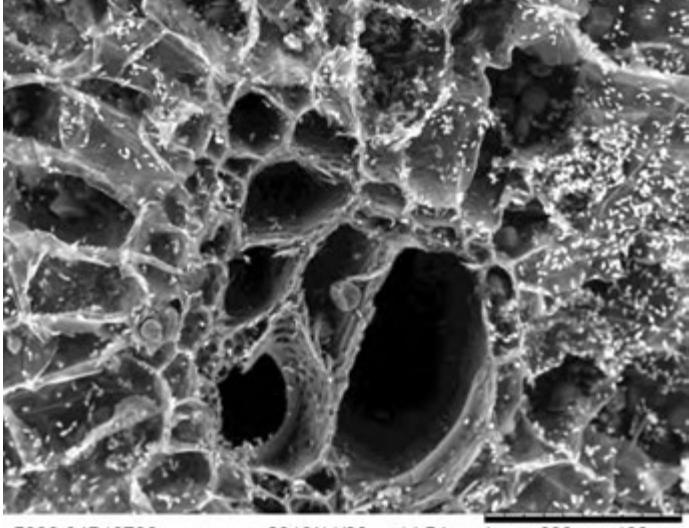
5006-04P10791 2016/11/30 14:48 L x50 2 mm



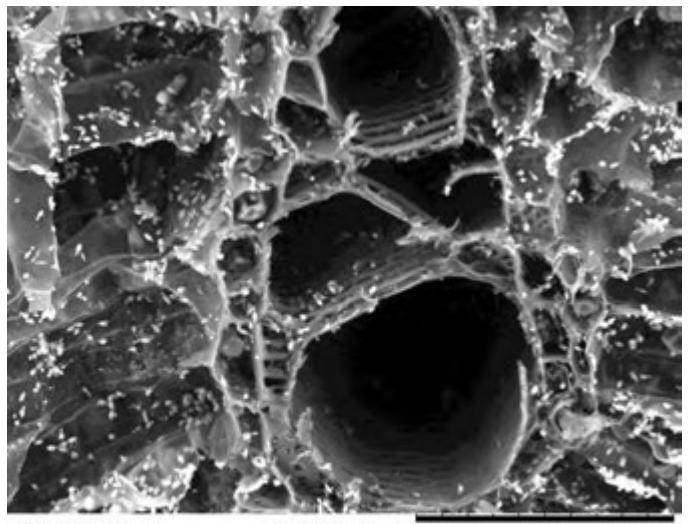
5006-04P10793 2016/11/30 14:50 L x100 1 mm



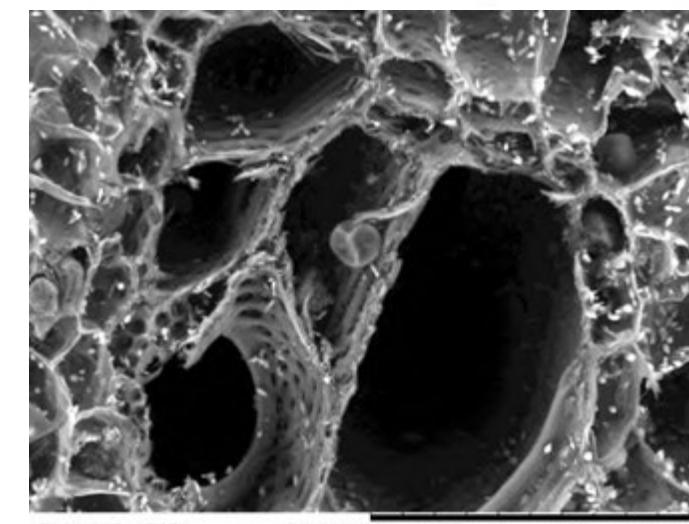
5006-04P10800 2016/11/30 15:01 L x200 500 µm



5006-04P10796 2016/11/30 14:54 L x600 100 µm



5006-04P10795 2016/11/30 14:53 L x800 100 µm

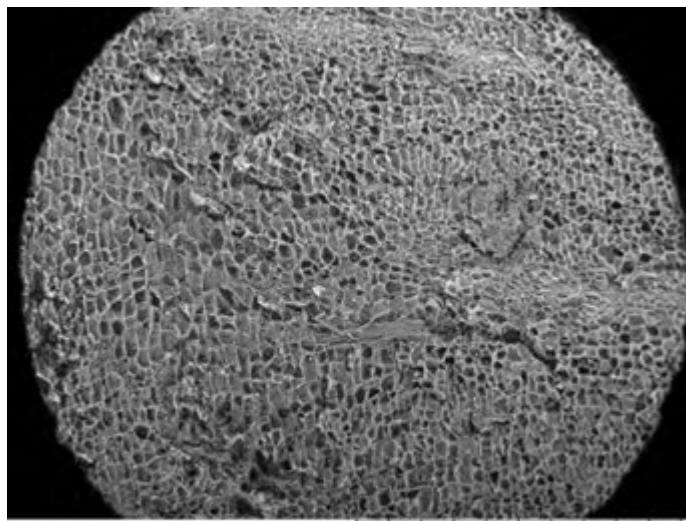


5006-04P10797 2016/11/30 14:57 L x1.0k 100 µm

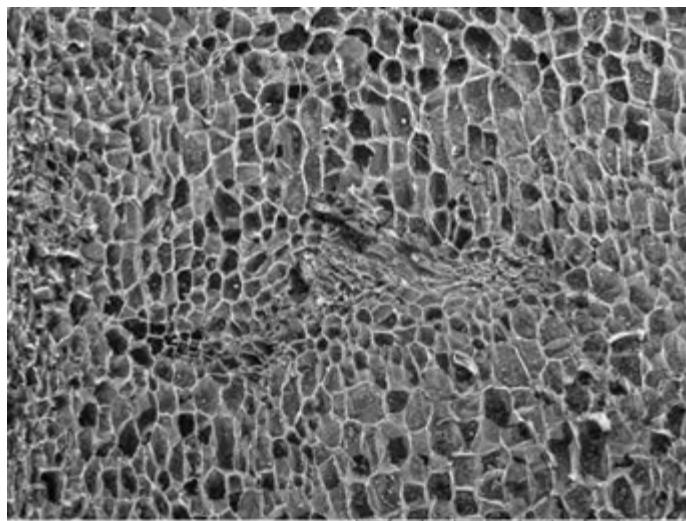
Pachyrhizus erosus
FABACEAE

Common Name: Jicama
Sample Type: Wet/Fresh

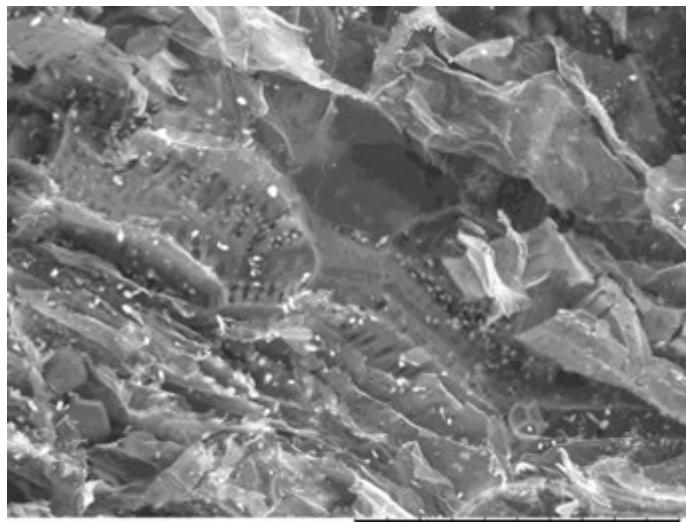
Tangential Center



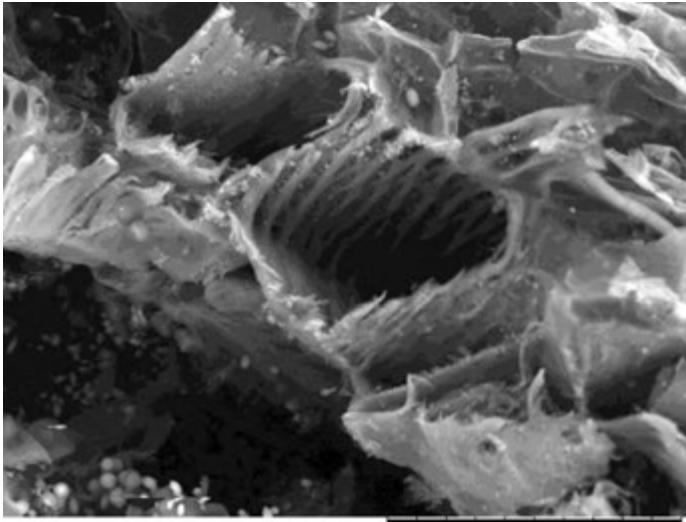
5006-04P10850 2016/12/02 10:03 L x50 2 mm



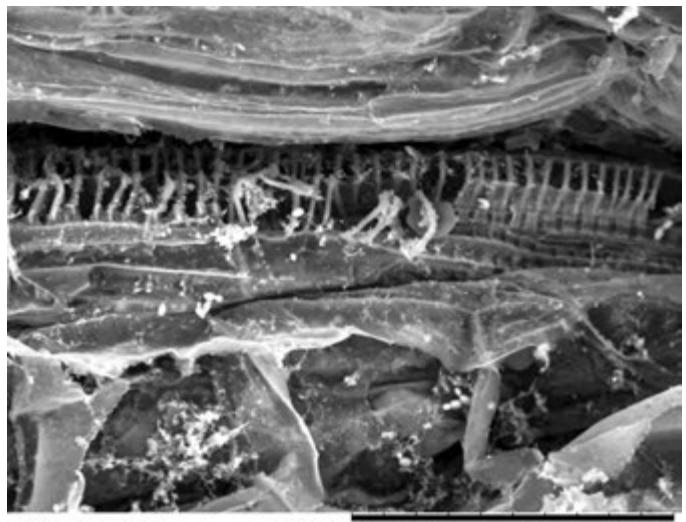
5006-04P10852 2016/12/02 10:06 L x100 1 mm



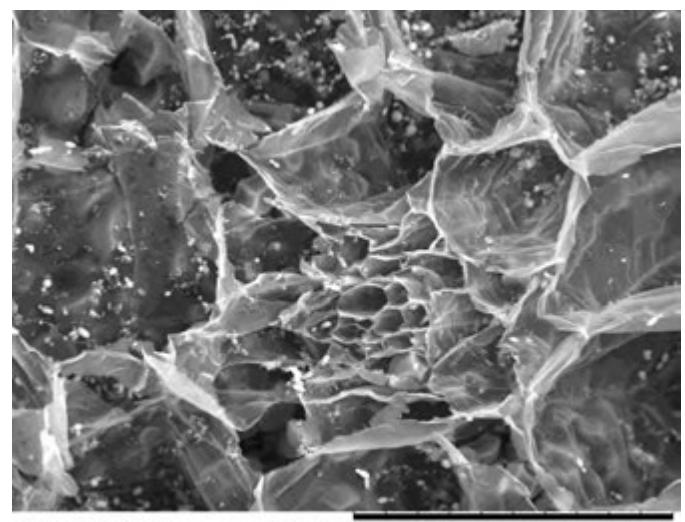
5006-04P10856 2016/12/02 10:13 L x1.0k 100 um



5006-04P10854 2016/12/02 10:09 L x1.8k 50 um



5006-04P11143 2016/12/06 13:21 L x1.0k 100 um

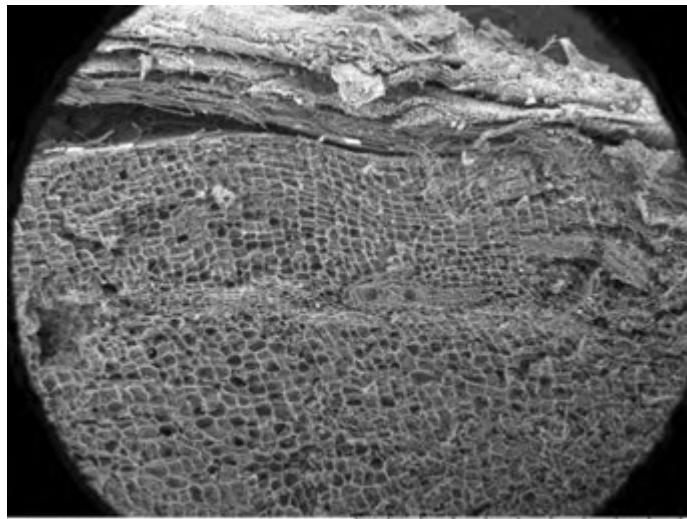


5006-04P10859 2016/12/02 10:18 L x1.0k 100 um

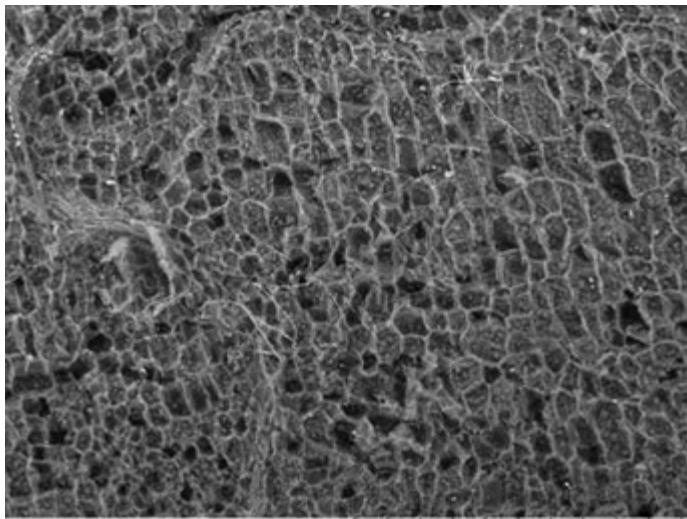
Pachyrhizus erosus
FABACEAE

Common Name: Jicama
Sample Type: Wet/Fresh

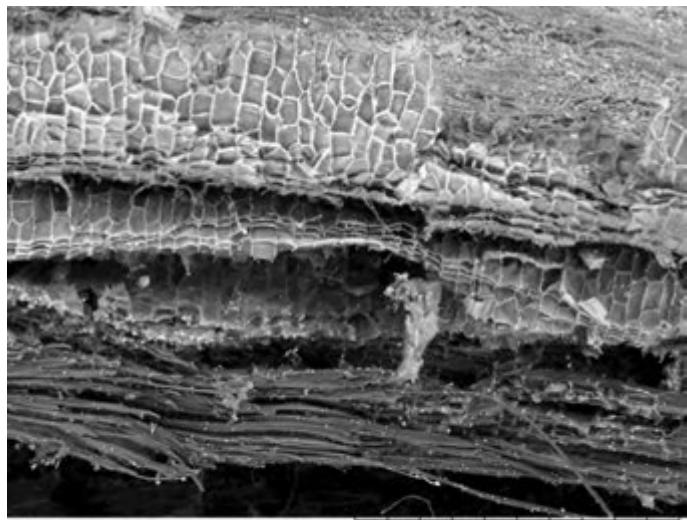
Tangential Edge



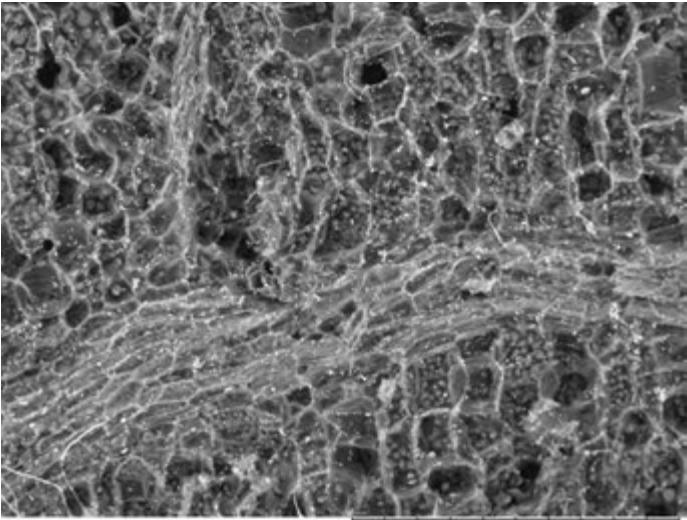
5006-04P10801 2016/11/30 15:12 L x50 2 mm



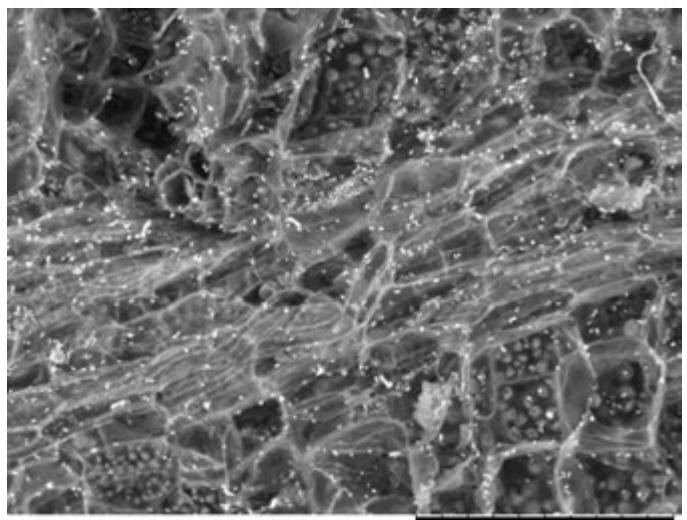
5006-04P10807 2016/11/30 15:22 L x100 1 mm



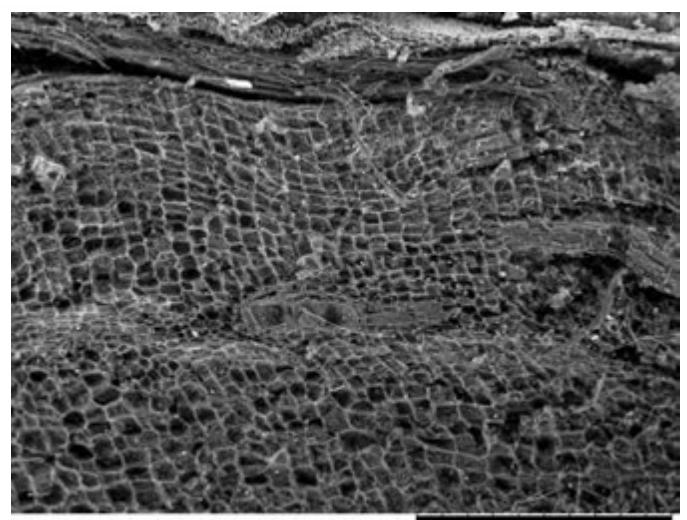
5006-04P10803 2016/11/30 15:15 L x200 500 um



5006-04P10805 2016/11/30 15:19 L x200 500 um



5006-04P10806 2016/11/30 15:20 L x400 200 um

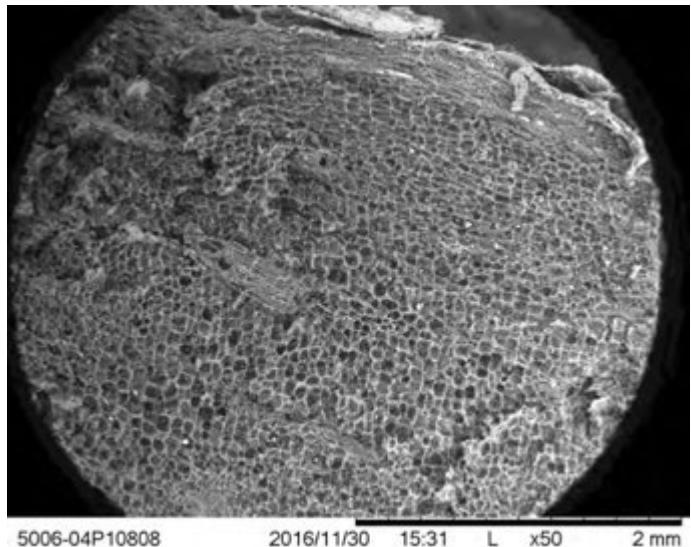


5006-04P10804 2016/11/30 15:17 L x80 1 mm

Pachyrhizus erosus
FABACEAE

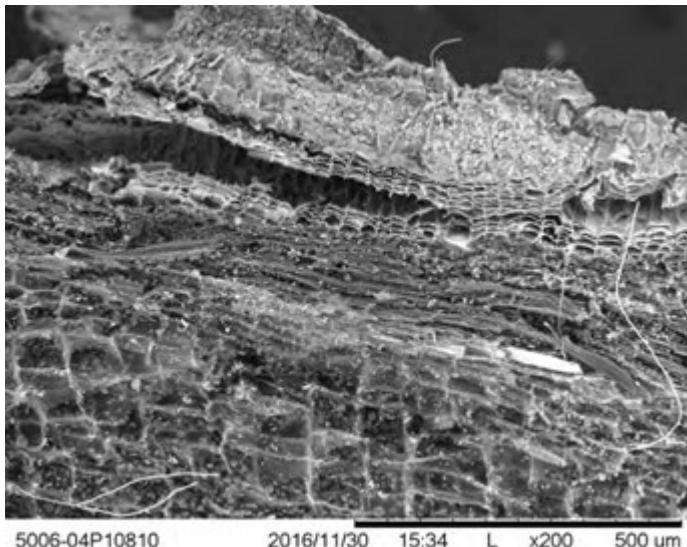
Common Name: Jicama
Sample Type: Wet/Fresh

Radial

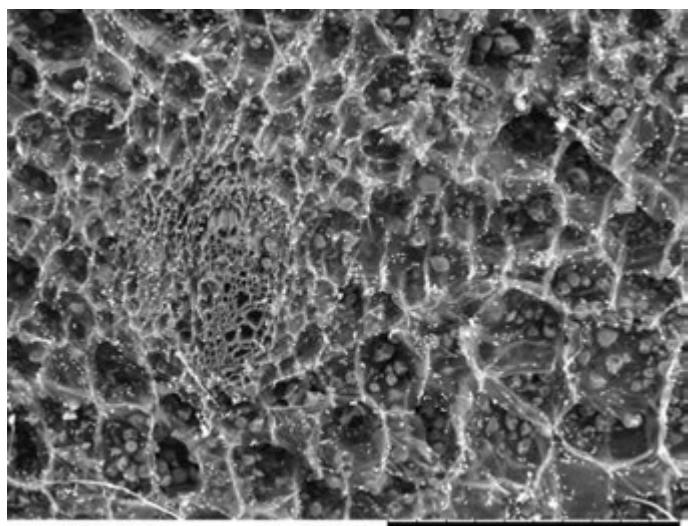


5006-04P10808

2016/11/30 15:31 L x50 2 mm

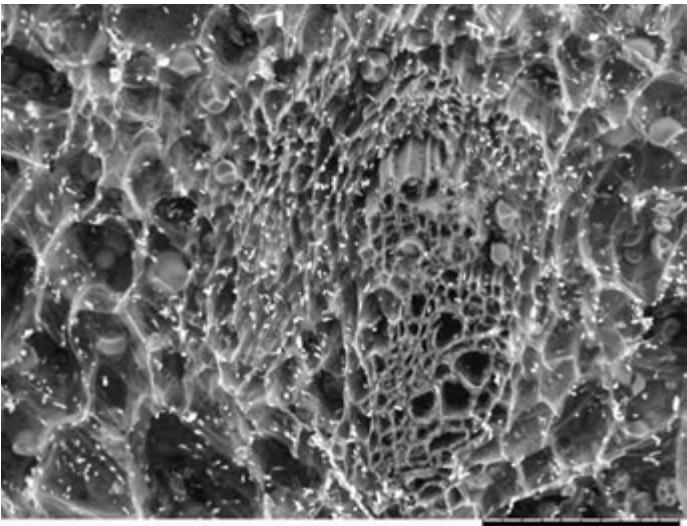


5006-04P10810 2016/11/30 15:34 L x200 500 μm

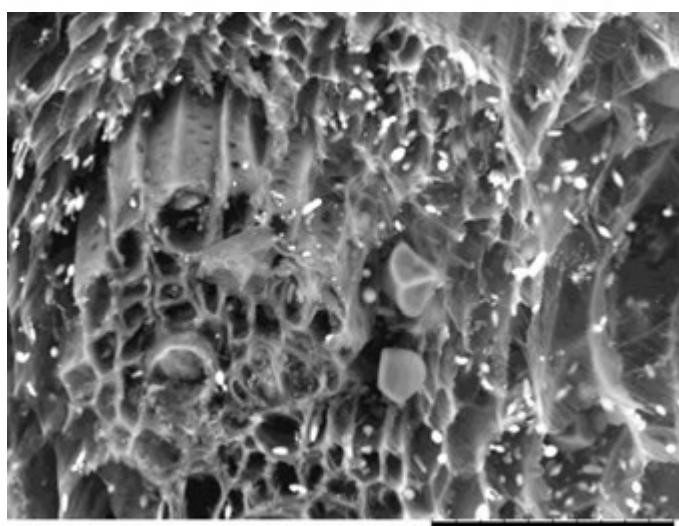


5006-04P10811

2016/11/30 15:37 L x300 300 μm

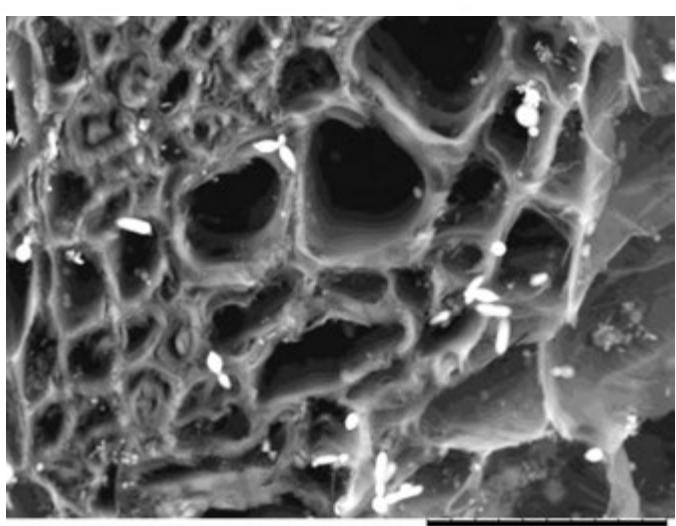


5006-04P10812 2016/11/30 15:39 L x600 100 μm



5006-04P10813

2016/11/30 15:41 L x1.5k 50 μm

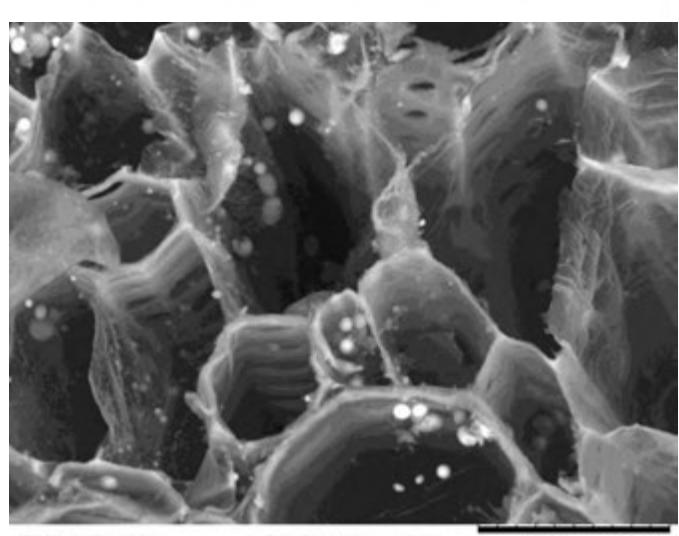
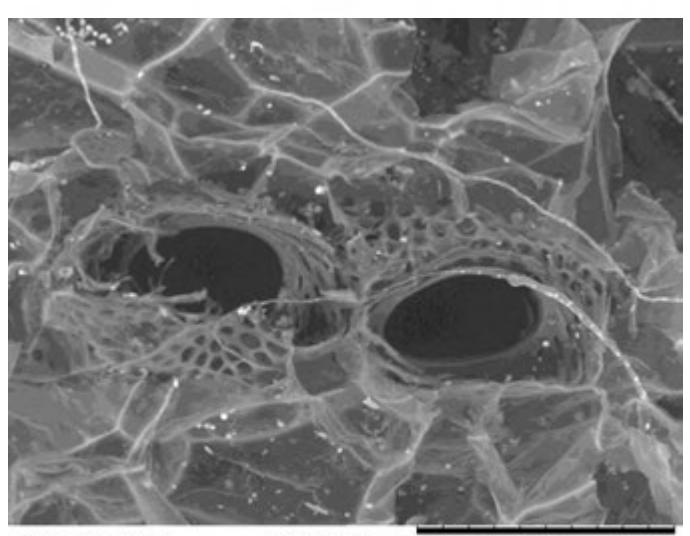
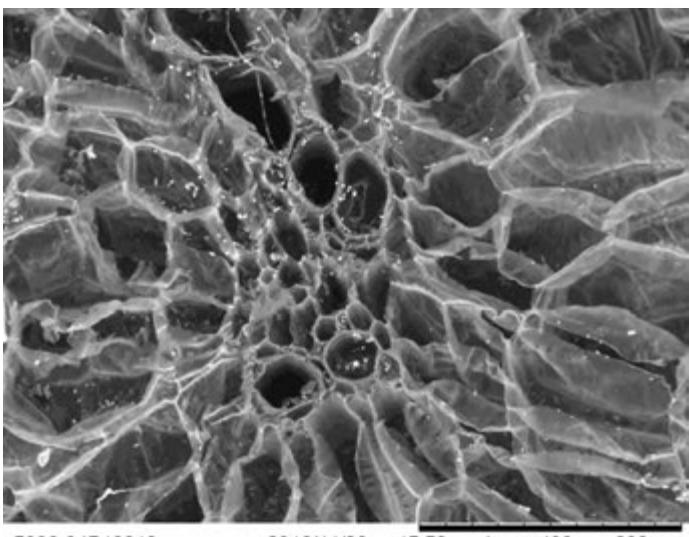
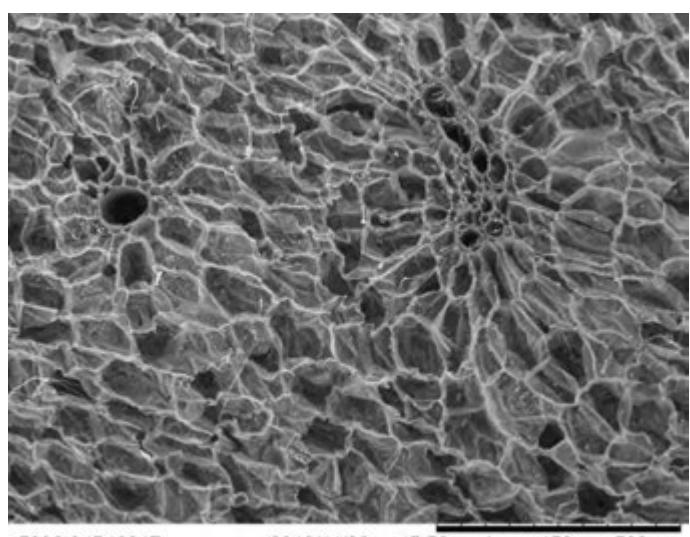
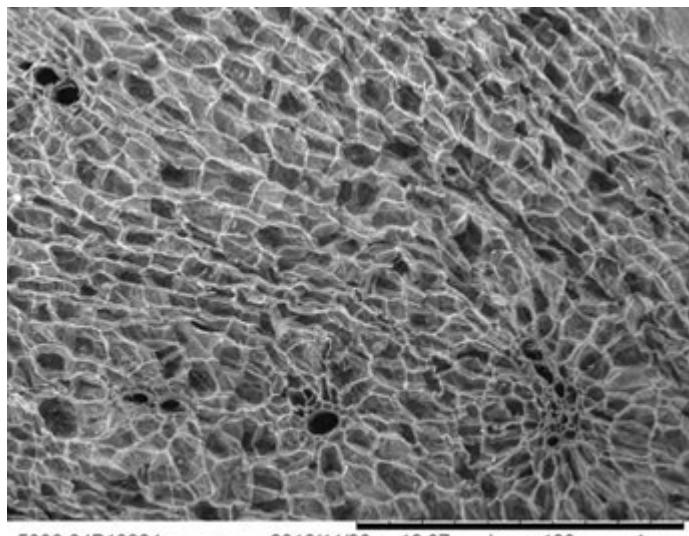
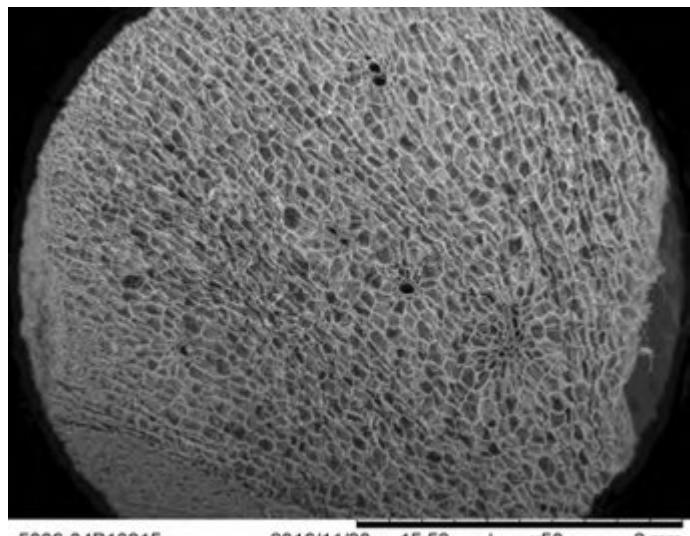


5006-04P10814 2016/11/30 15:43 L x2.5k 30 μm

Smallanthus sonchifolius
ASTERACEAE

Common Name: Yacon
Sample Type: Wet/Fresh

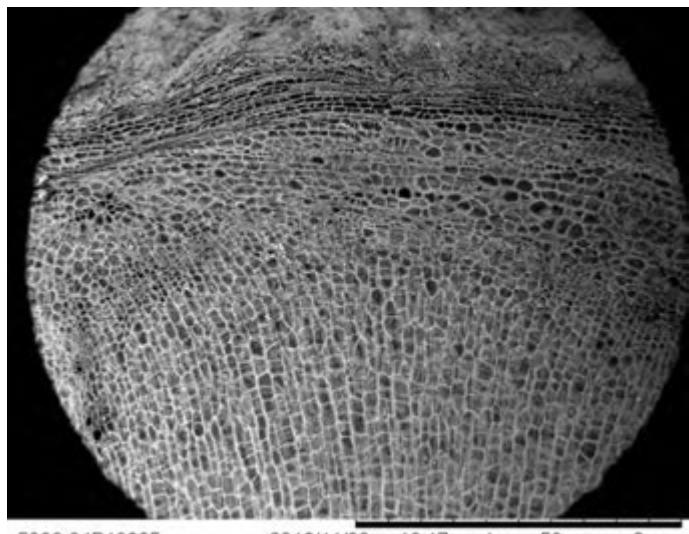
Transverse Center



Smallanthus sonchifolius
ASTERACEAE

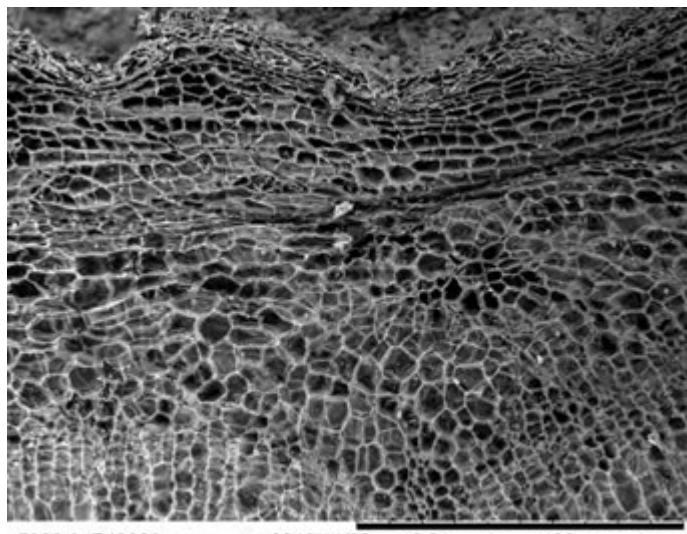
Common Name: Yacon
Sample Type: Wet/Fresh

Transverse Edge

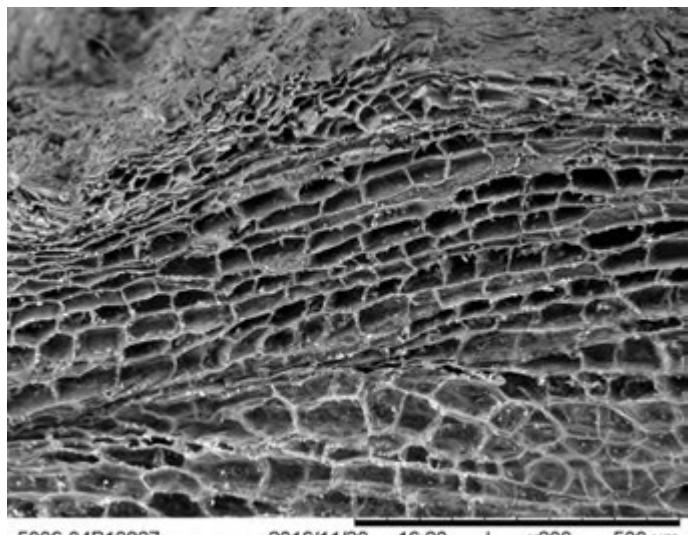


5006-04P10825

2016/11/30 16:17 L x50 2 mm

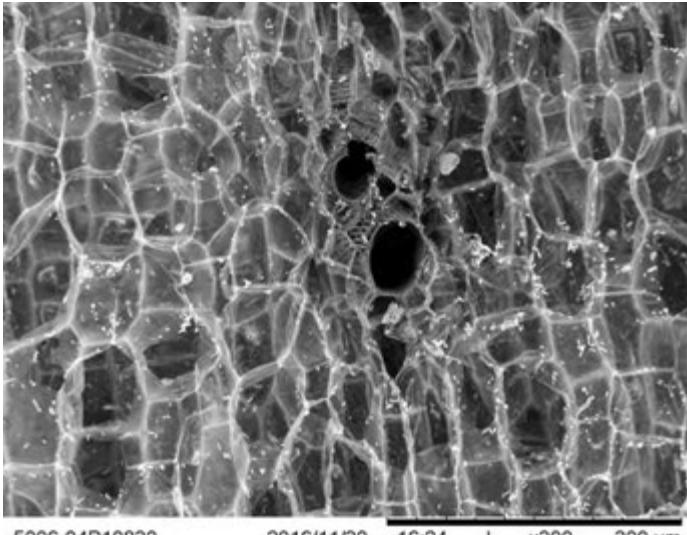


5006-04P10828 2016/11/30 16:21 L x100 1 mm

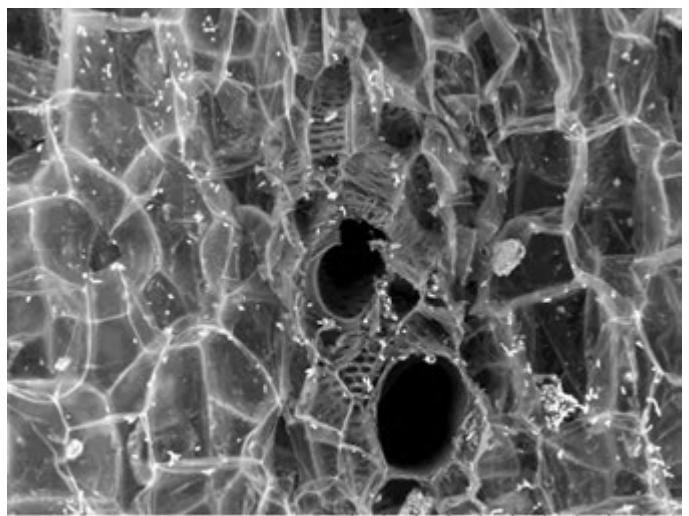


5006-04P10827

2016/11/30 16:20 L x200 500 um

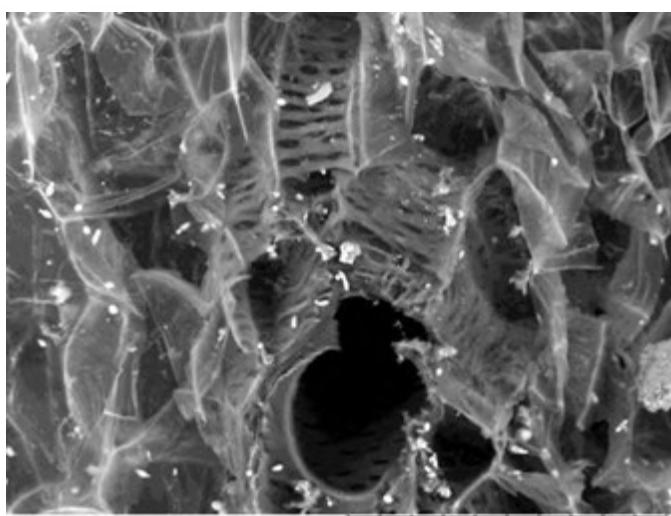


5006-04P10830 2016/11/30 16:24 L x300 300 um



5006-04P10831

2016/11/30 16:25 L x500 200 um



5006-04P10832 2016/11/30 16:27 L x10k 100 um

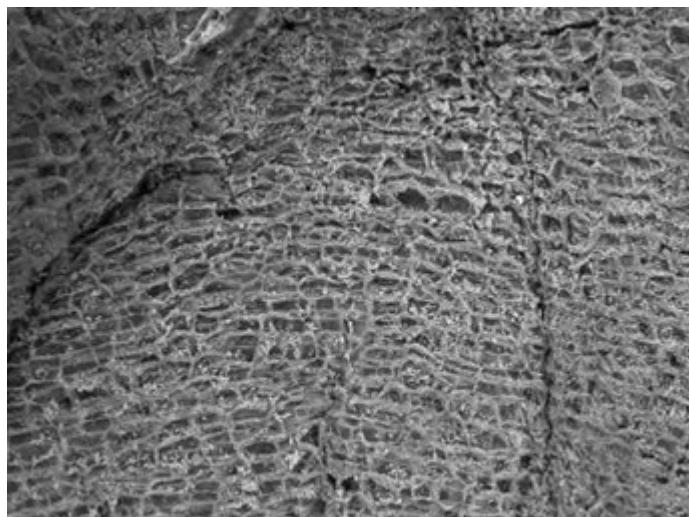
Smallanthus sonchifolius
ASTERACEAE

Common Name: Yacon
Sample Type: Wet/Fresh

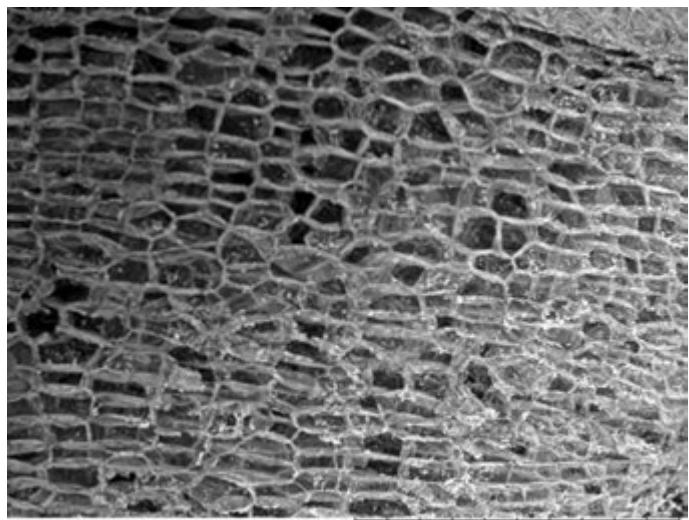
Tangential Center



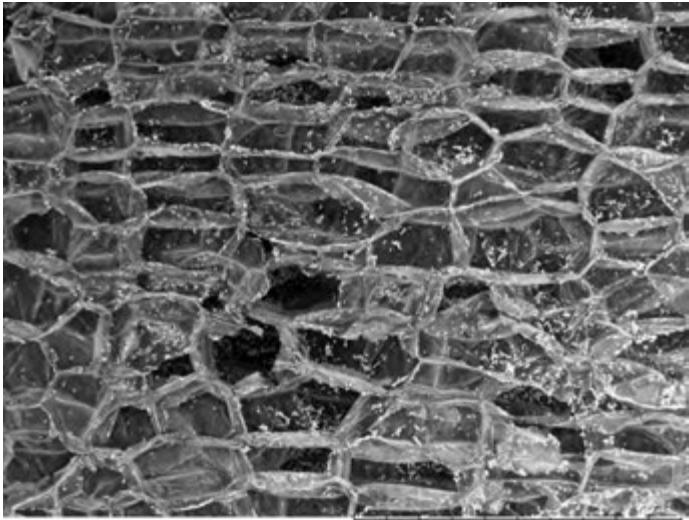
5006-04P10835 2016/11/30 16:43 L x80 1 mm



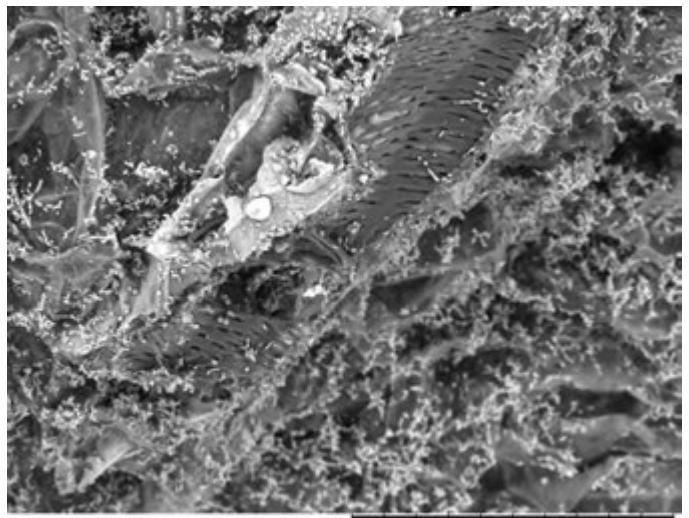
5006-04P10838 2016/11/30 16:49 L x100 1 mm



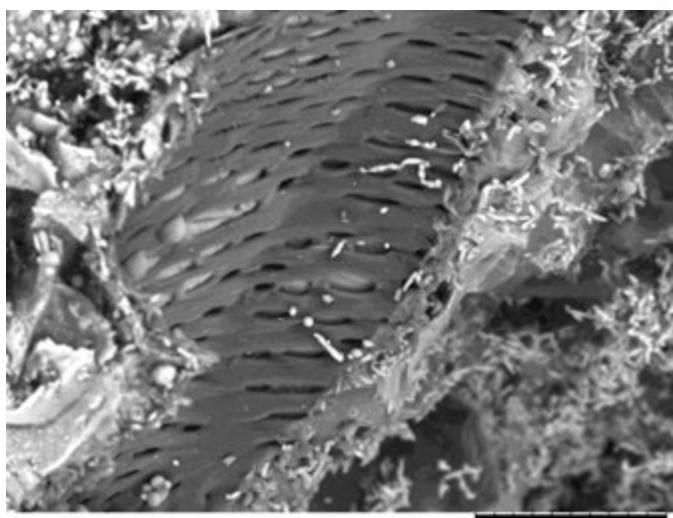
5006-04P10836 2016/11/30 16:45 L x100 1 mm



5006-04P10837 2016/11/30 16:47 L x200 500 um



5006-04P10839 2016/11/30 16:51 L x500 200 um

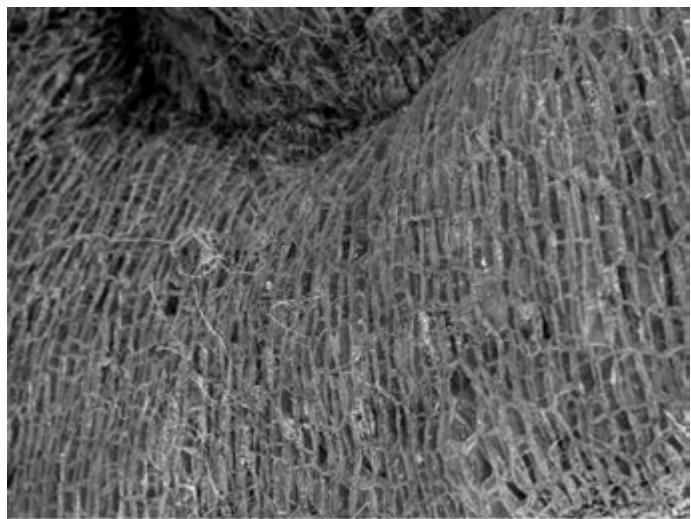


5006-04P10840 2016/11/30 16:53 L x1.2k 50 um

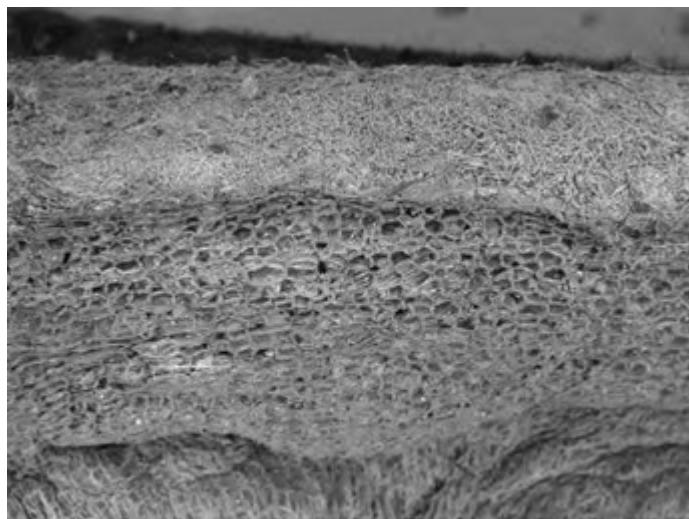
Smallanthus sonchifolius
ASTERACEAE

Common Name: Yacon
Sample Type: Wet/Fresh

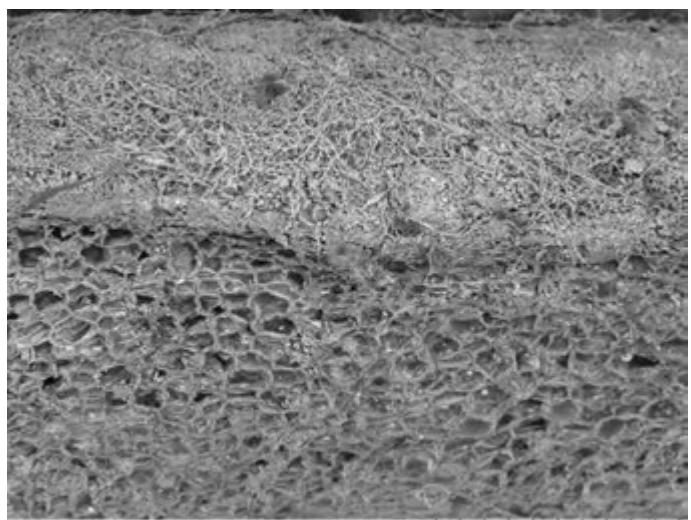
Tangential Edge



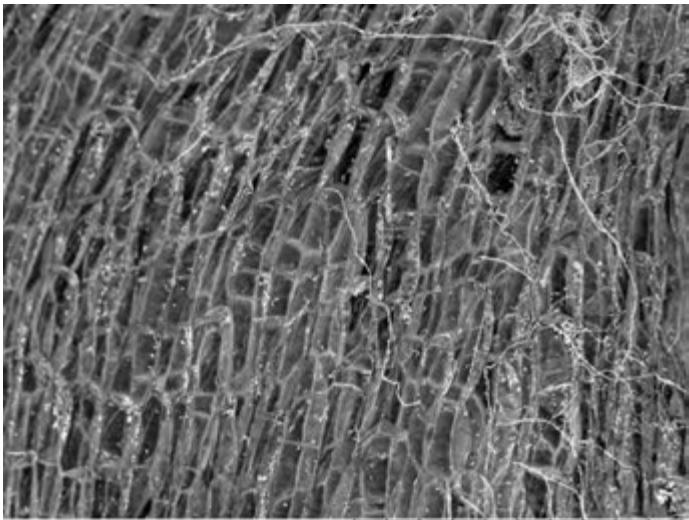
5006-04P10865 2016/12/02 10:35 L x100 1 mm



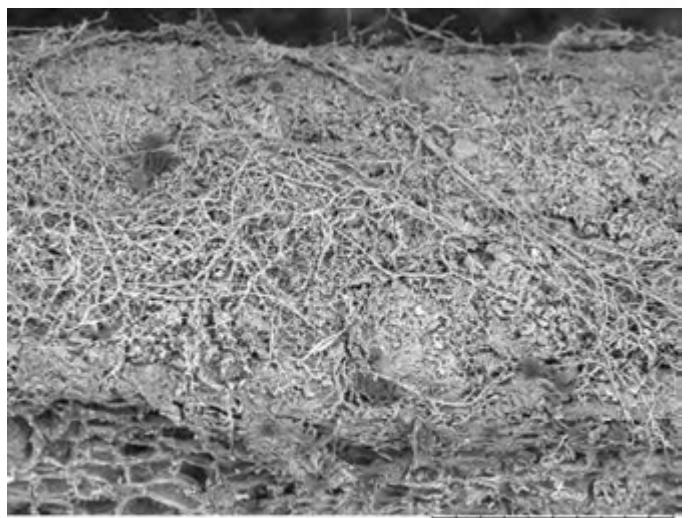
5006-04P10863 2016/12/02 10:32 L x100 1 mm



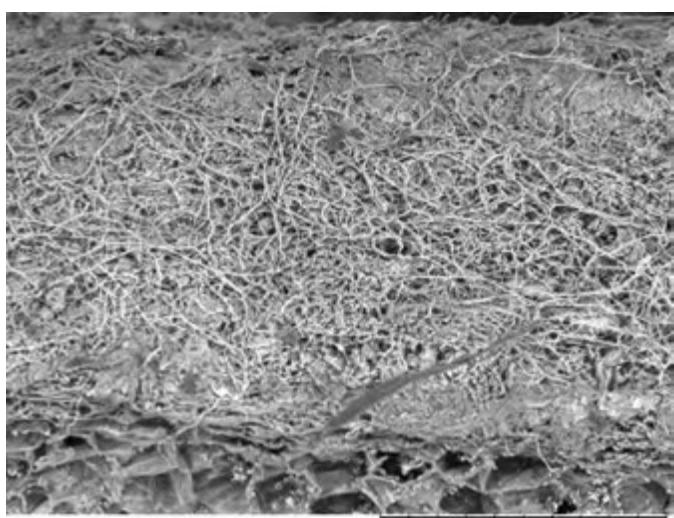
5006-04P10861 2016/12/02 10:29 L x150 500 um



5006-04P10866 2016/12/02 10:37 L x200 500 um



5006-04P10862 2016/12/02 10:30 L x250 300 um



5006-04P10864 2016/12/02 10:33 L x300 300 um

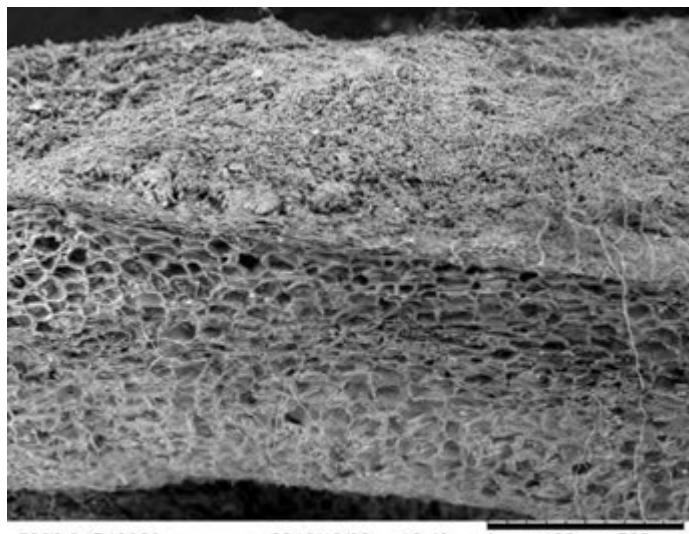
Smallanthus sonchifolius
ASTERACEAE

Common Name: Yacon
Sample Type: Wet/Fresh

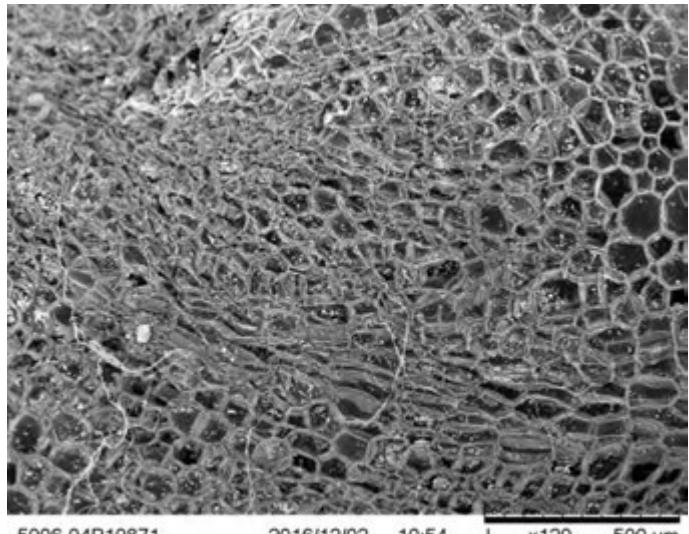
Radial



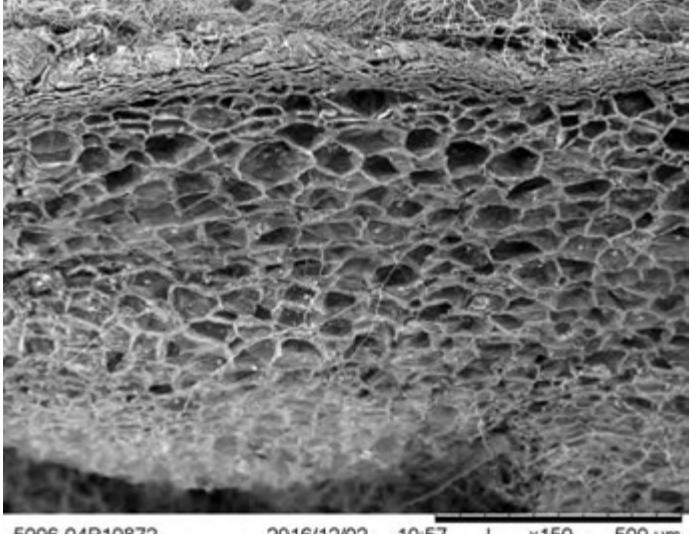
5006-04P10867 2016/12/02 10:48 L x50 2 mm



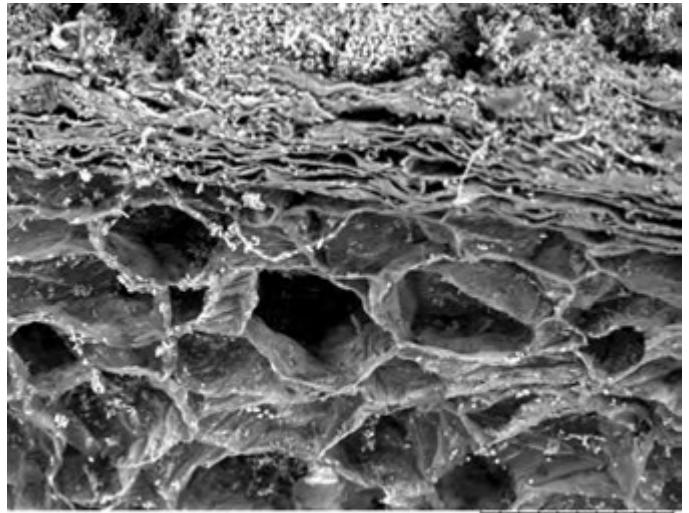
5006-04P10868 2016/12/02 10:49 L x120 500 μm



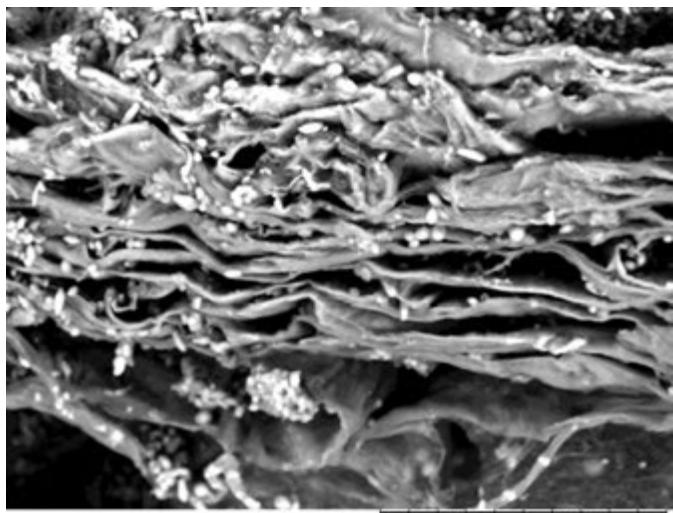
5006-04P10871 2016/12/02 10:54 L x120 500 μm



5006-04P10872 2016/12/02 10:57 L x150 500 μm



5006-04P10869 2016/12/02 10:50 L x600 100 μm

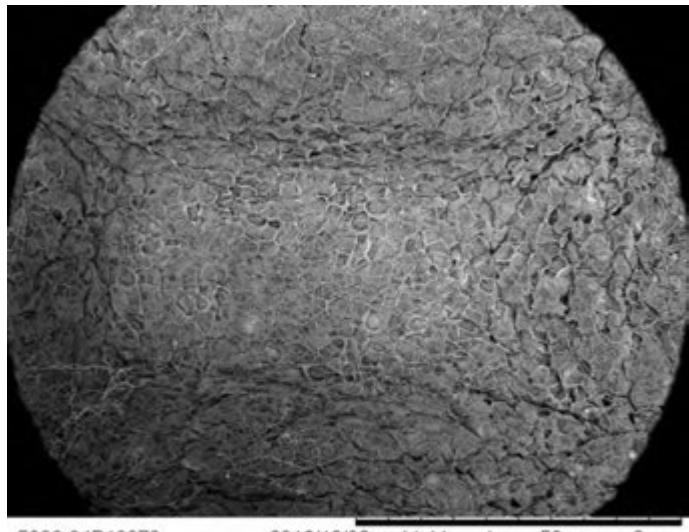


5006-04P10870 2016/12/02 10:52 L x1.8k 50 μm

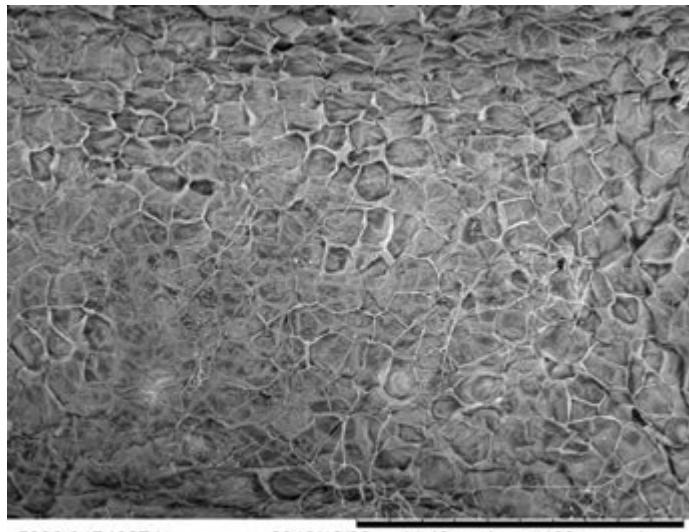
Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Wet/Fresh

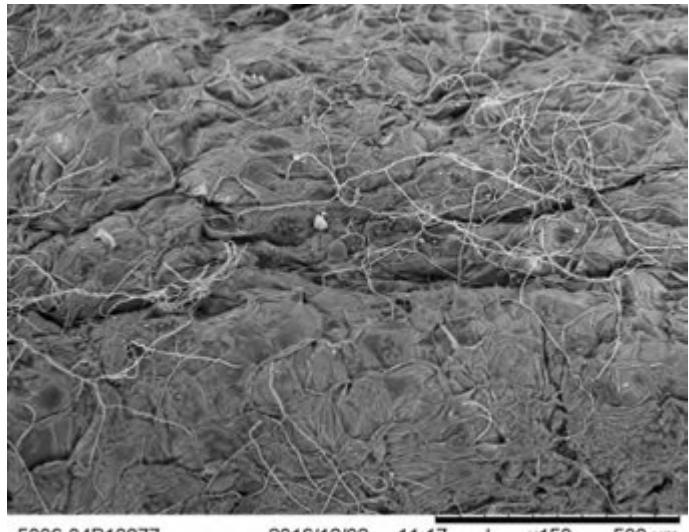
Transverse Center



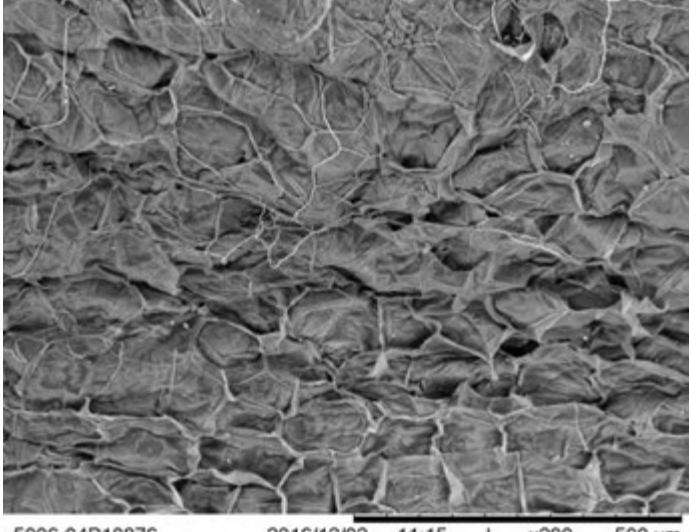
5006-04P10873 2016/12/02 11:11 L x50 2 mm



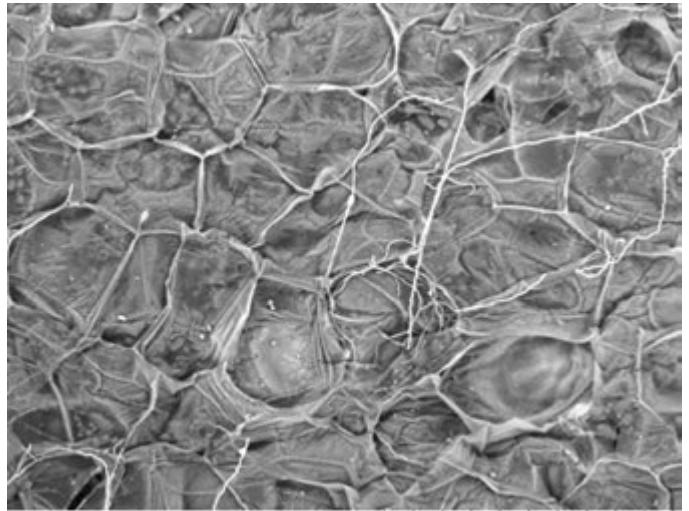
5006-04P10874 2016/12/02 11:13 L x100 1 mm



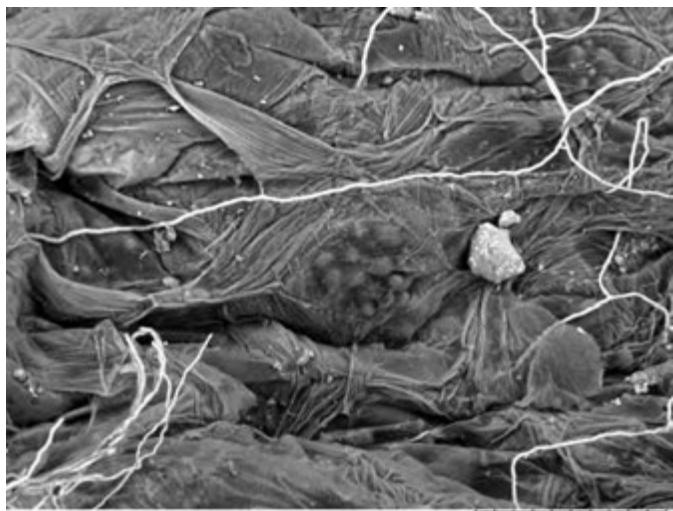
5006-04P10877 2016/12/02 11:17 L x150 500 um



5006-04P10876 2016/12/02 11:15 L x200 500 um



5006-04P10875 2016/12/02 11:14 L x300 300 um

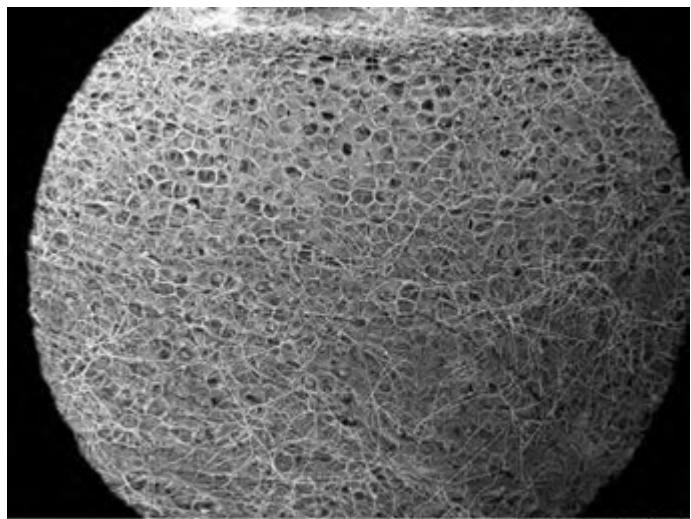


5006-04P10878 2016/12/02 11:19 L x600 100 um

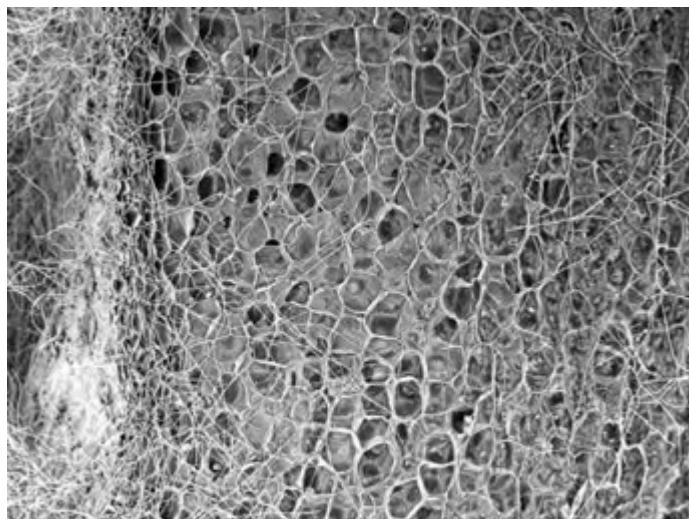
Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Wet/Fresh

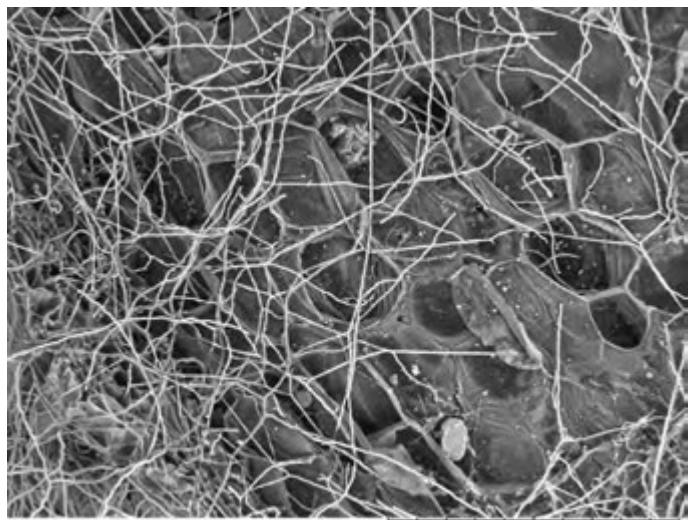
Transverse Edge



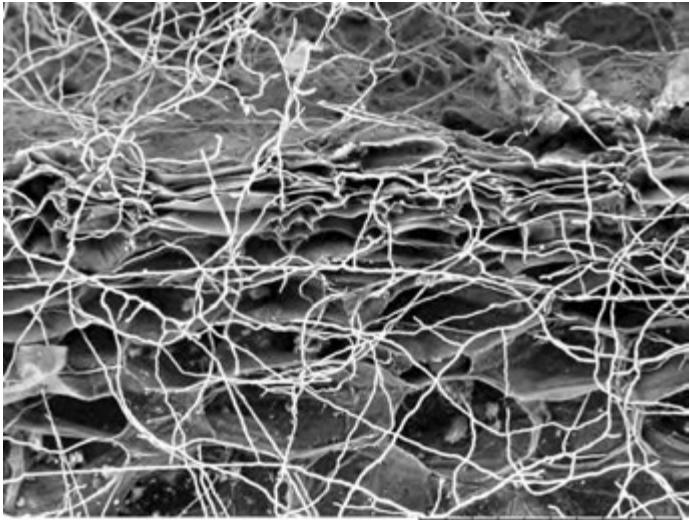
5006-04P10879 2016/12/02 11:27 L x50 2 mm



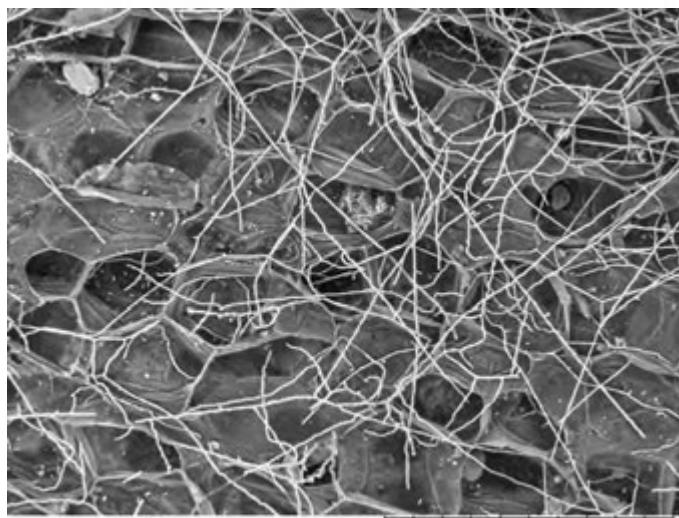
5006-04P10884 2016/12/02 11:39 L x100 1 mm



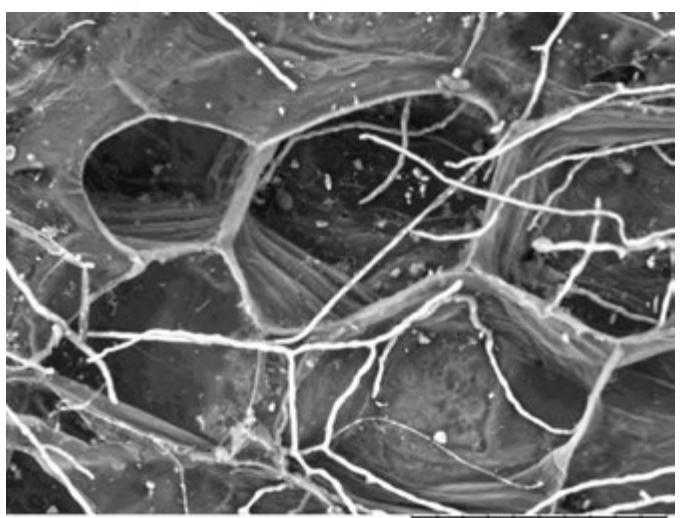
5006-04P10887 2016/12/02 11:47 L x300 300 µm



5006-04P10882 2016/12/02 11:32 L x400 200 µm



5006-04P10885 2016/12/02 11:43 L x300 300 µm



5006-04P10888 2016/12/02 11:52 L x800 100 µm

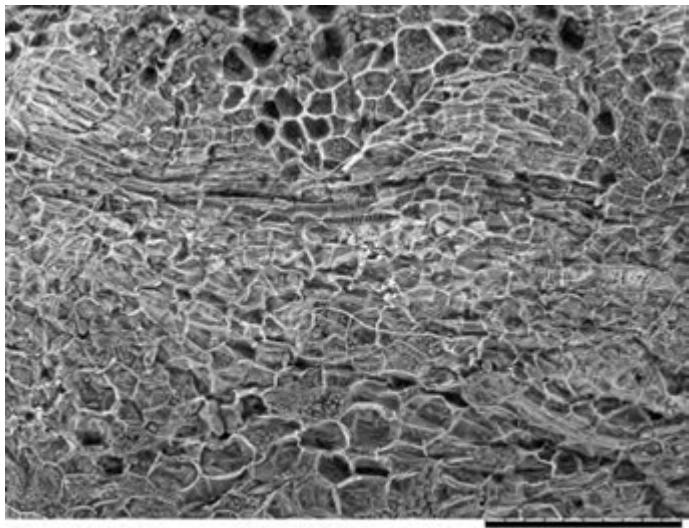
Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Wet/Fresh

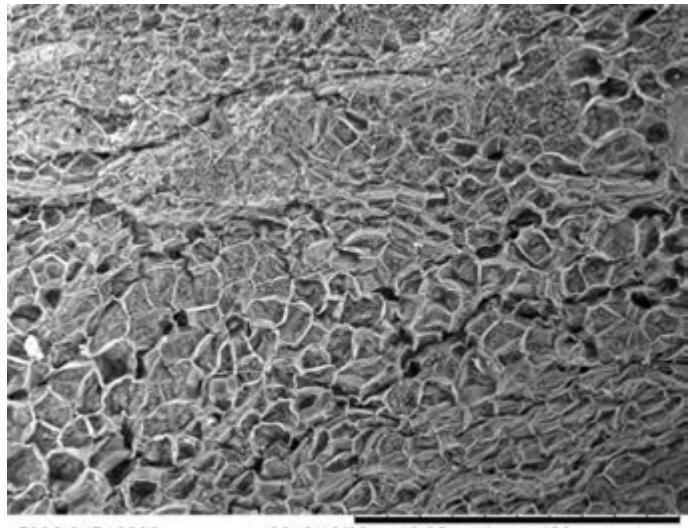
Tangential Center



5006-04P10889 2016/12/02 12:00 L x40 2 mm



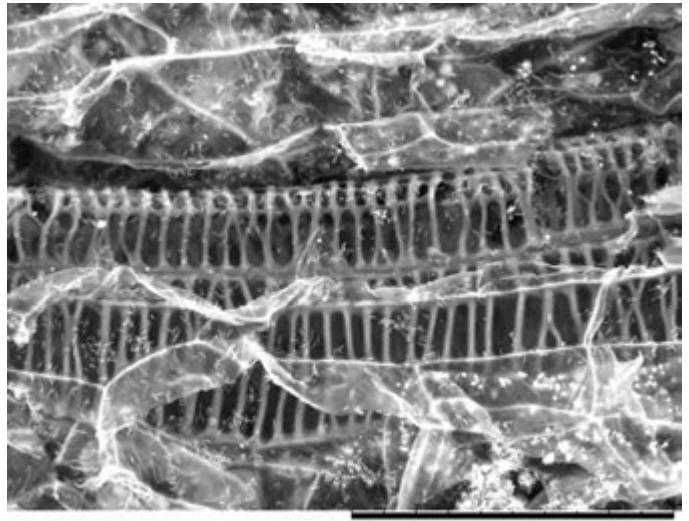
5006-04P10891 2016/12/02 12:03 L x120 500 um



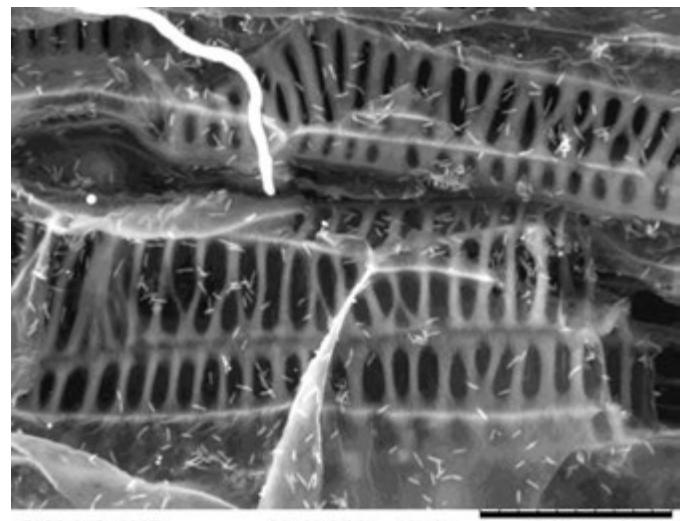
5006-04P10890 2016/12/02 12:02 L x100 1 mm



5006-04P10894 2016/12/02 12:07 L x400 200 um



5006-04P10892 2016/12/02 12:05 L x1.0k 100 um

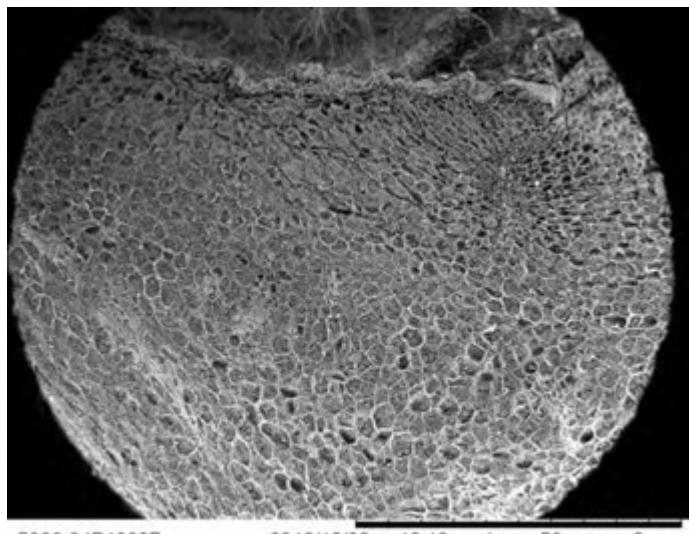


5006-04P10895 2016/12/02 12:10 L x2.0k 30 um

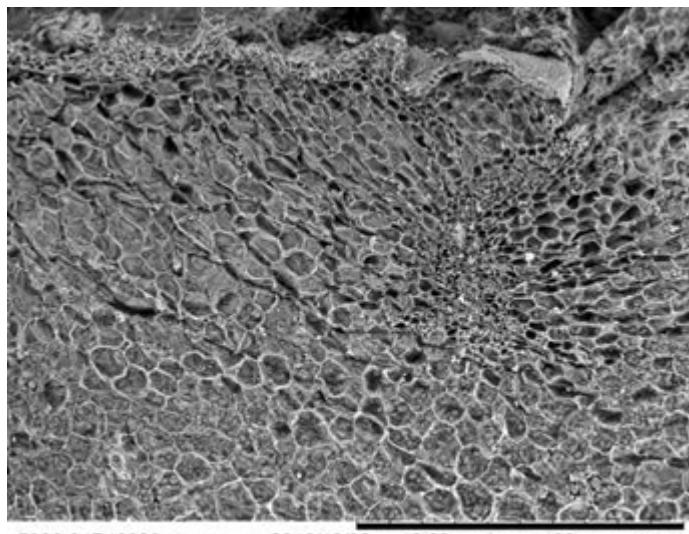
Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Wet/Fresh

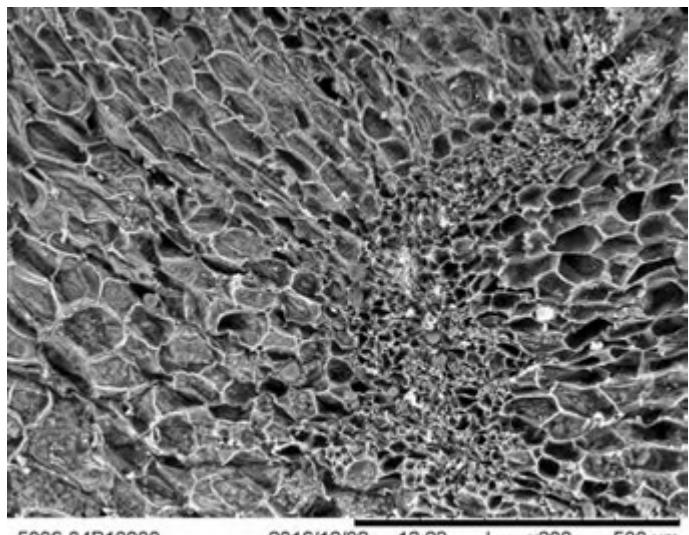
Tangential Edge



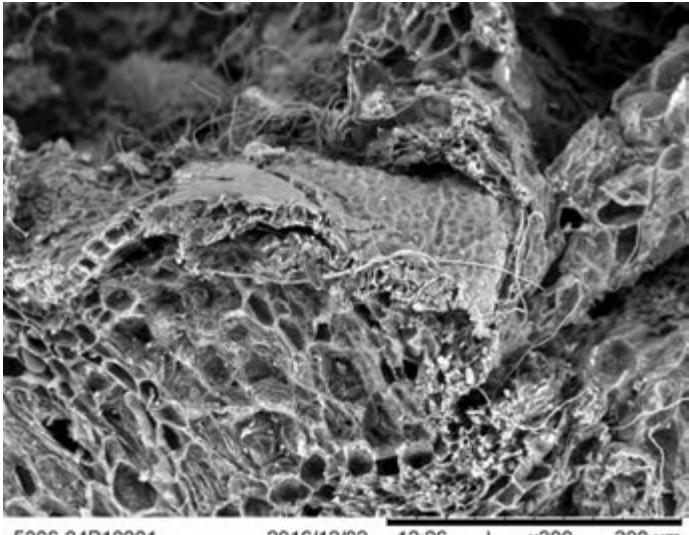
5006-04P10897 2016/12/02 12:19 L x50 2 mm



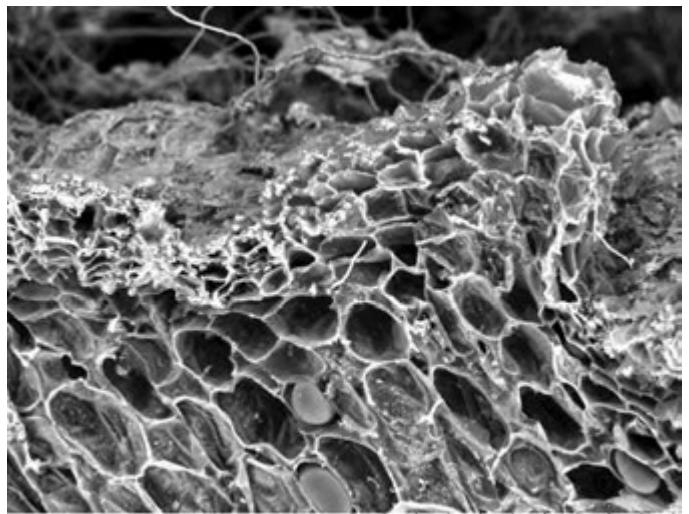
5006-04P10898 2016/12/02 12:20 L x100 1 mm



5006-04P10900 2016/12/02 12:23 L x200 500 µm



5006-04P10901 2016/12/02 12:26 L x300 300 µm

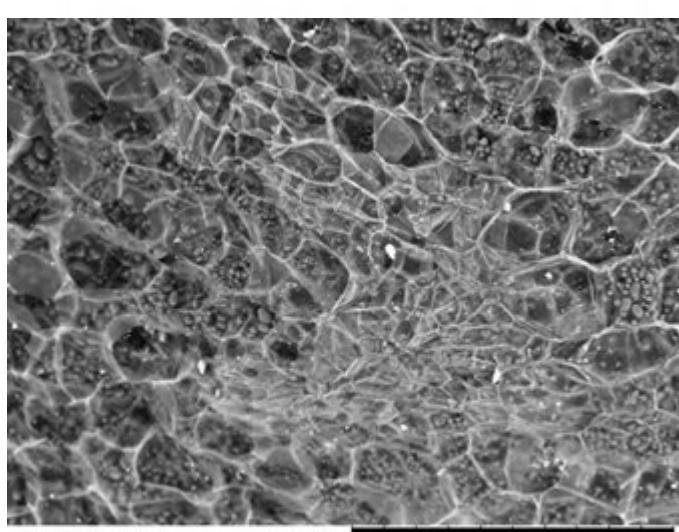
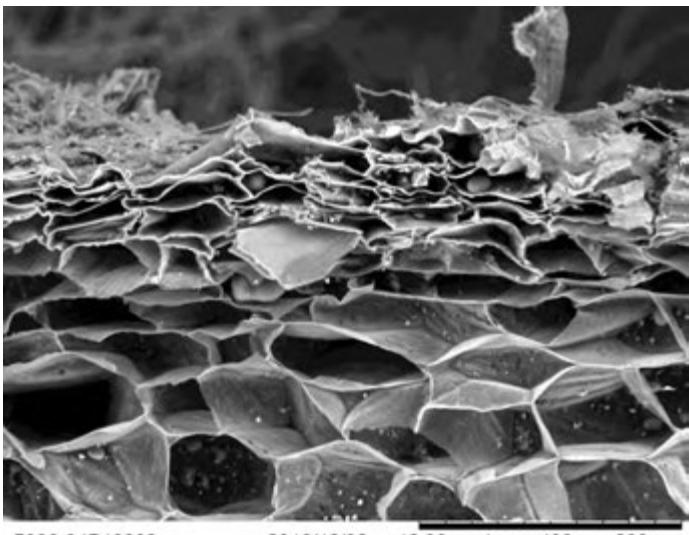
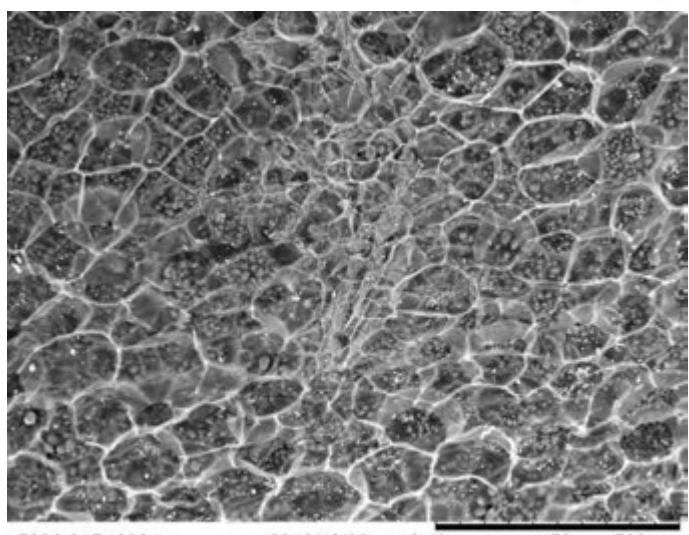
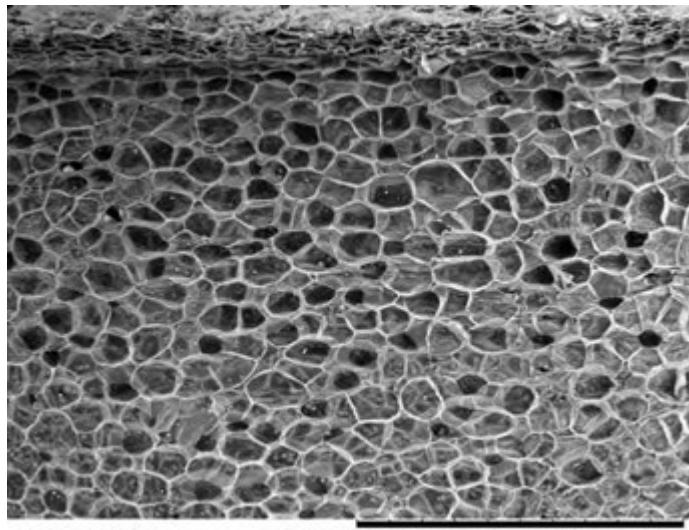
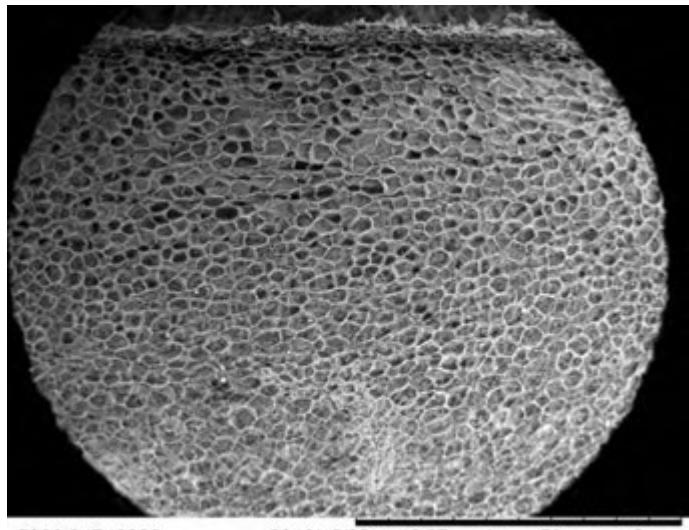


5006-04P10899 2016/12/02 12:22 L x500 200 µm

Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Wet/Fresh

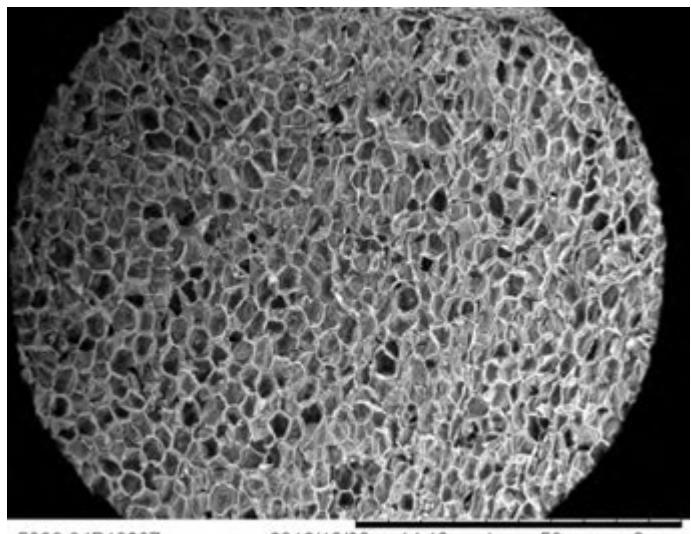
Radial



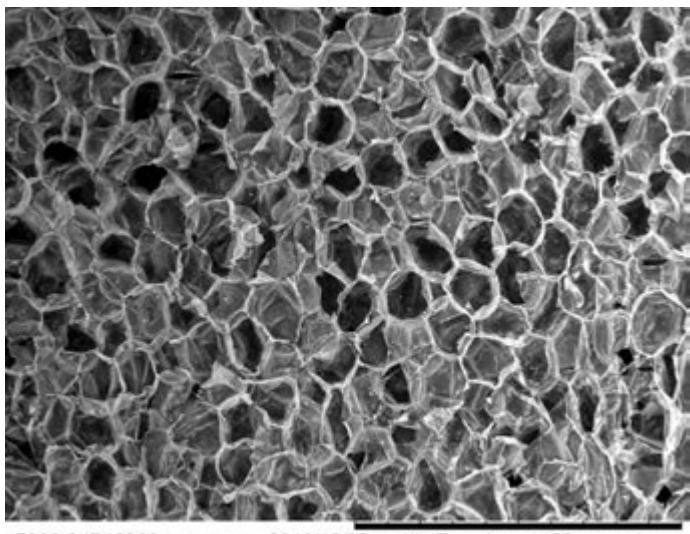
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Wet/Fresh

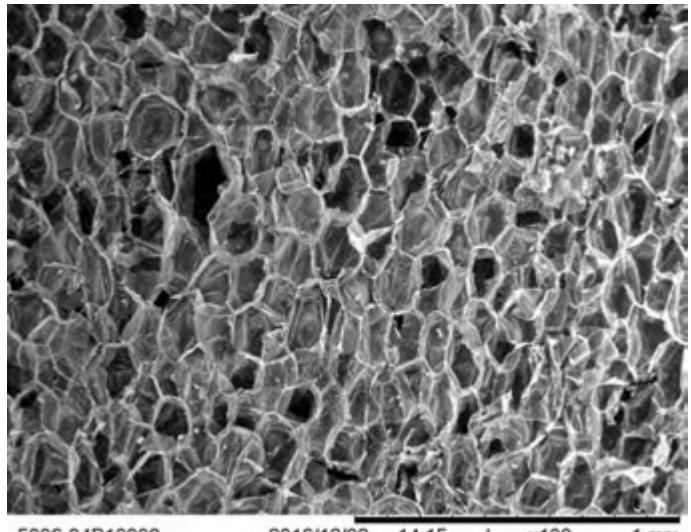
Transverse Center



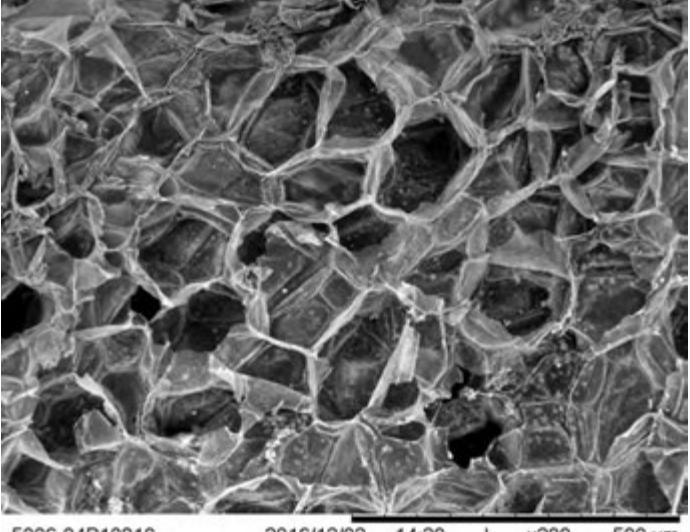
5006-04P10907 2016/12/02 14:13 L x50 2 mm



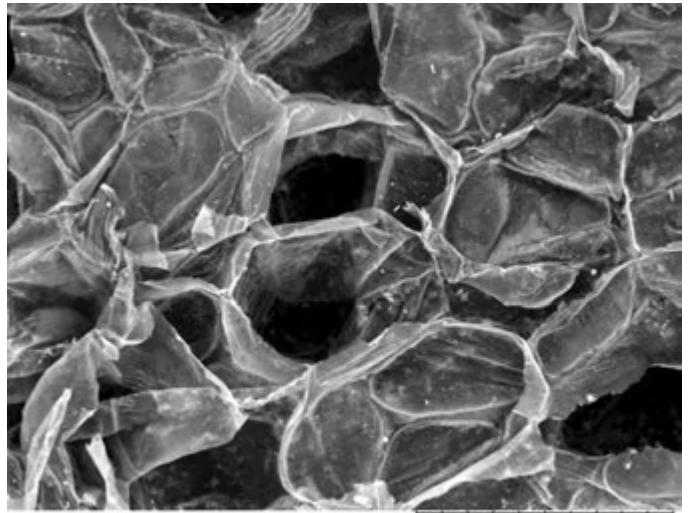
5006-04P10909 2016/12/02 14:17 L x100 1 mm



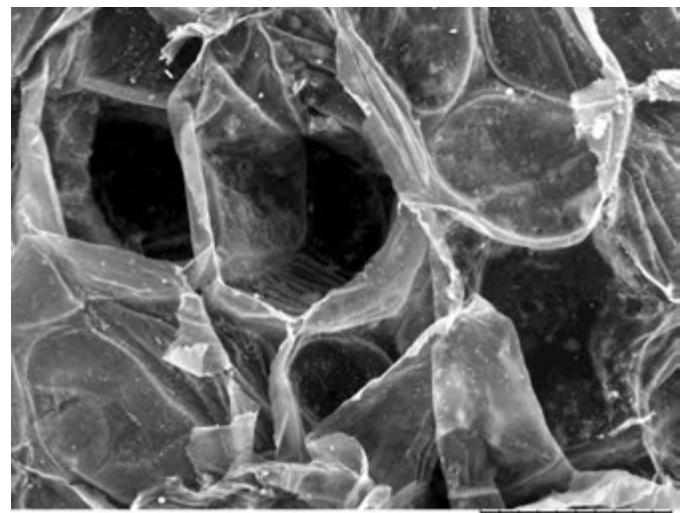
5006-04P10908 2016/12/02 14:15 L x100 1 mm



5006-04P10910 2016/12/02 14:20 L x200 500 um



5006-04P10911 2016/12/02 14:22 L x400 200 um

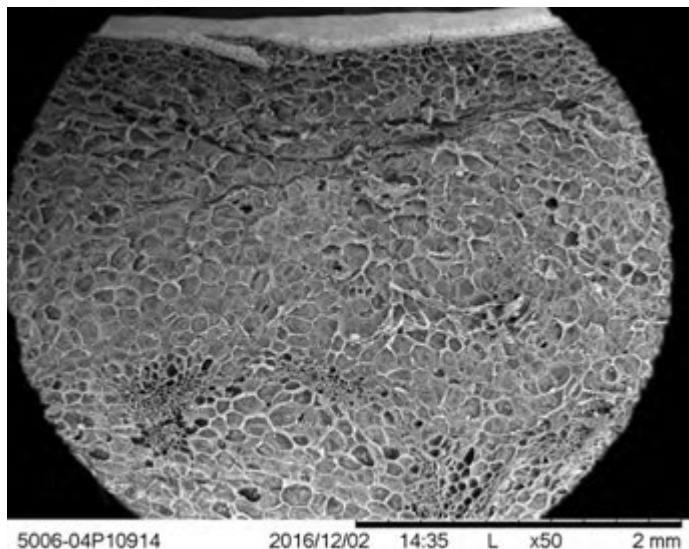


5006-04P10912 2016/12/02 14:24 L x600 100 um

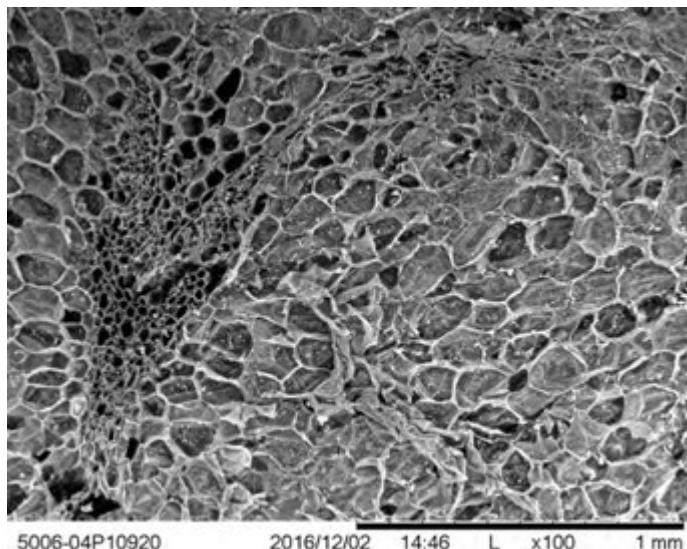
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Wet/Fresh

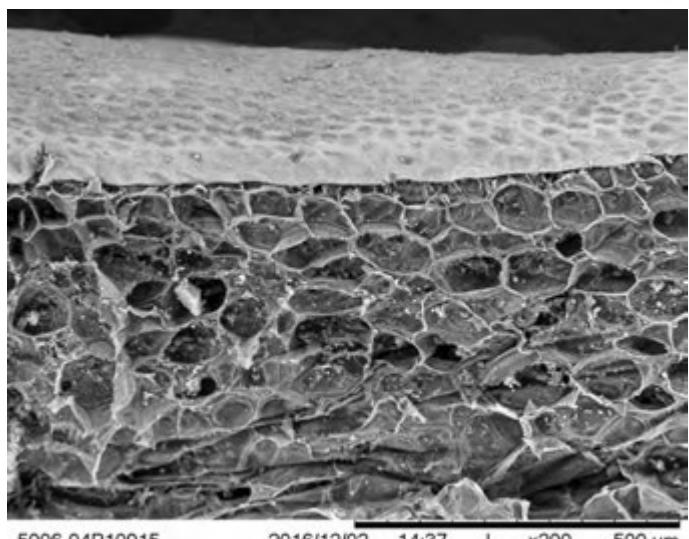
Transverse Edge



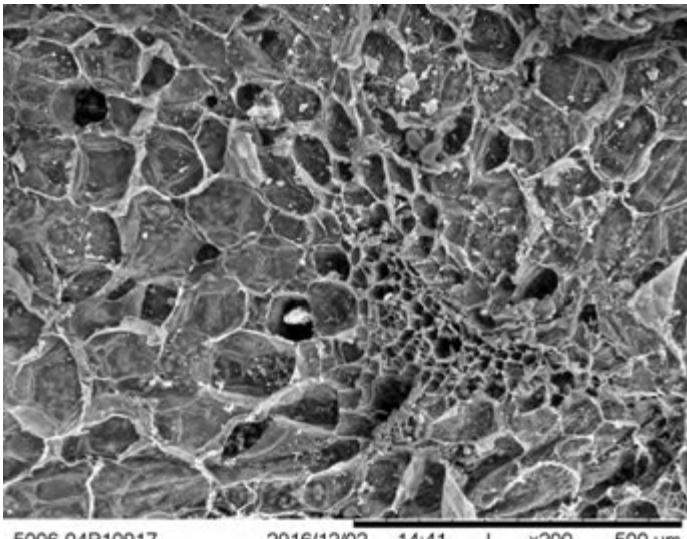
5006-04P10914 2016/12/02 14:35 L x50 2 mm



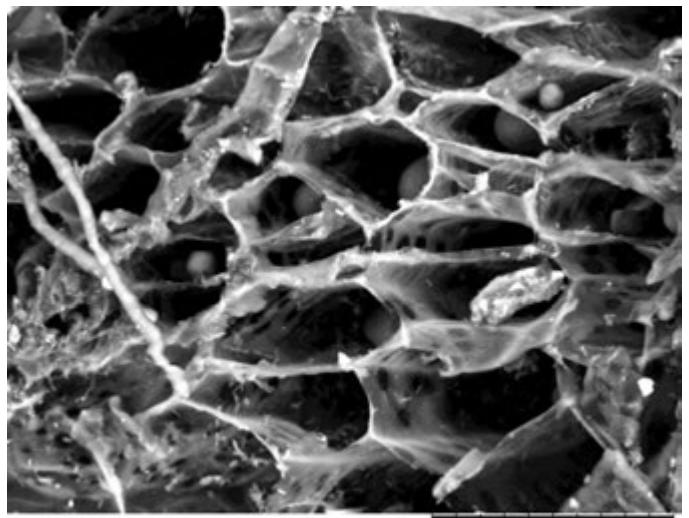
5006-04P10920 2016/12/02 14:46 L x100 1 mm



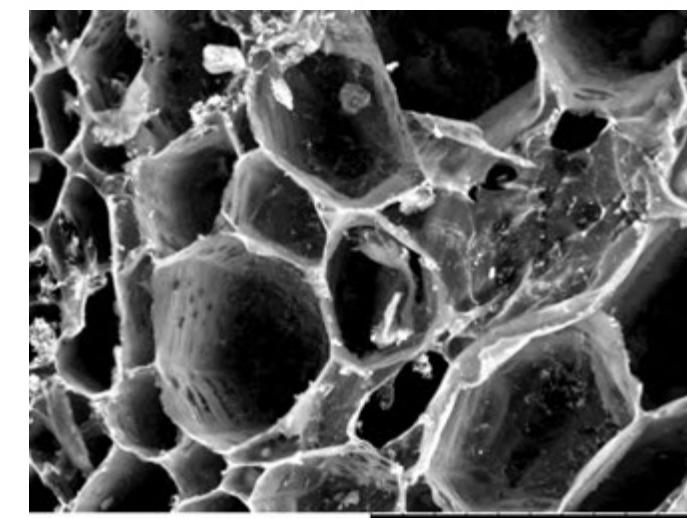
5006-04P10915 2016/12/02 14:37 L x200 500 μm



5006-04P10917 2016/12/02 14:41 L x200 500 μm



5006-04P10924 2016/12/02 14:52 L x1.5k 50 μm

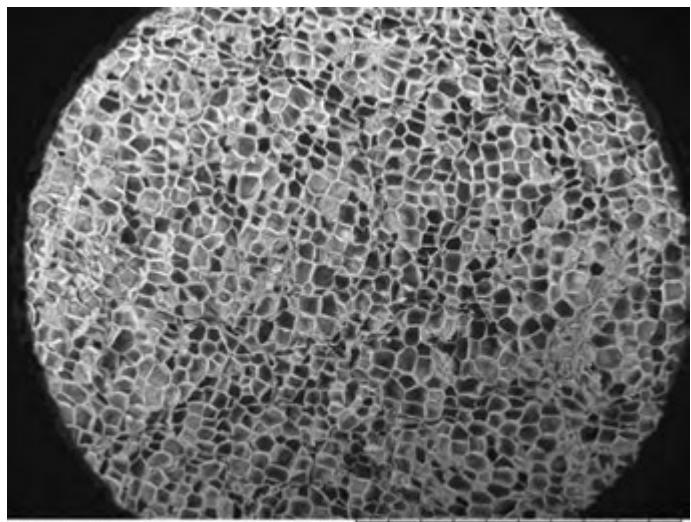


5006-04P10923 2016/12/02 14:50 L x10k 100 μm

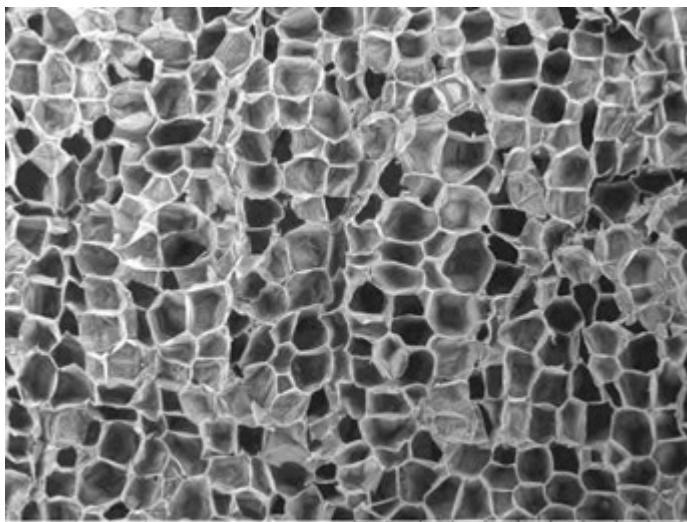
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Wet/Fresh

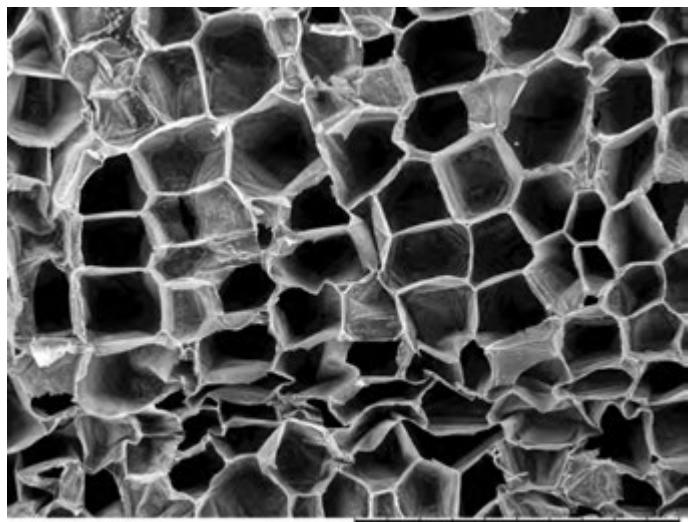
Tangential Center



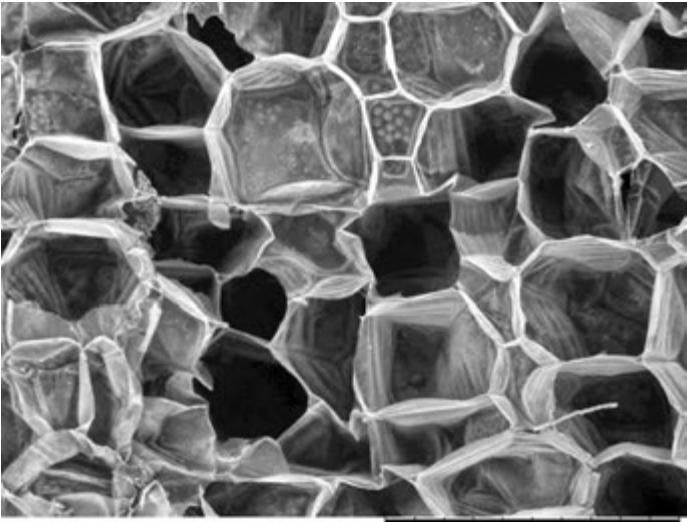
5006-04P10926 2016/12/02 15:01 L x50 2 mm



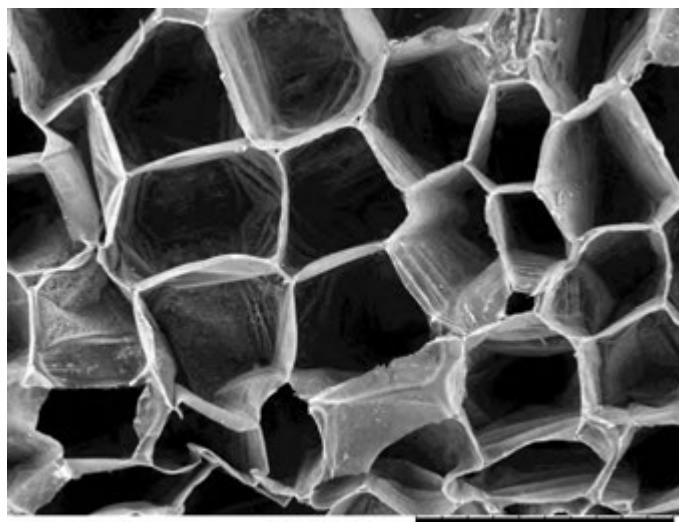
5006-04P10927 2016/12/02 15:04 L x100 1 mm



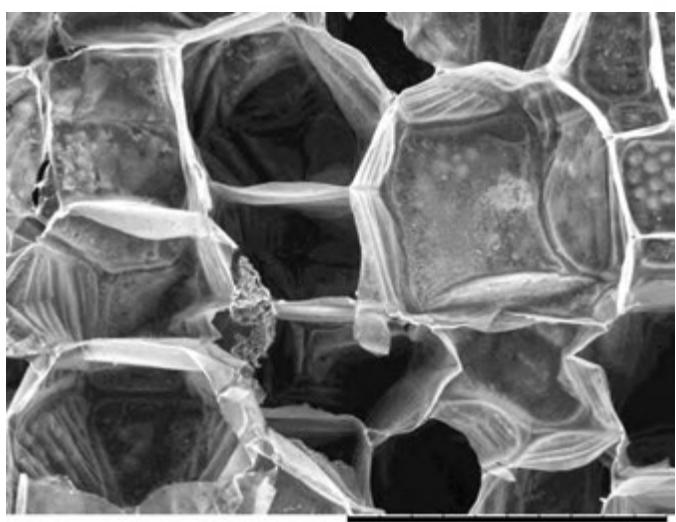
5006-04P10930 2016/12/02 15:11 L x200 500 um



5006-04P10928 2016/12/02 15:06 L x300 300 um



5006-04P10931 2016/12/02 15:13 L x400 200 um



5006-04P10929 2016/12/02 15:08 L x500 200 um

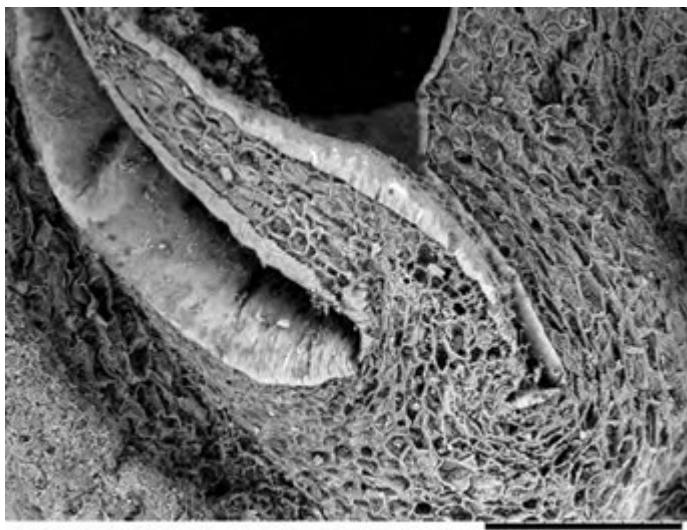
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Wet/Fresh

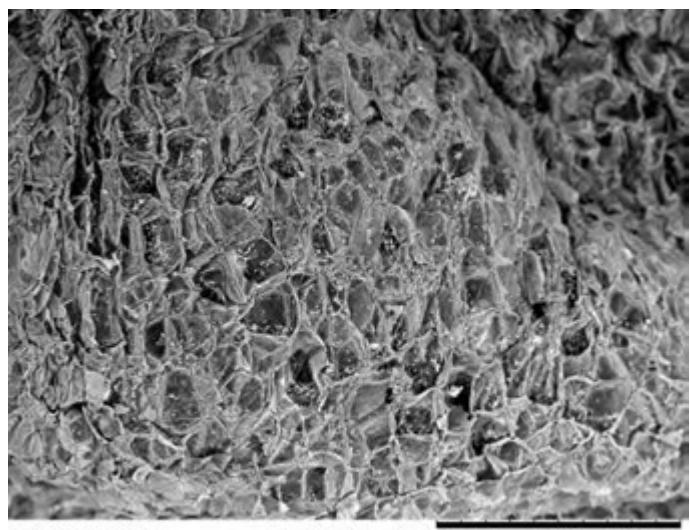
Tangential Edge



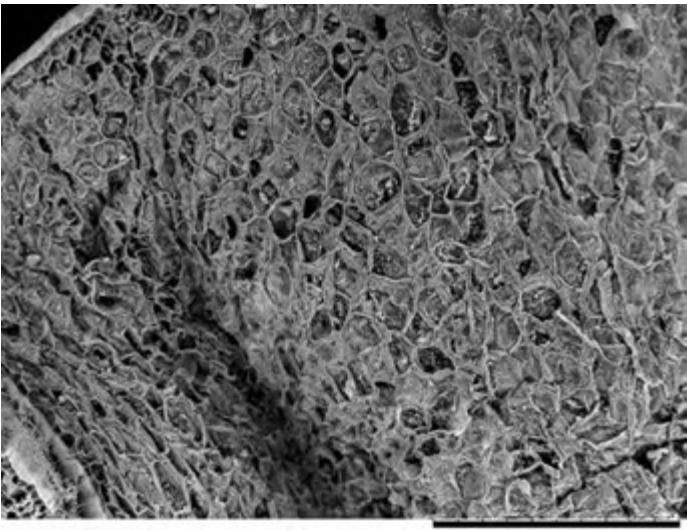
5006-04P10932 2016/12/02 15:23 L x50 2 mm



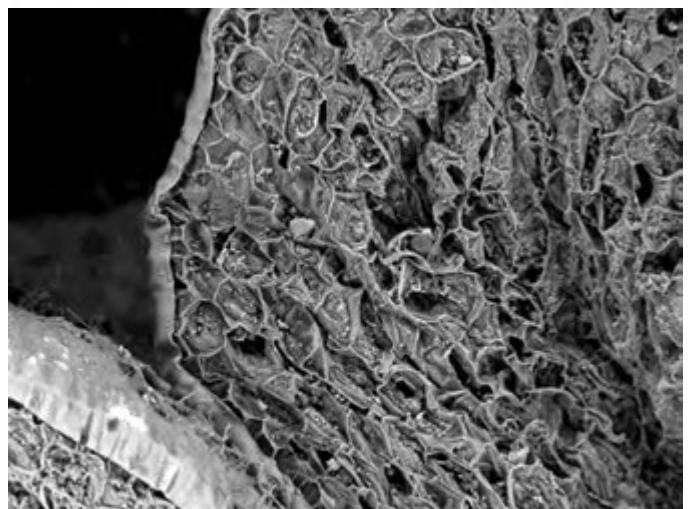
5006-04P10933 2016/12/02 15:24 L x120 500 µm



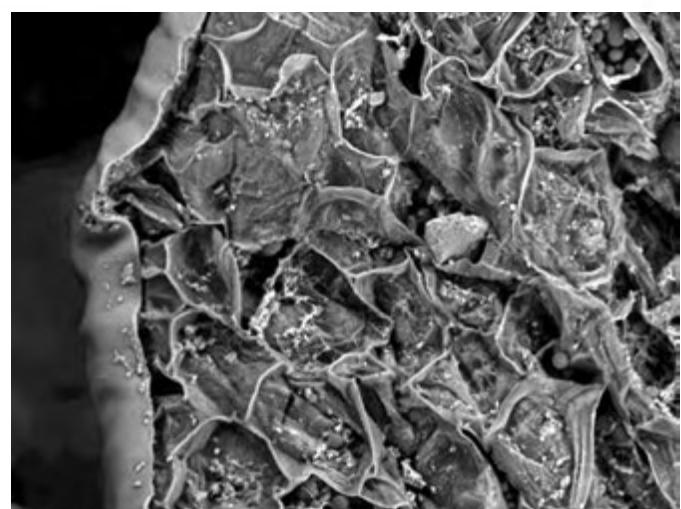
5006-04P10937 2016/12/02 15:31 L x150 500 µm



5006-04P10936 2016/12/02 15:28 L x150 500 µm



5006-04P10934 2016/12/02 15:26 L x250 300 µm

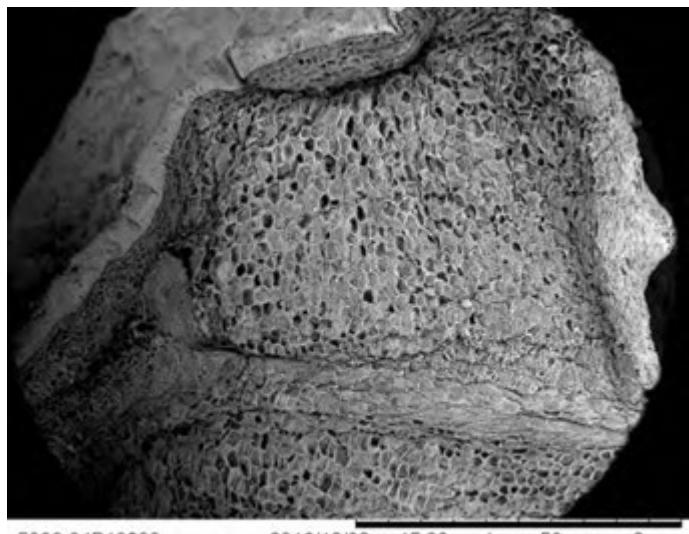


5006-04P10935 2016/12/02 15:27 L x600 100 µm

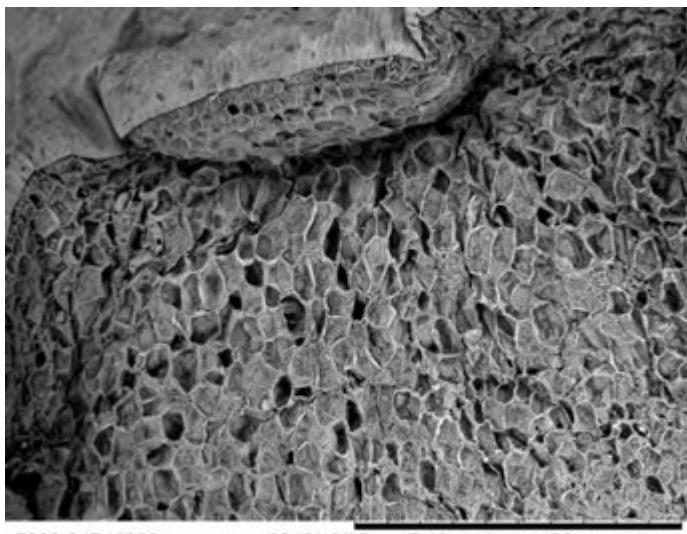
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Wet/Fresh

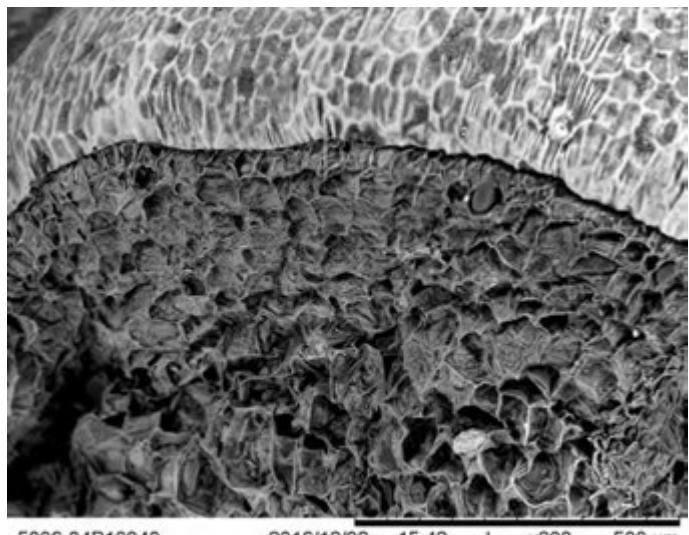
Radial



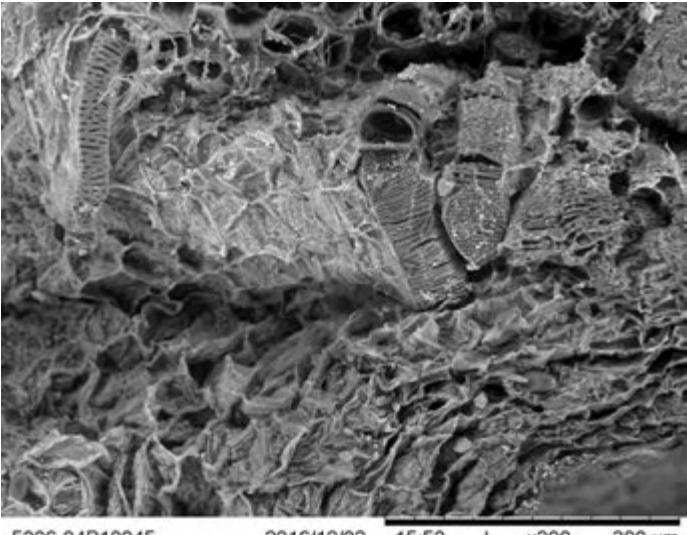
5006-04P10938 2016/12/02 15:39 L x50 2 mm



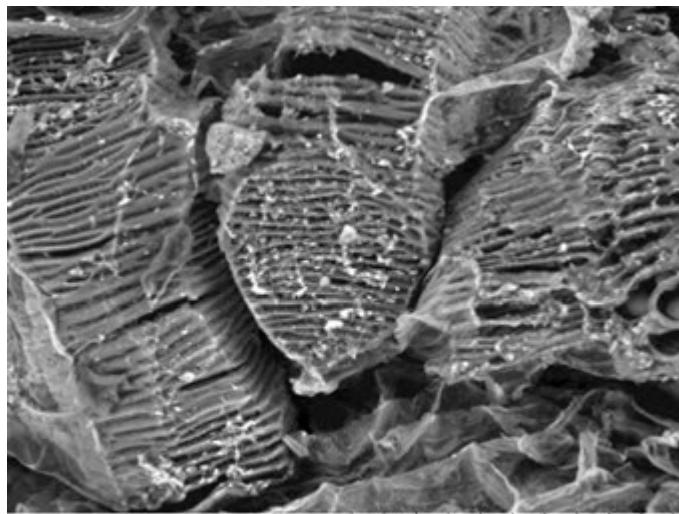
5006-04P10939 2016/12/02 15:40 L x100 1 mm



5006-04P10940 2016/12/02 15:42 L x200 500 um



5006-04P10945 2016/12/02 15:50 L x300 300 um



5006-04P10944 2016/12/02 15:49 L x1.0k 100 um

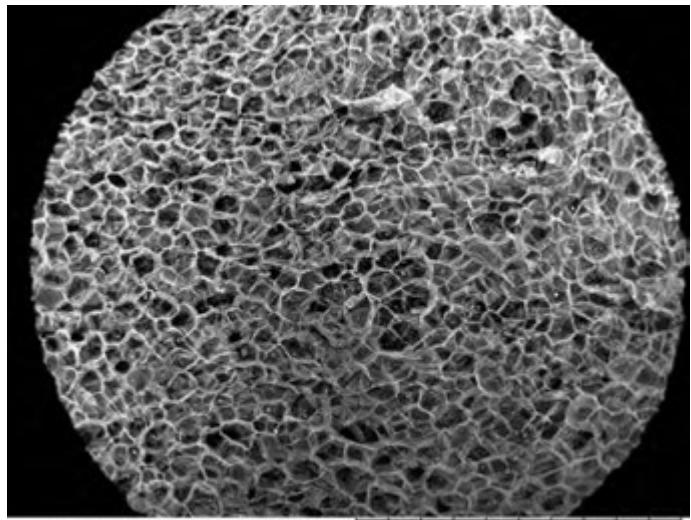


5006-04P10946 2016/12/02 15:51 L x150 500 um

Ullucus tuberosus
BASELLACEAE

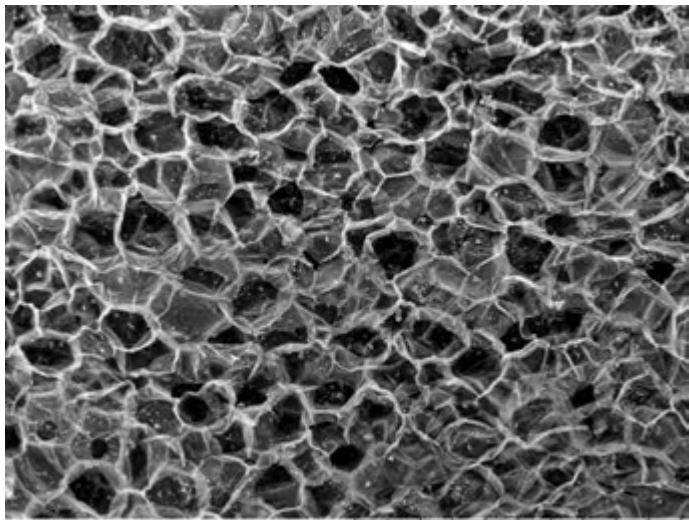
Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

Transverse Center

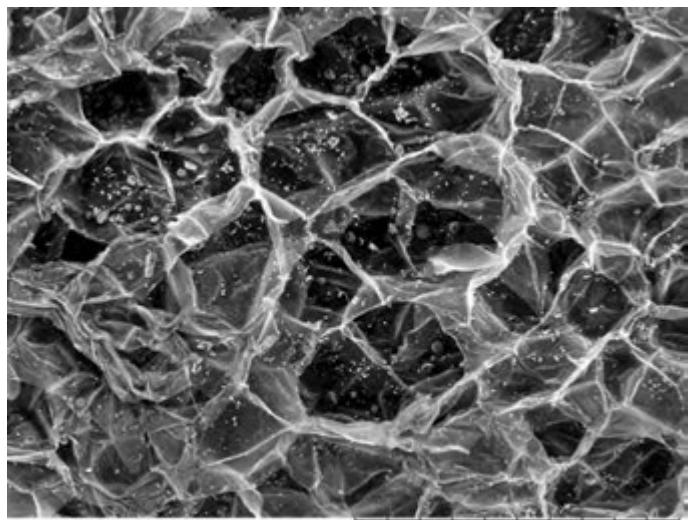


5006-04P11063

2016/12/06 09:49 L x50 2 mm

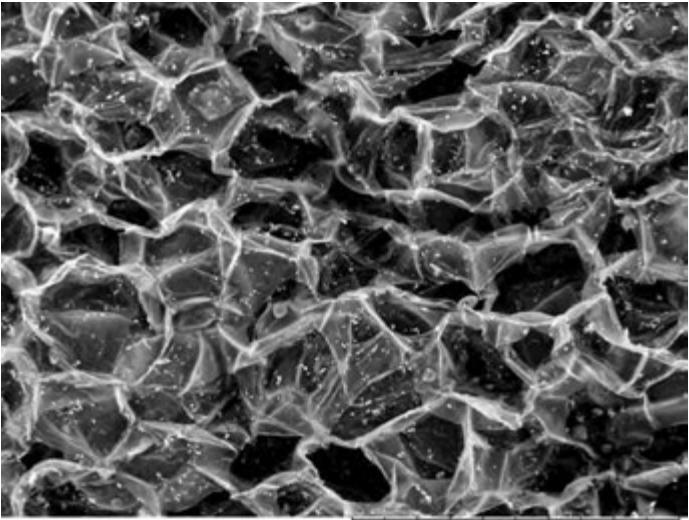


5006-04P11064 2016/12/06 09:51 L x100 1 mm

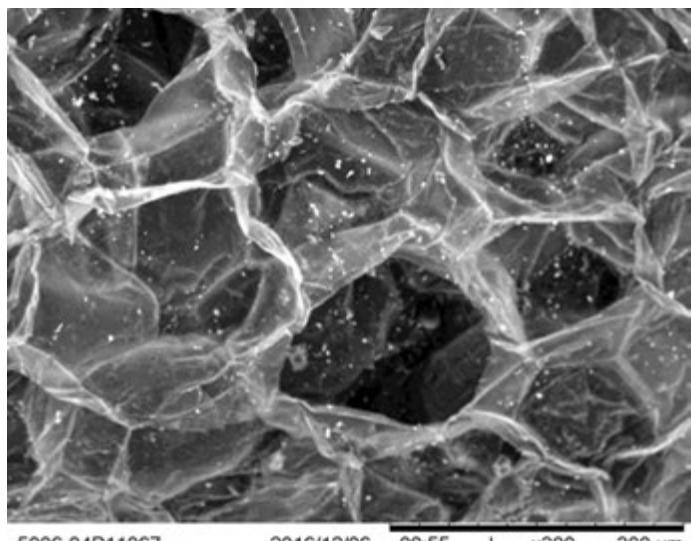


5006-04P11068

2016/12/06 09:57 L x200 500 µm

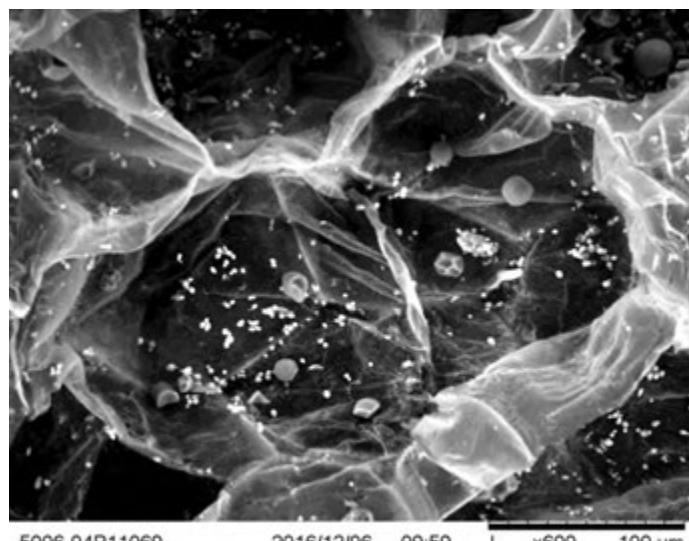


5006-04P11065 2016/12/06 09:52 L x200 500 µm



5006-04P11067

2016/12/06 09:55 L x300 300 µm

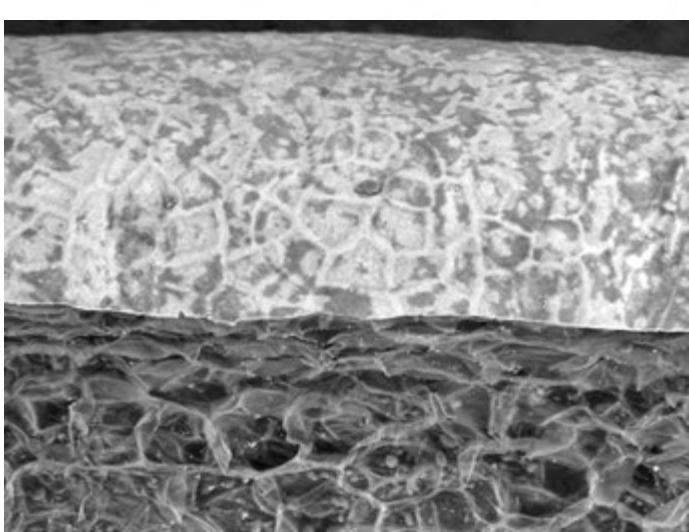
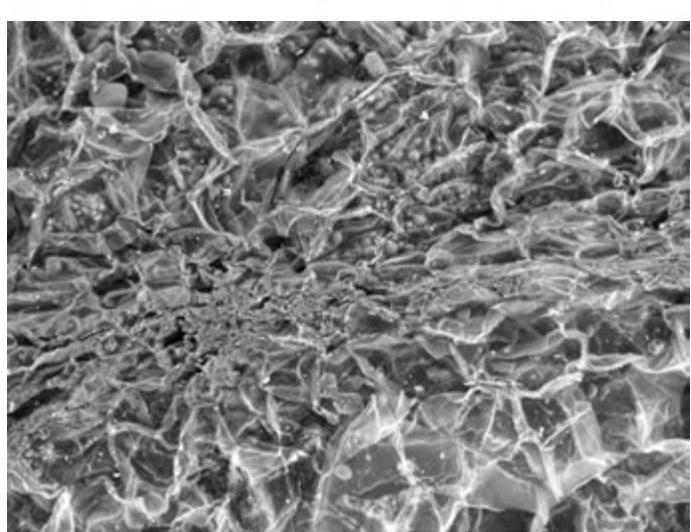
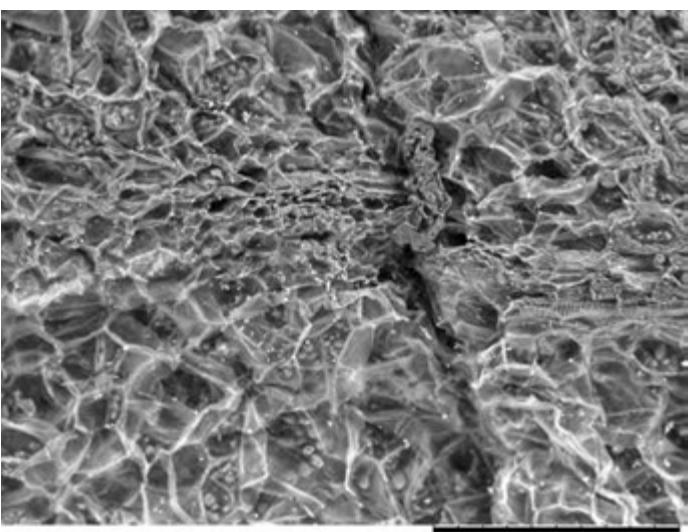
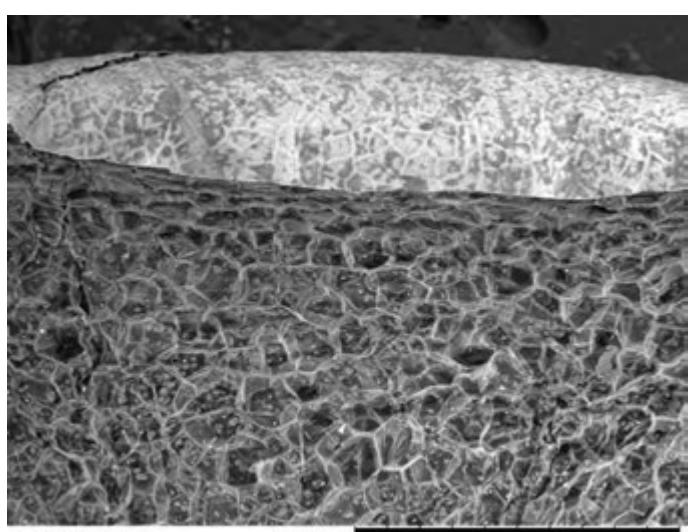
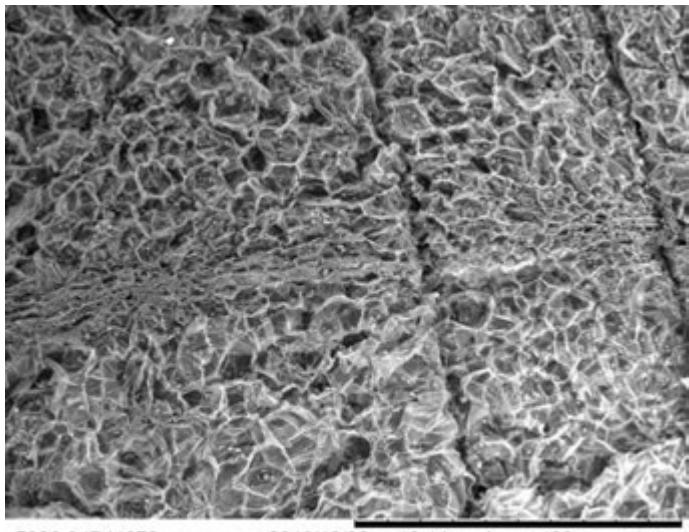
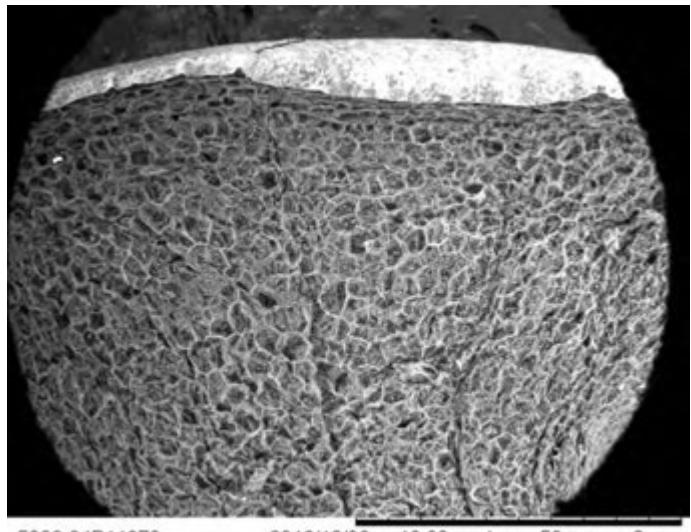


5006-04P11069 2016/12/06 09:59 L x600 100 µm

Ullucus tuberosus
BASELLACEAE

Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

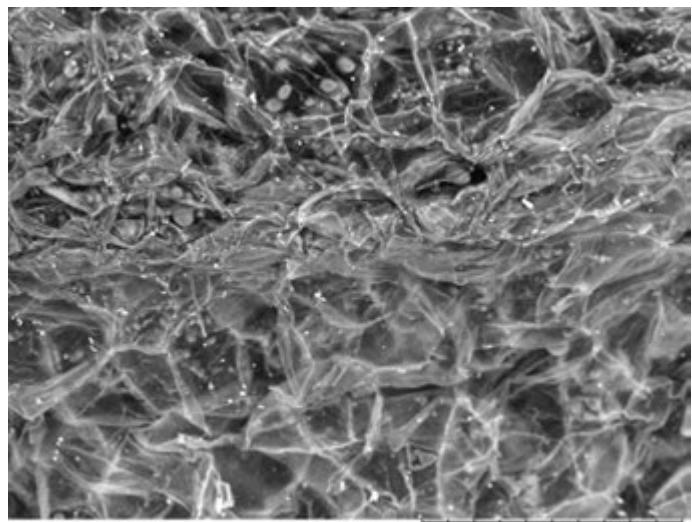
Transverse Edge



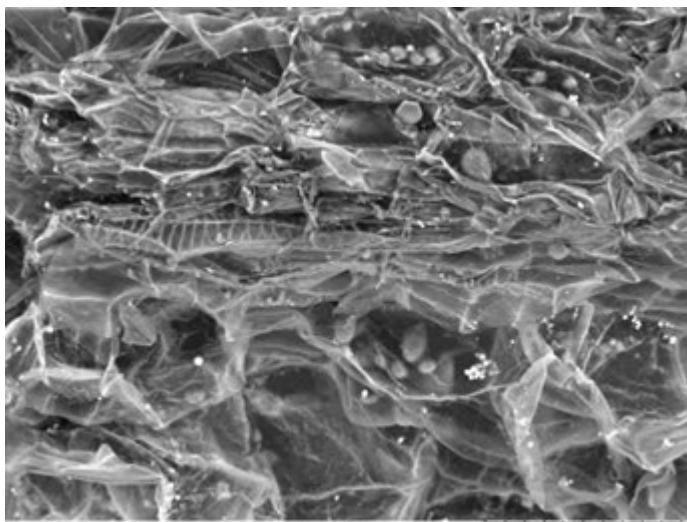
Ullucus tuberosus
BASELLACEAE

Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

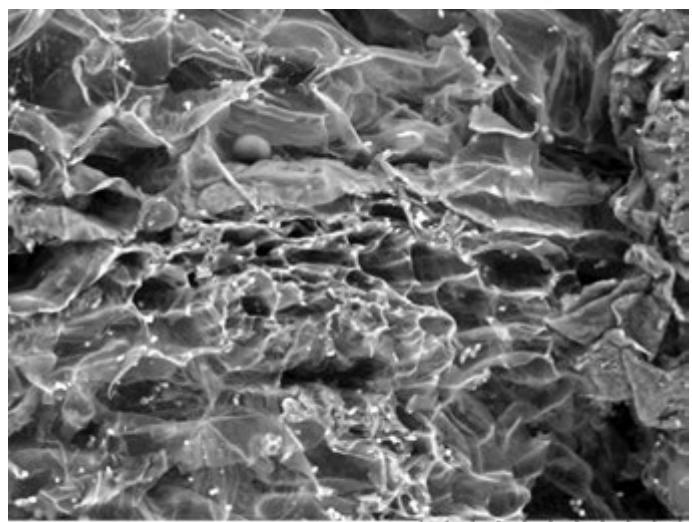
Transverse Edge (continued)



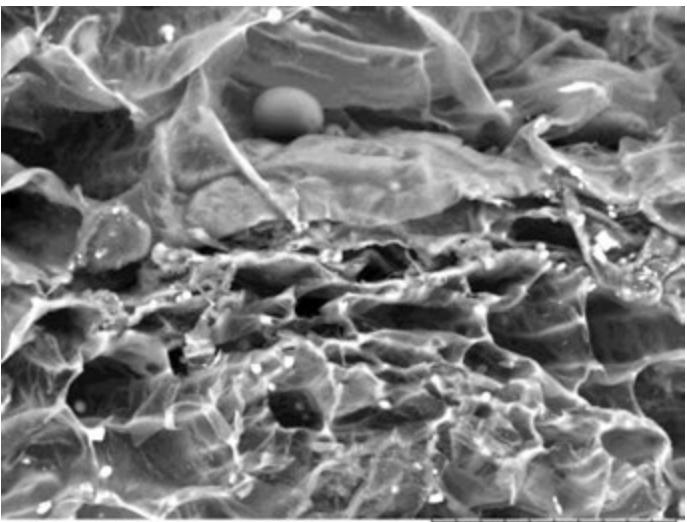
5006-04P11080 2016/12/06 10:24 L x400 200 um



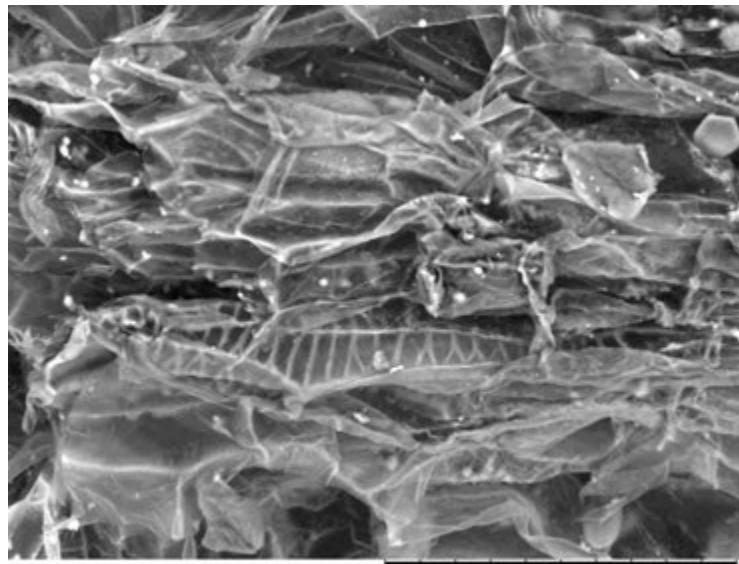
5006-04P11076 2016/12/06 10:18 L x600 100 um



5006-04P11078 2016/12/06 10:21 L x800 100 um



5006-04P11079 2016/12/06 10:22 L x1.5k 50 um

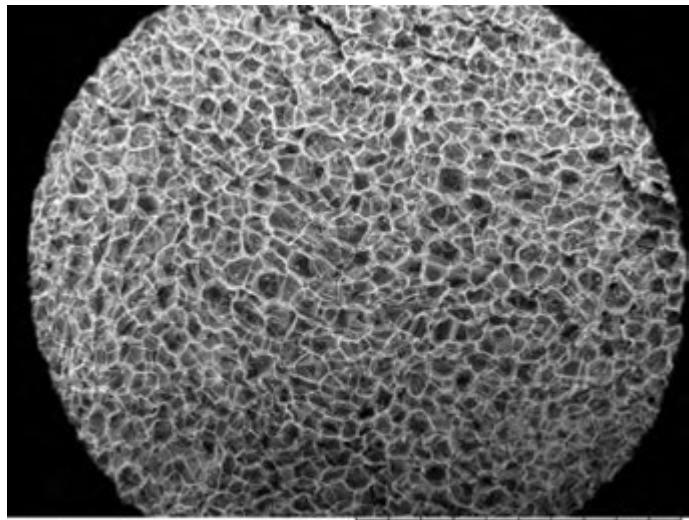


5006-04P11077 2016/12/06 10:19 L x1.0k 100 um

Ullucus tuberosus
BASELLACEAE

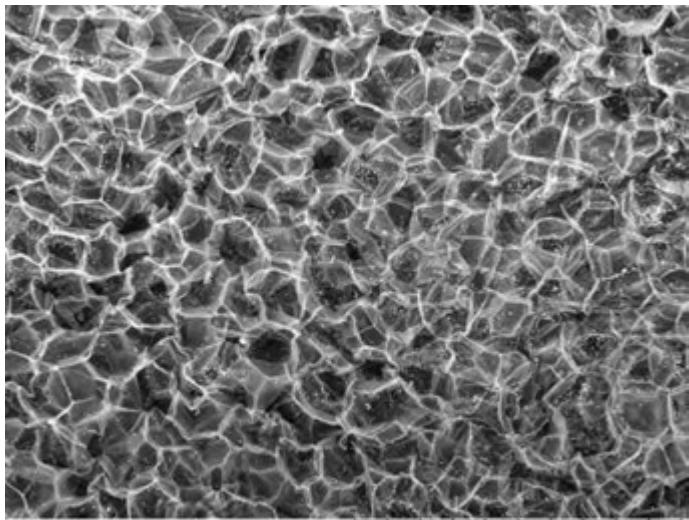
Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

Tangential Center

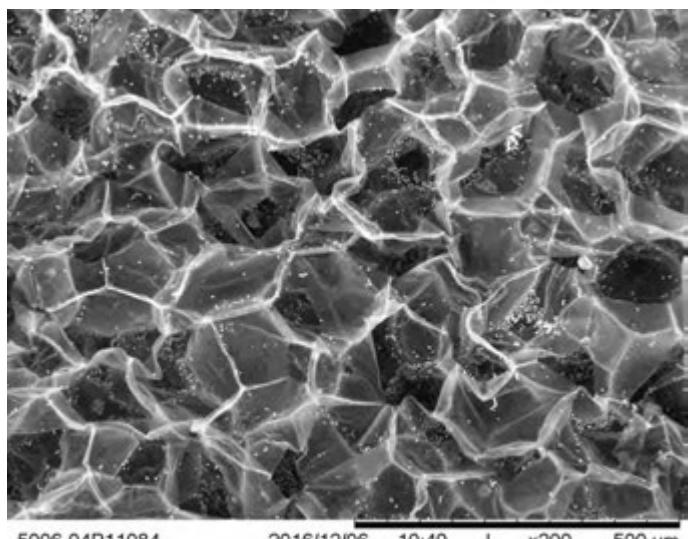


5006-04P11082

2016/12/06 10:44 L x50 2 mm

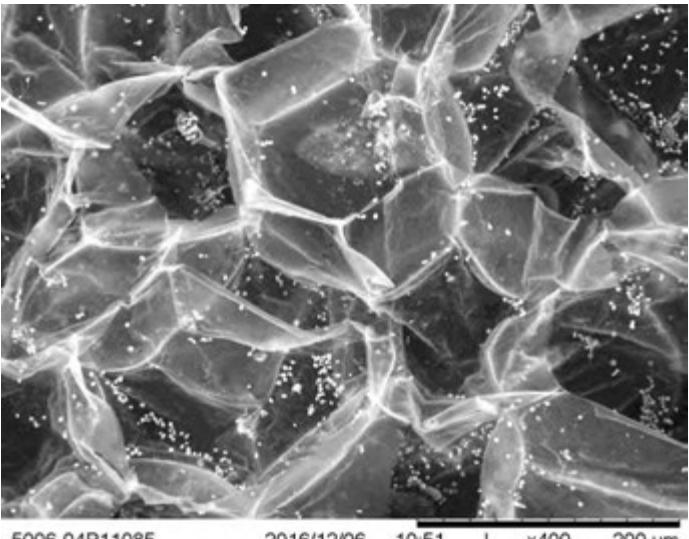


5006-04P11083 2016/12/06 10:46 L x100 1 mm

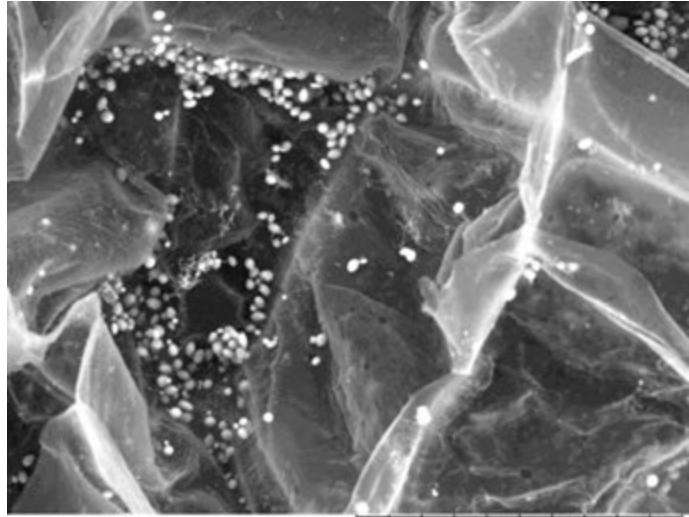


5006-04P11084

2016/12/06 10:49 L x200 500 um



5006-04P11085 2016/12/06 10:51 L x400 200 um



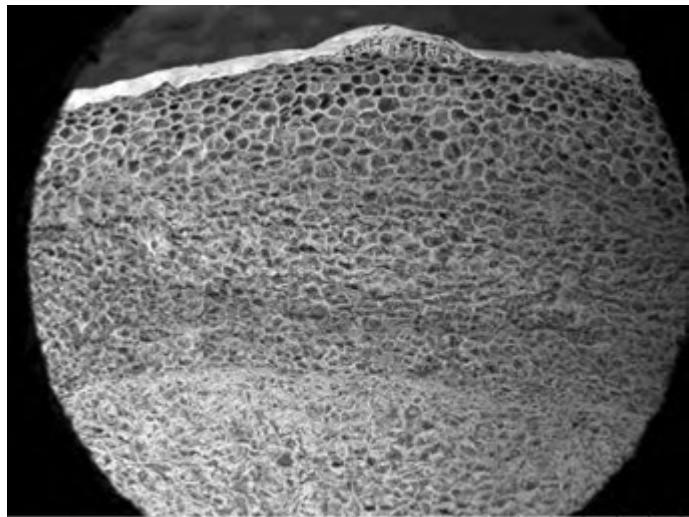
5006-04P11086

2016/12/06 10:52 L x1.0k 100 um

Ullucus tuberosus
BASELLACEAE

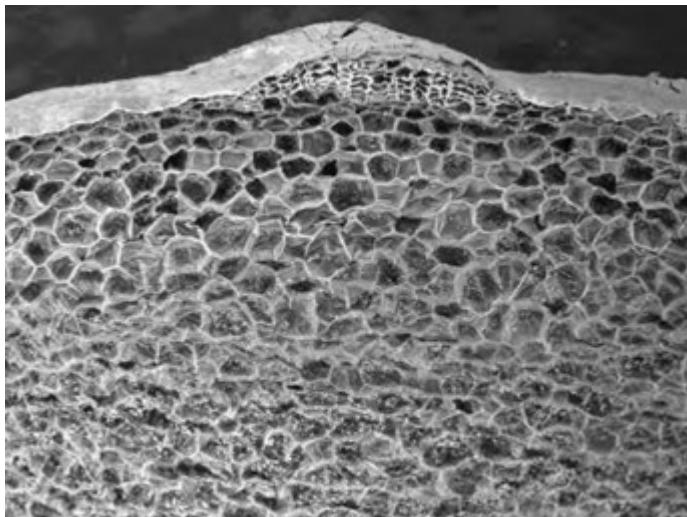
Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

Tangential Edge

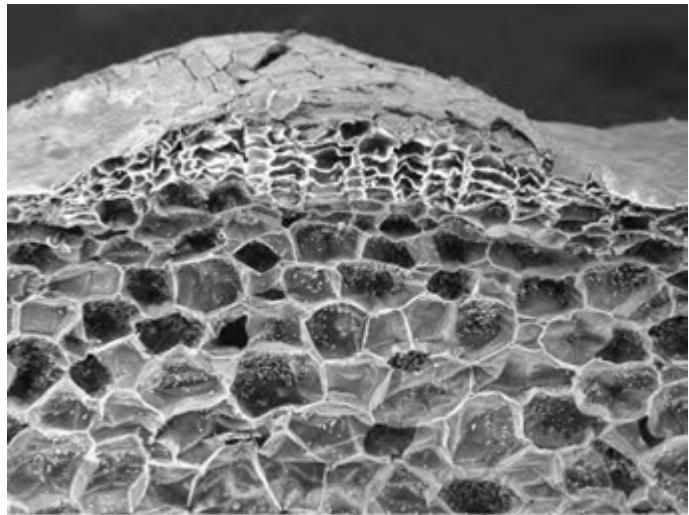


5006-04P11087

2016/12/06 11:01 L x50 2 mm

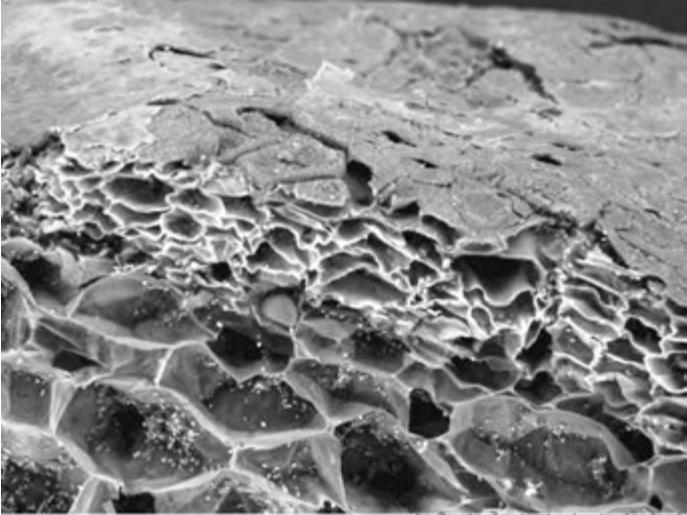


5006-04P11088 2016/12/06 11:02 L x100 1 mm



5006-04P11089

2016/12/06 11:03 L x200 500 um

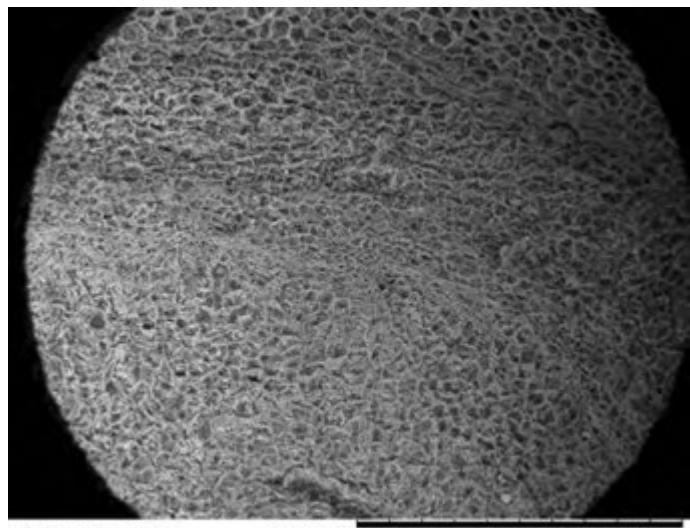


5006-04P11090 2016/12/06 11:05 L x400 200 um

Ullucus tuberosus
BASELLACEAE

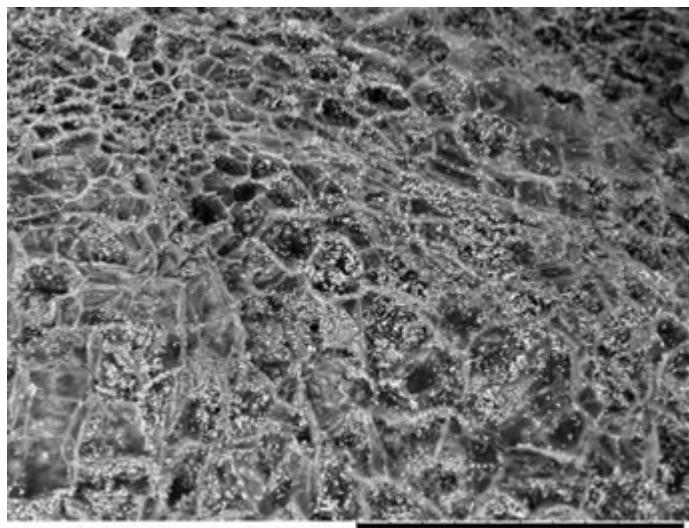
Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

Tangential Edge (Continued)

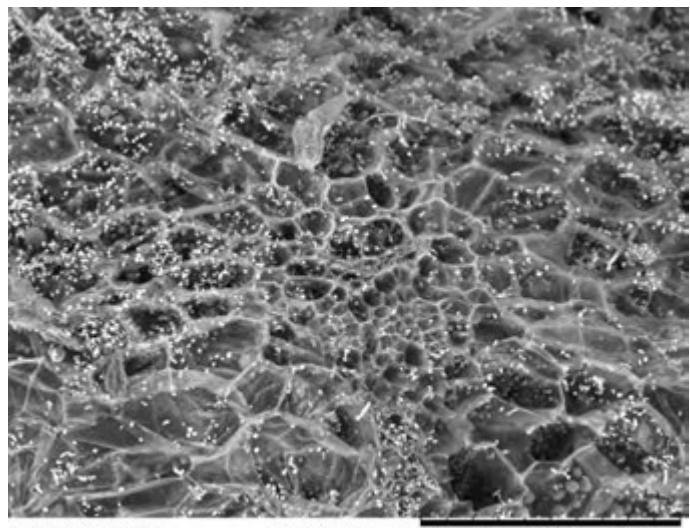


5006-04P11093

2016/12/06 11:11 L x50 2 mm

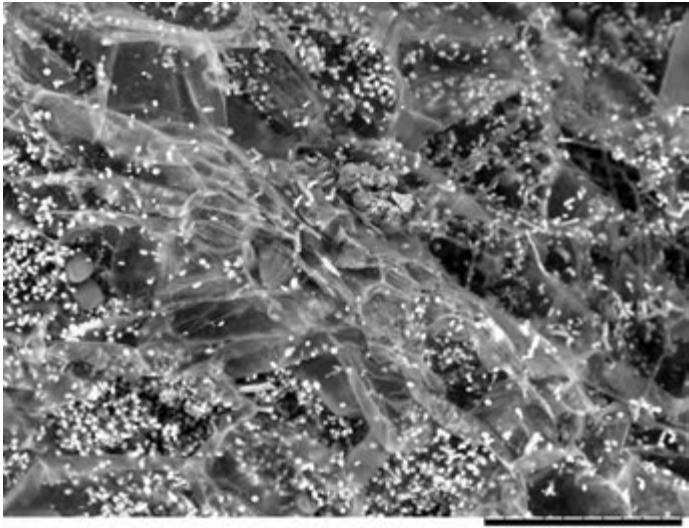


5006-04P11094 2016/12/06 11:12 L x200 500 μm

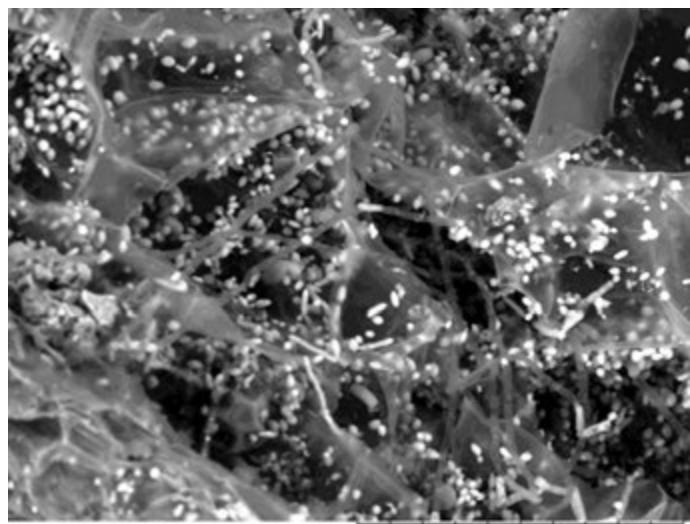


5006-04P11091

2016/12/06 11:06 L x400 200 μm

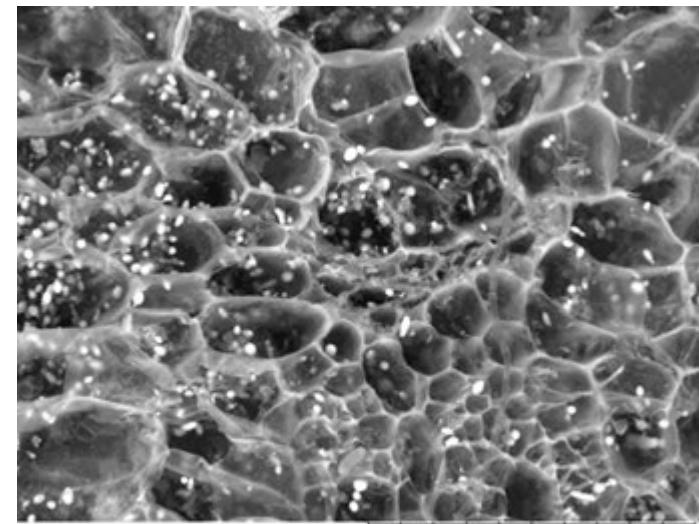


5006-04P11095 2016/12/06 11:14 L x600 100 μm



5006-04P11096

2016/12/06 11:16 L x1.0k 100 μm

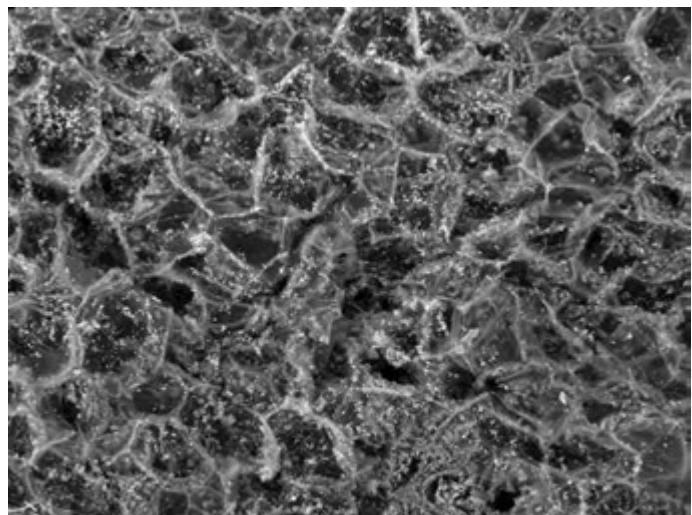


5006-04P11092 2016/12/06 11:07 L x1.0k 100 μm

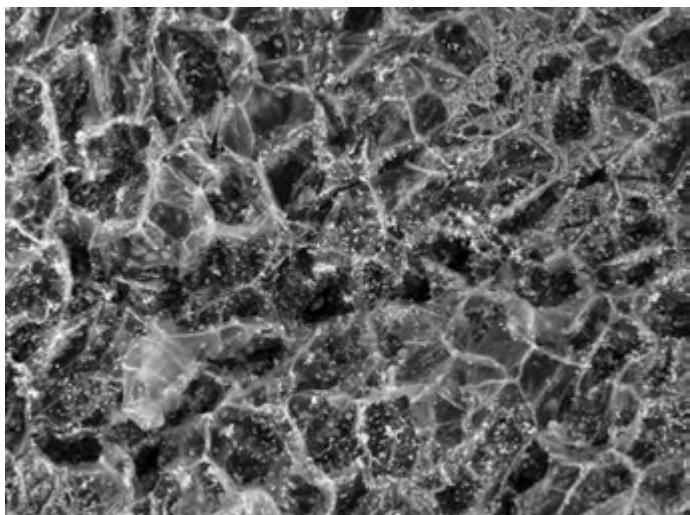
Ullucus tuberosus
BASELLACEAE

Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

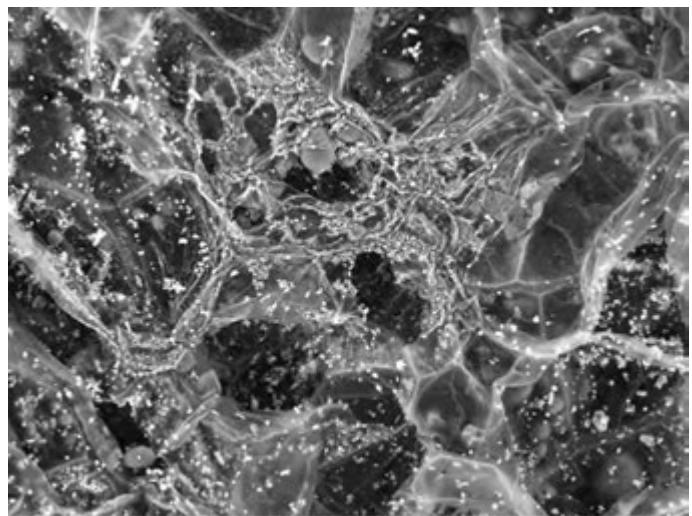
Radial



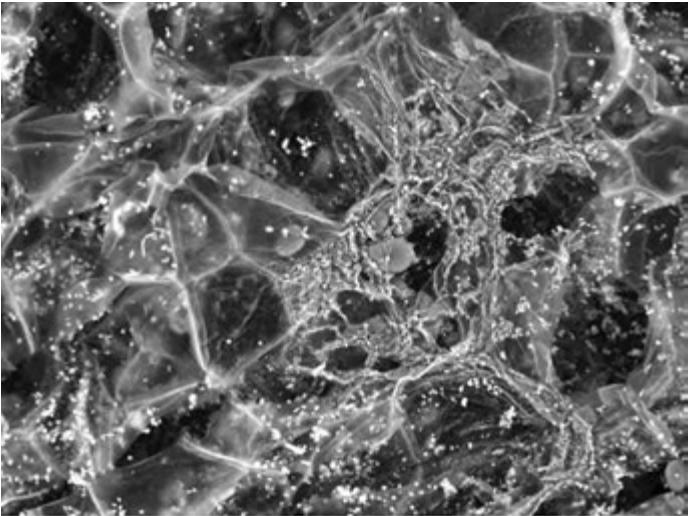
5006-04P11104 2016/12/06 11:38 L x200 500 um



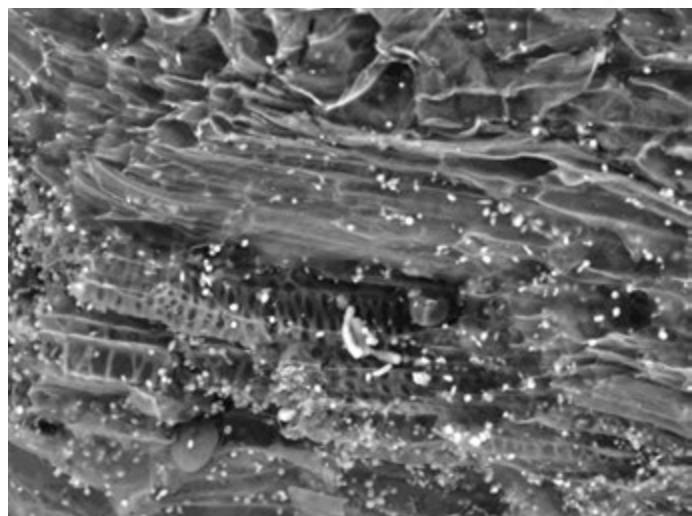
5006-04P11099 2016/12/06 11:30 L x200 500 um



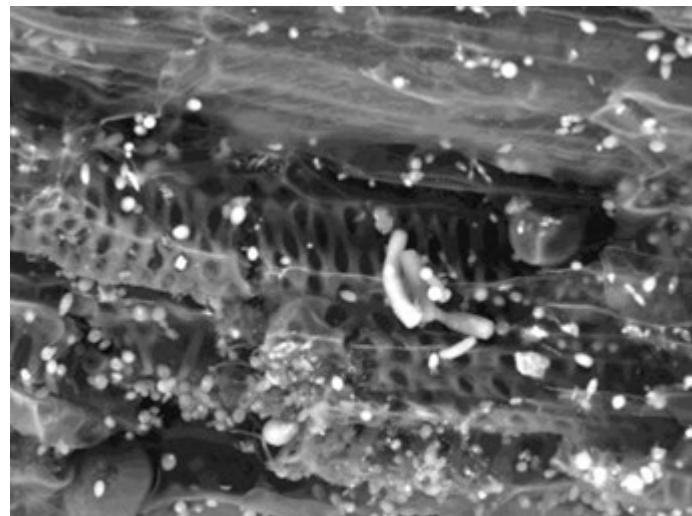
5006-04P11106 2016/12/06 11:42 L x500 200 um



5006-04P11100 2016/12/06 11:31 L x500 200 um



5006-04P11102 2016/12/06 11:35 L x800 100 um

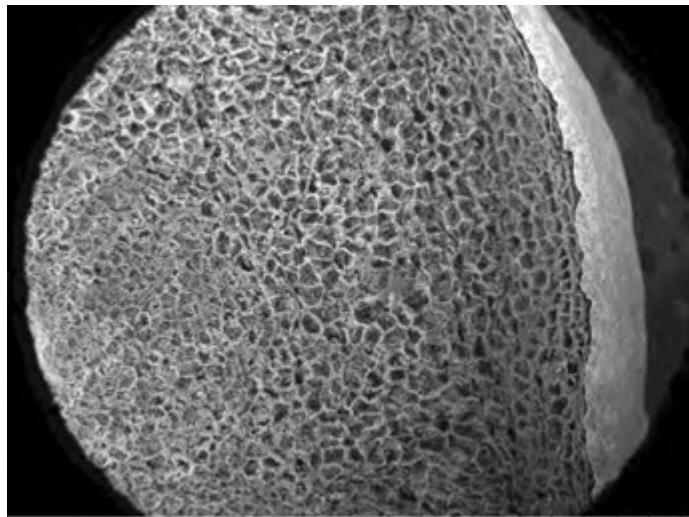


5006-04P11103 2016/12/06 11:37 L x1.5k 50 um

Ullucus tuberosus
BASELLACEAE

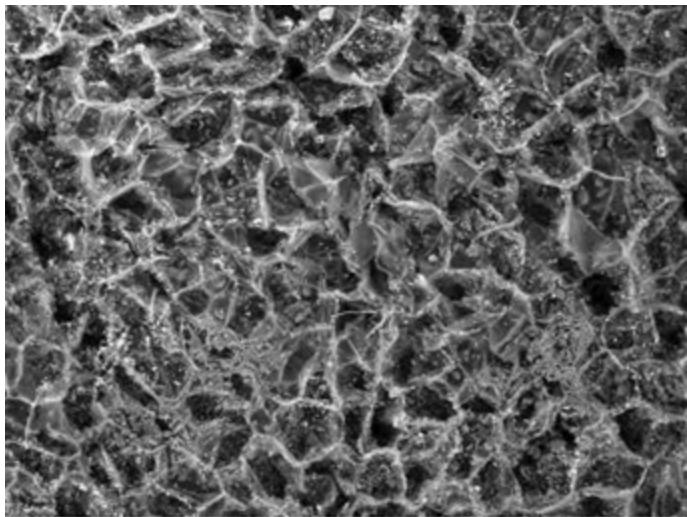
Common Name: Papalisa/Ollucu
Sample Type: Wet/Fresh

Radial Edge

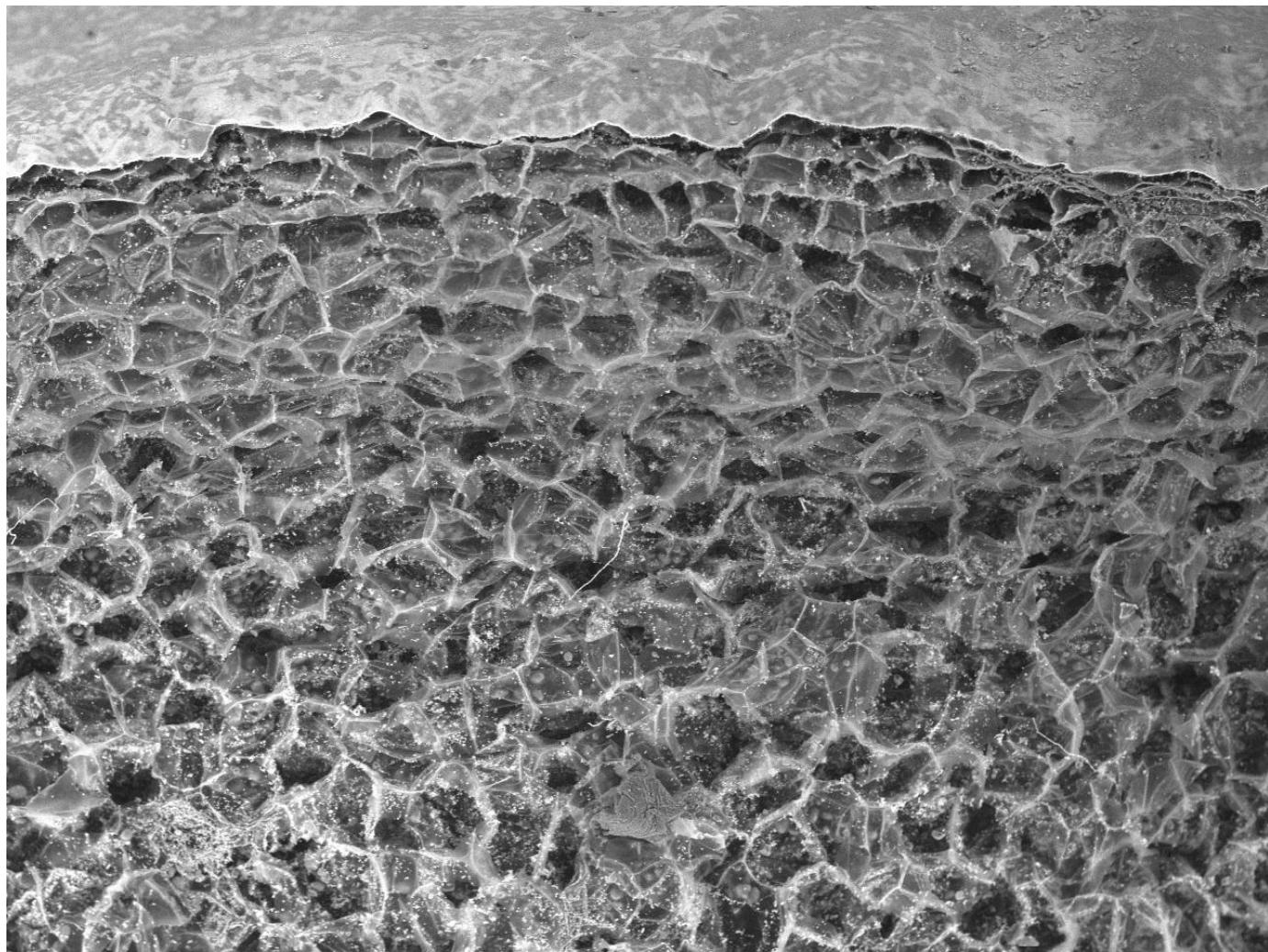


5006-04P11097

2016/12/06 11:25 L x50 2 mm



5006-04P11105 2016/12/06 11:41 L x150 500 um



5006-04P11098

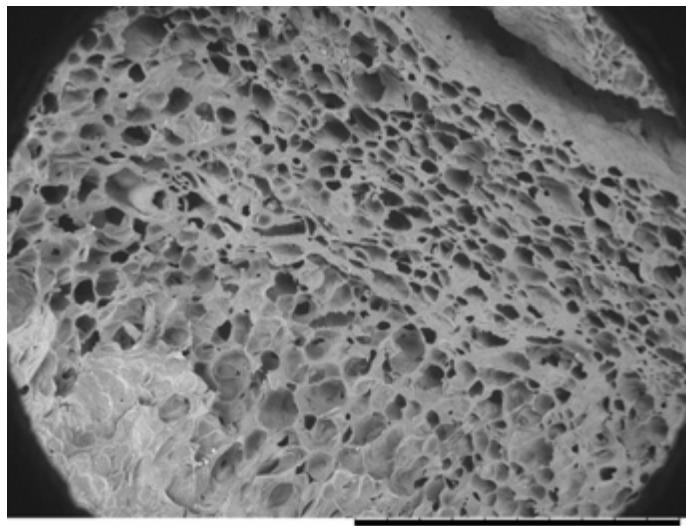
2016/12/06 11:27 L x100 1 mm

Charred Specimen

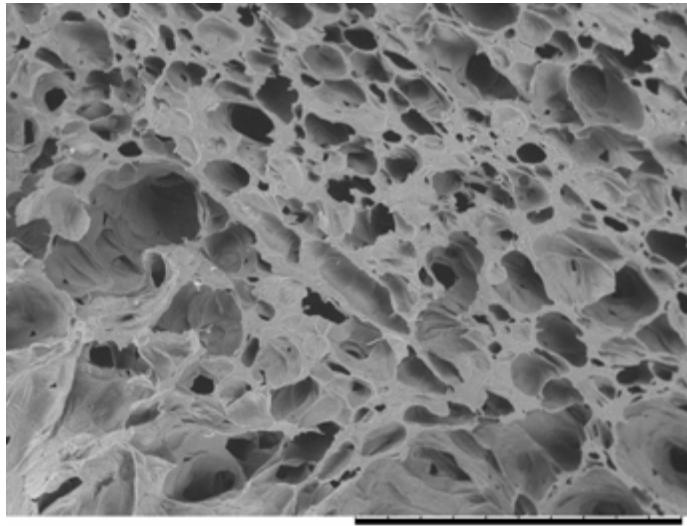
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Charred

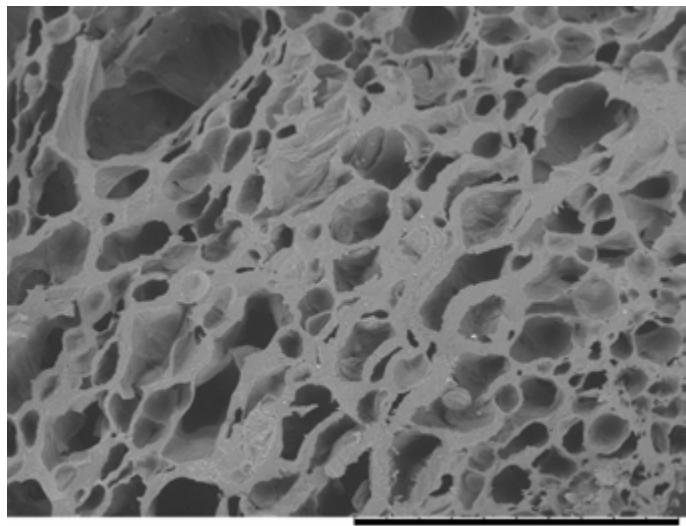
Tangential



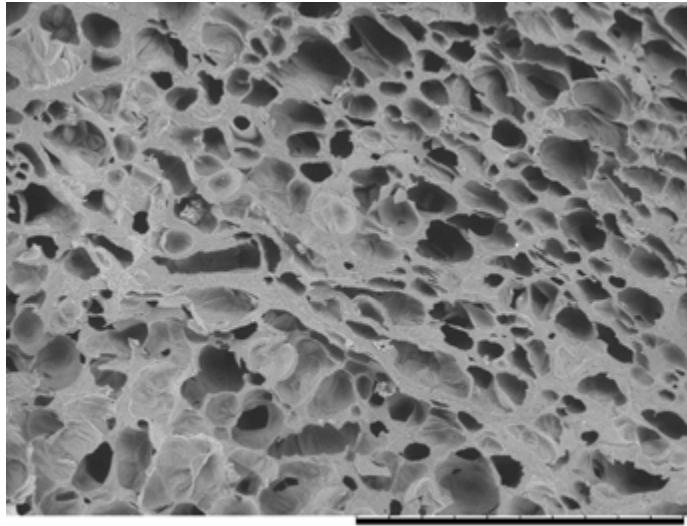
5006-04P11723 2016/12/20 14:25 L x50 2 mm



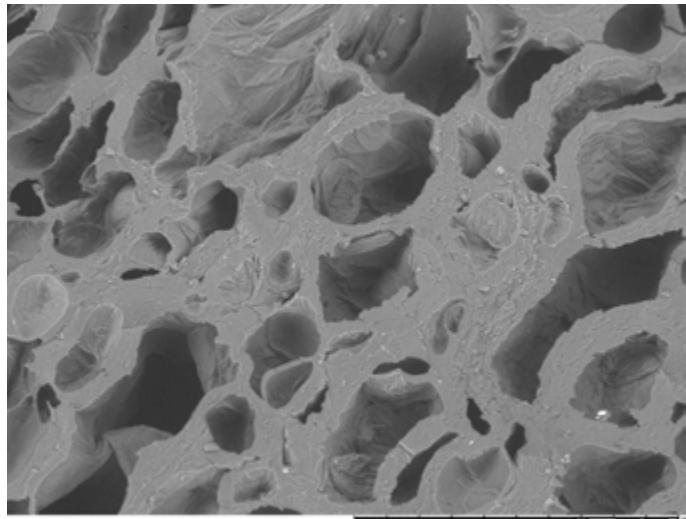
5006-04P11726 2016/12/20 14:29 L x100 1 mm



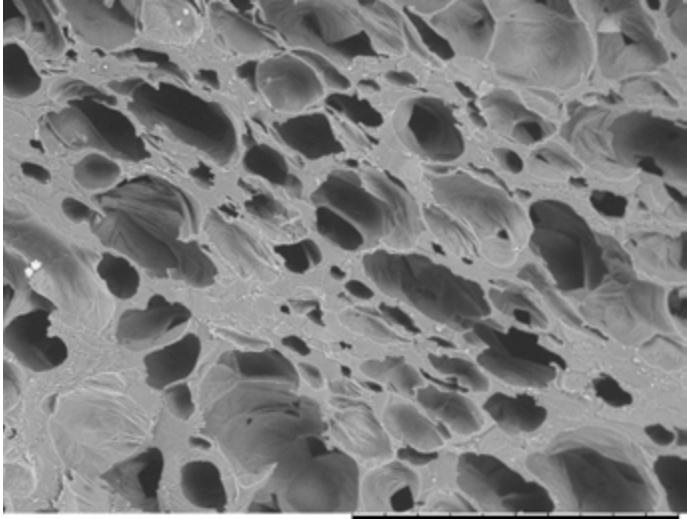
5006-04P11728 2016/12/20 14:33 L x100 1 mm



5006-04P11724 2016/12/20 14:26 L x100 1 mm



5006-04P11729 2016/12/20 14:34 L x200 500 um

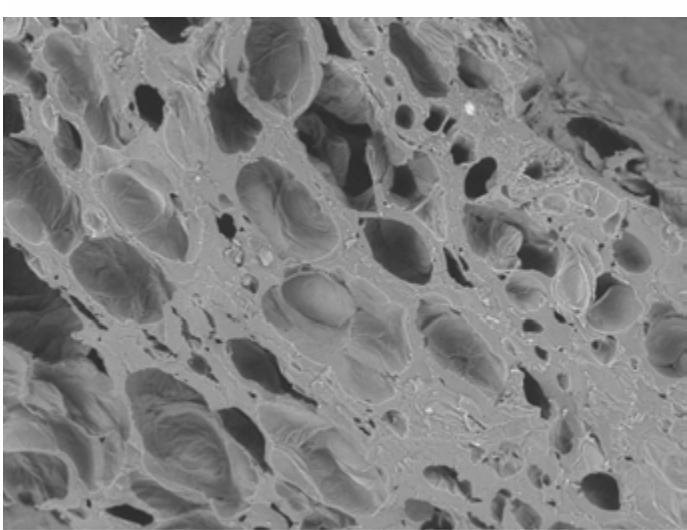
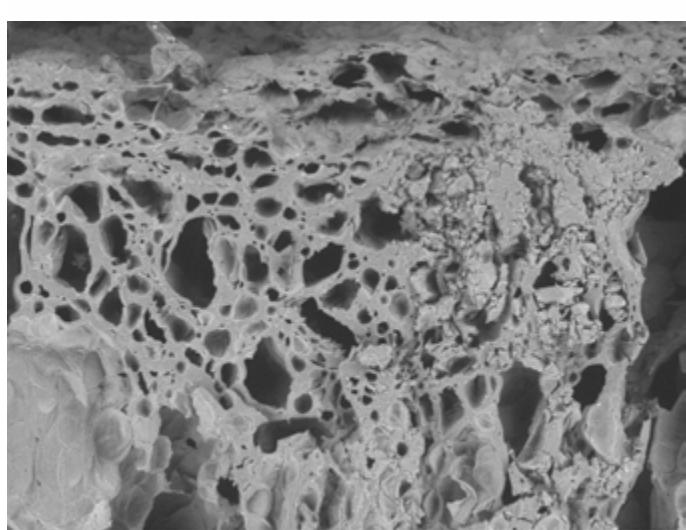
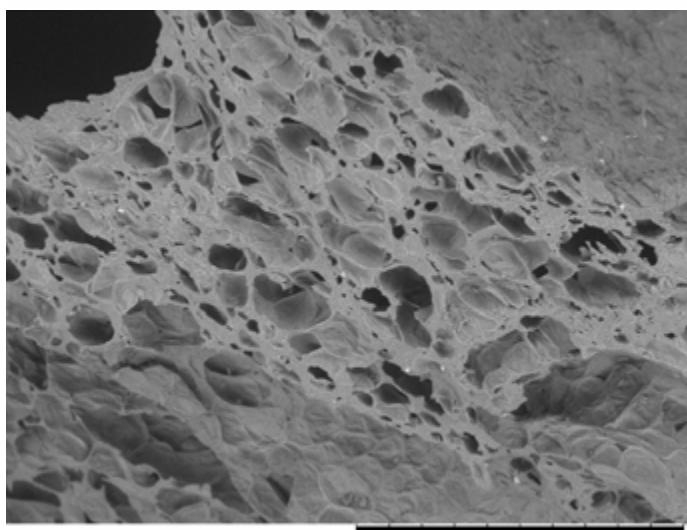
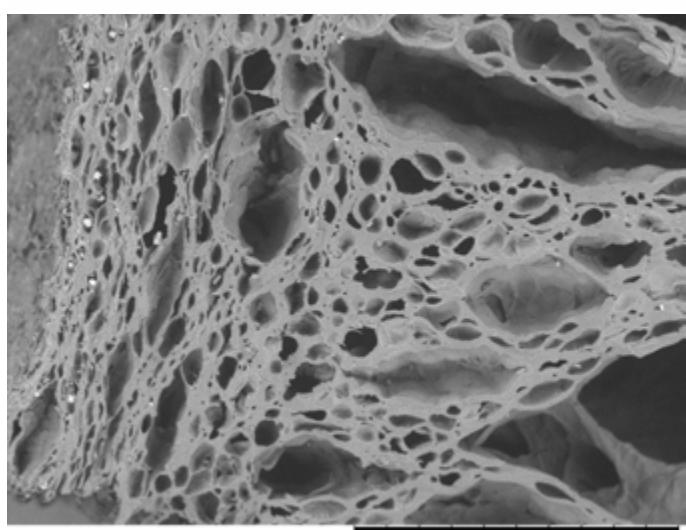
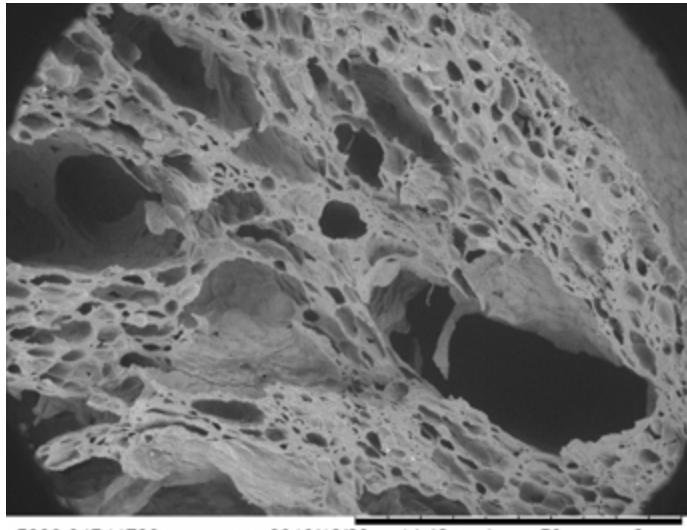
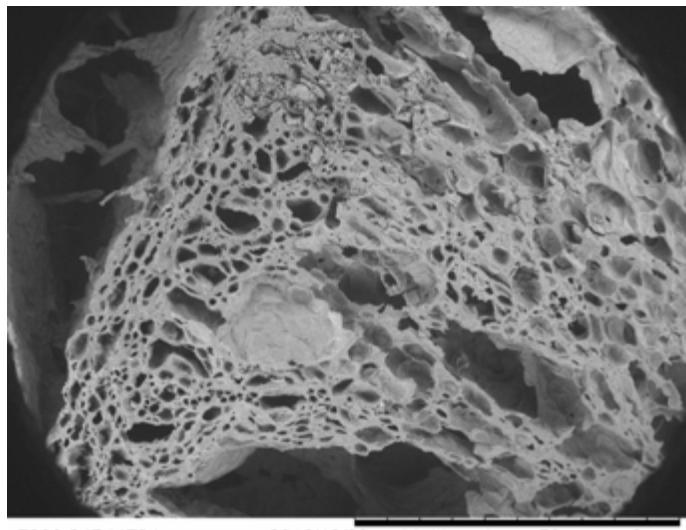


5006-04P11727 2016/12/20 14:31 L x200 500 um

Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Charred

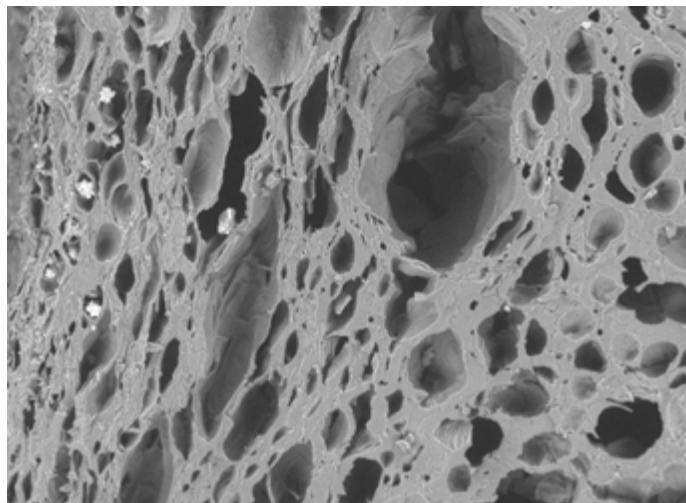
Transverse



Ipomoea batatas
CONVULVULACEAE

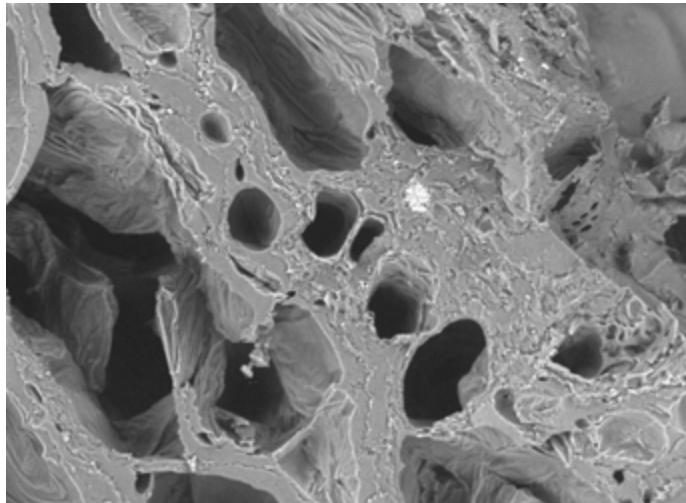
Common Name: Sweet Potato
Sample Type: Charred

Transverse (Continued)



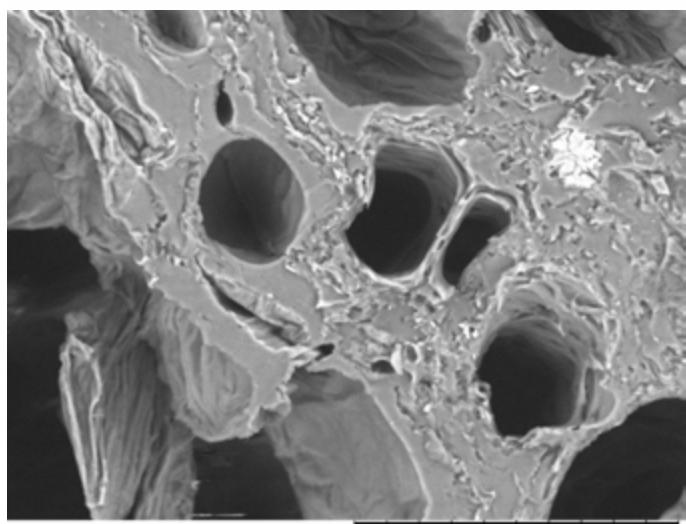
5006-04P11734

2016/12/20 14:47 L x200 500 um



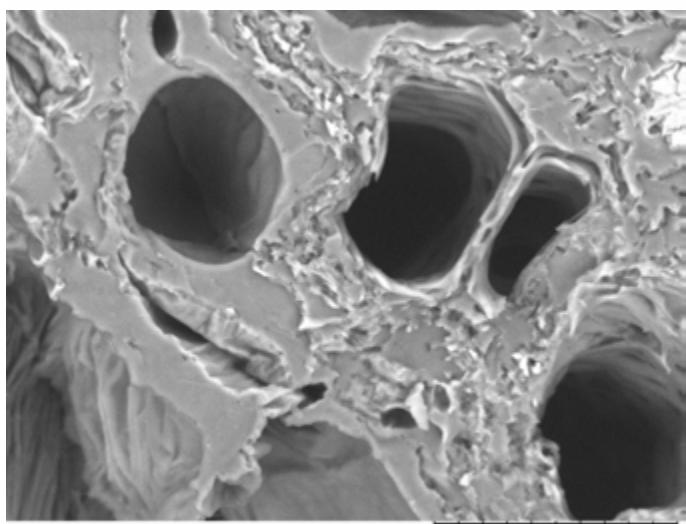
5006-04P11738

2016/12/20 14:51 L x500 200 um



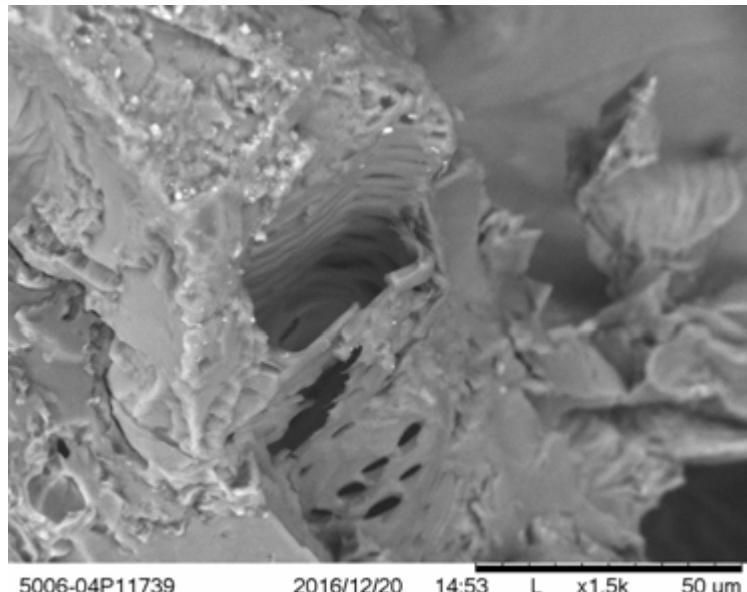
5006-04P11737

2016/12/20 14:50 L x1.0k 100 um



5006-04P11736

2016/12/20 14:50 L x1.5k 50 um



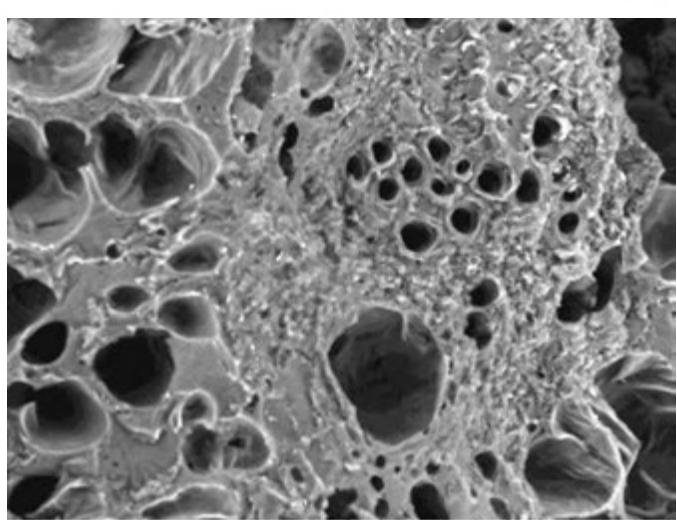
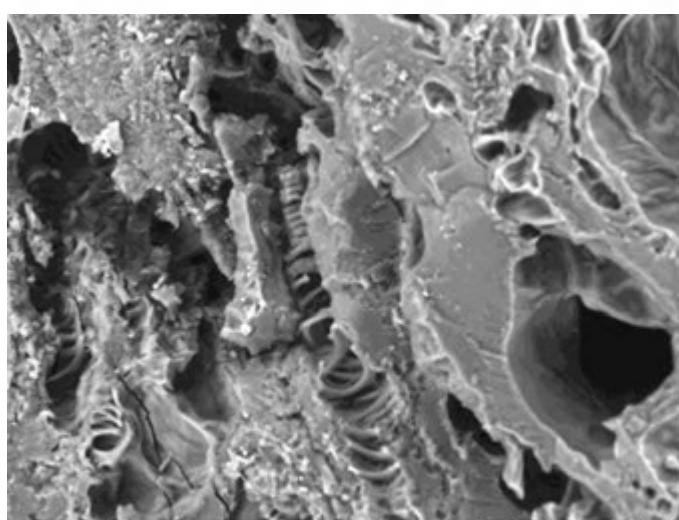
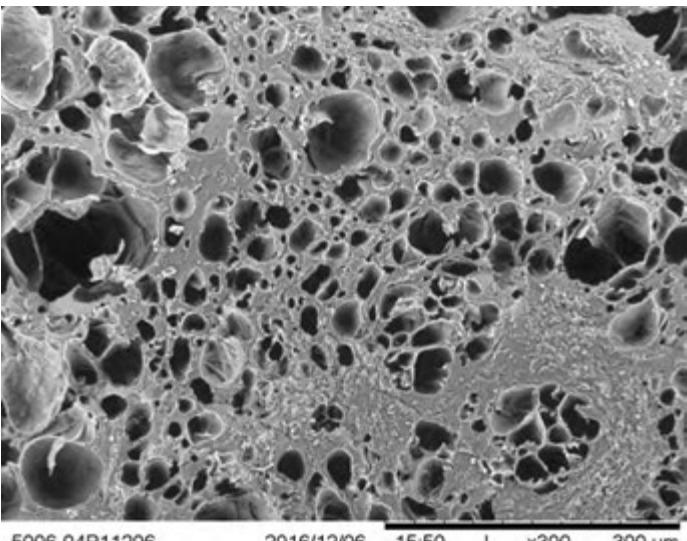
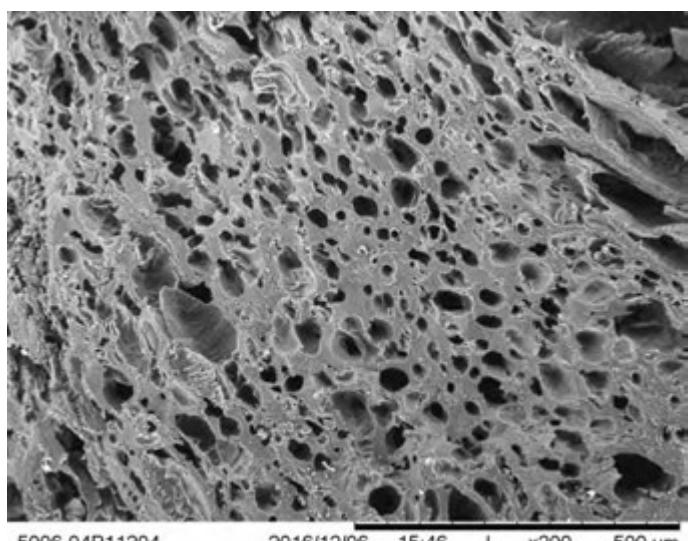
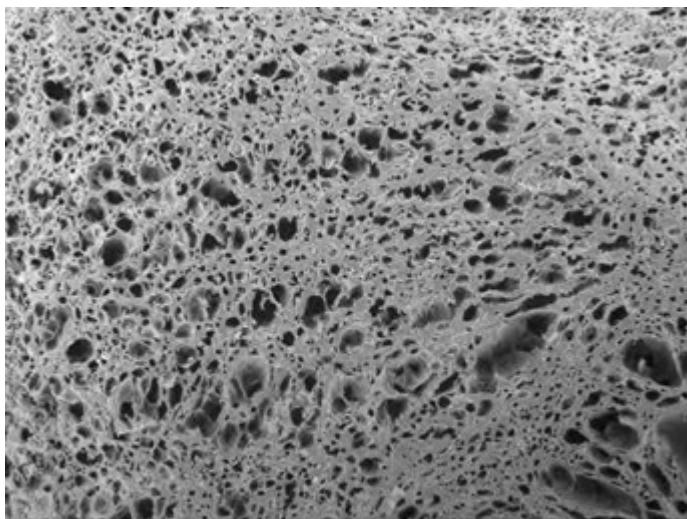
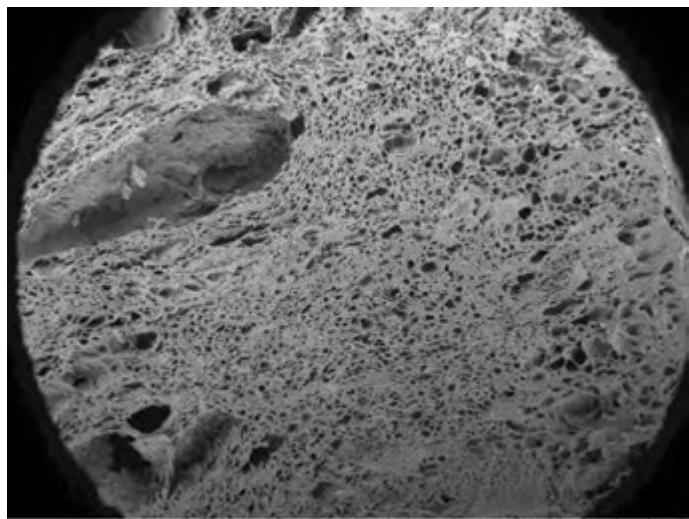
5006-04P11739

2016/12/20 14:53 L x1.5k 50 um

Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Charred – 2.5 hours

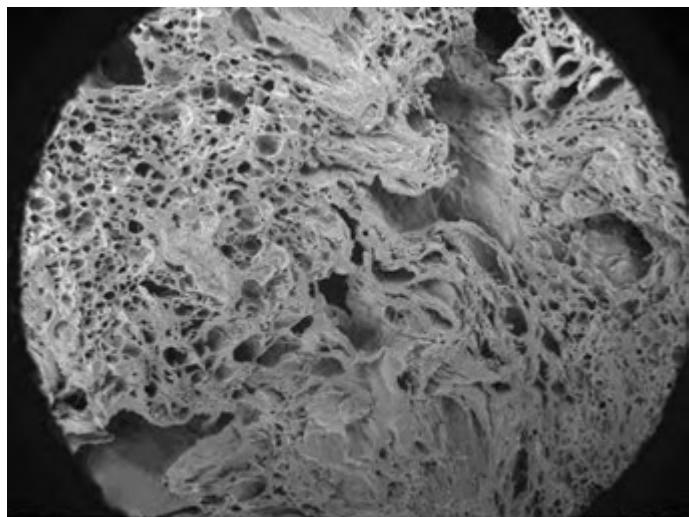
Transverse



Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Charred – 2.5 hours

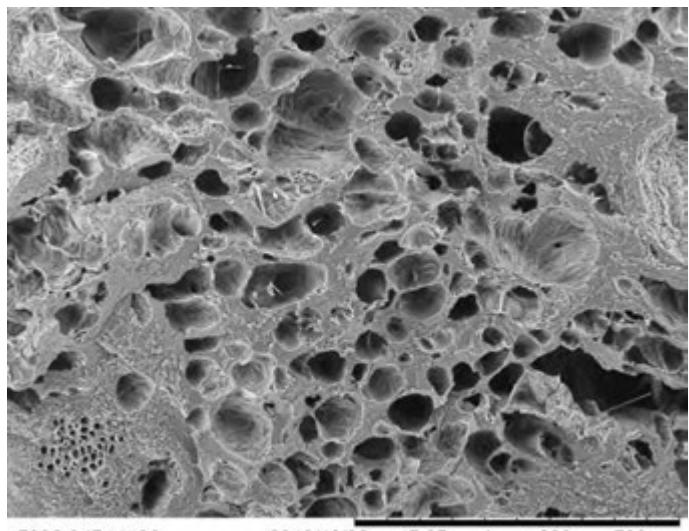
Tangential



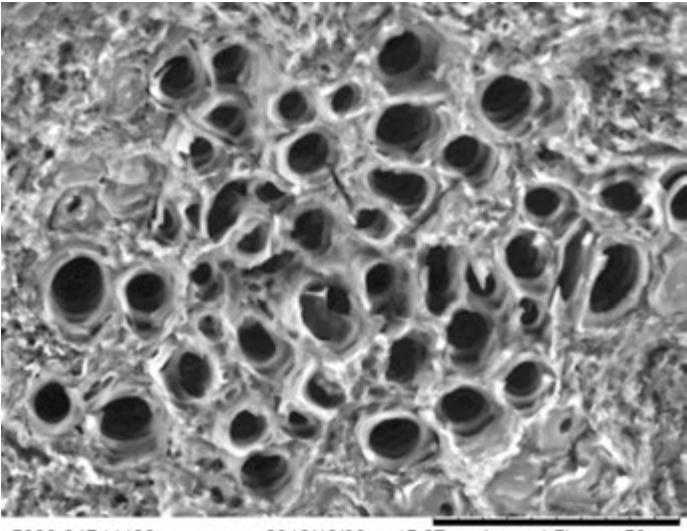
5006-04P11194 2016/12/06 15:22 L x50 2 mm



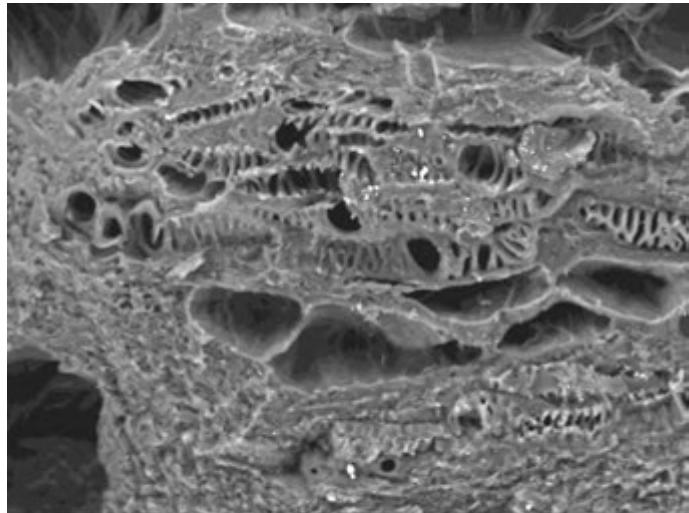
5006-04P11199 2016/12/06 15:30 L x100 1 mm



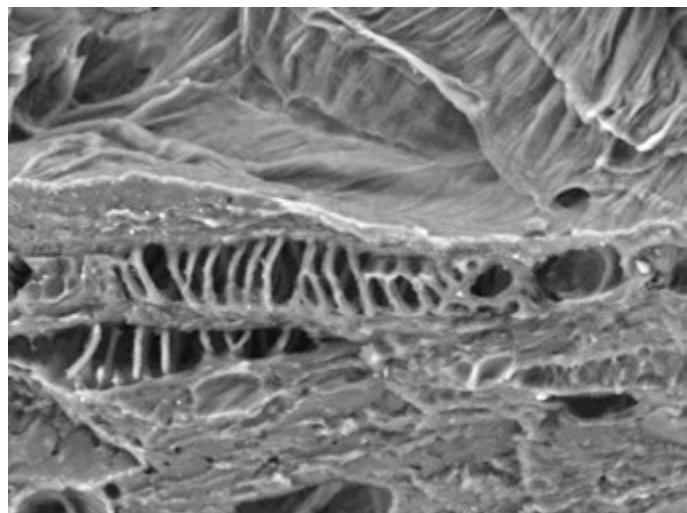
5006-04P11196 2016/12/06 15:25 L x200 500 um



5006-04P11198 2016/12/06 15:27 L x1.5k 50 um



5006-04P11193 2016/12/06 15:21 L x1.0k 100 um

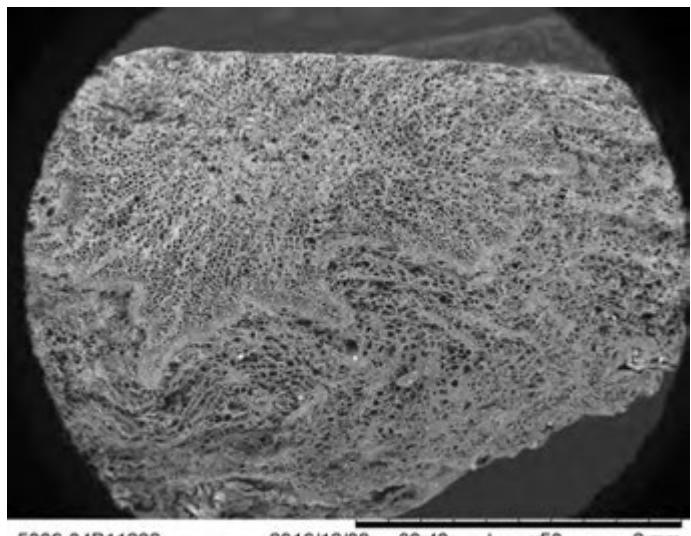


5006-04P11190 2016/12/06 15:17 L x1.5k 50 um

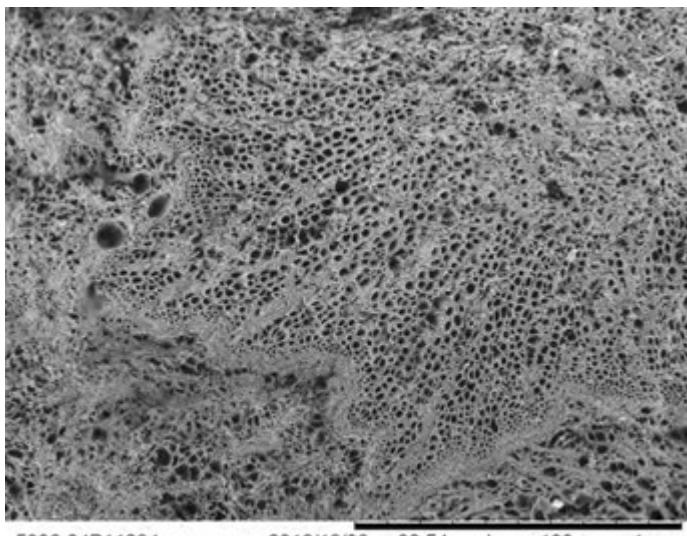
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Charred

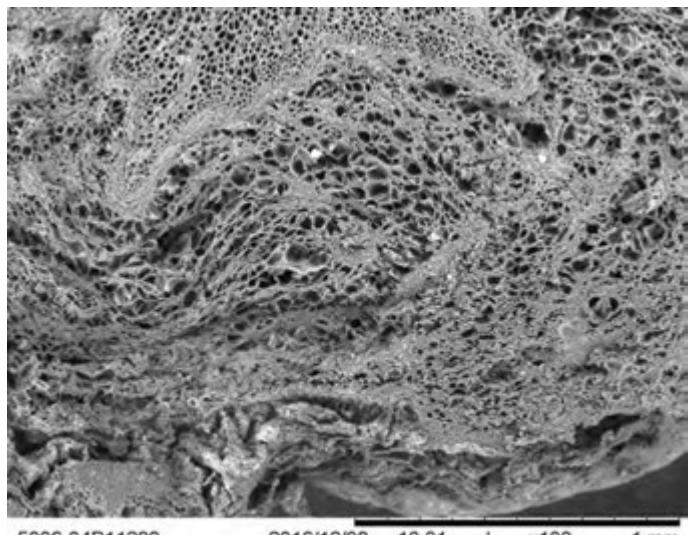
Stem End



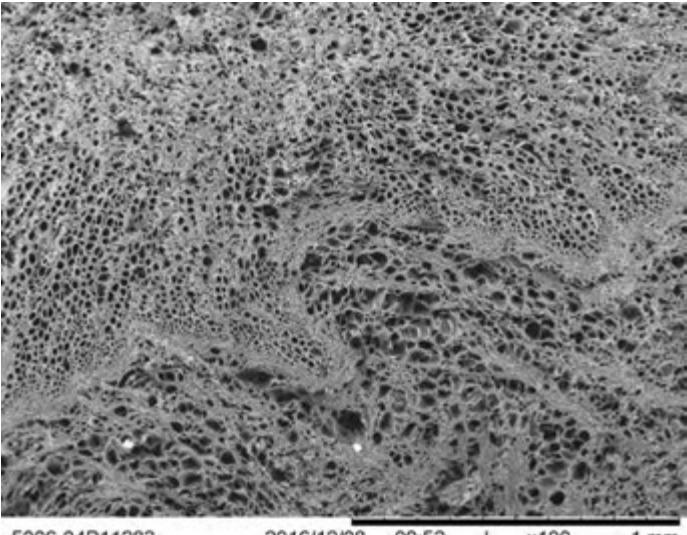
5006-04P11282 2016/12/08 09:49 L x50 2 mm



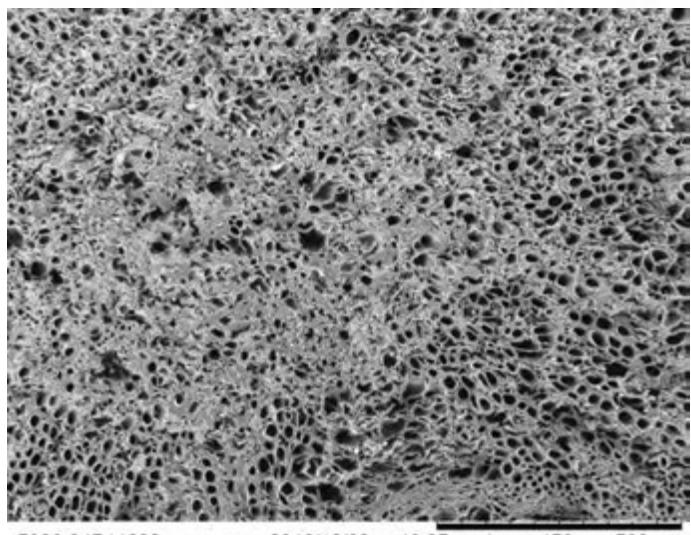
5006-04P11284 2016/12/08 09:54 L x100 1 mm



5006-04P11289 2016/12/08 10:01 L x100 1 mm



5006-04P11283 2016/12/08 09:52 L x100 1 mm



5006-04P11292 2016/12/08 10:05 L x150 500 µm

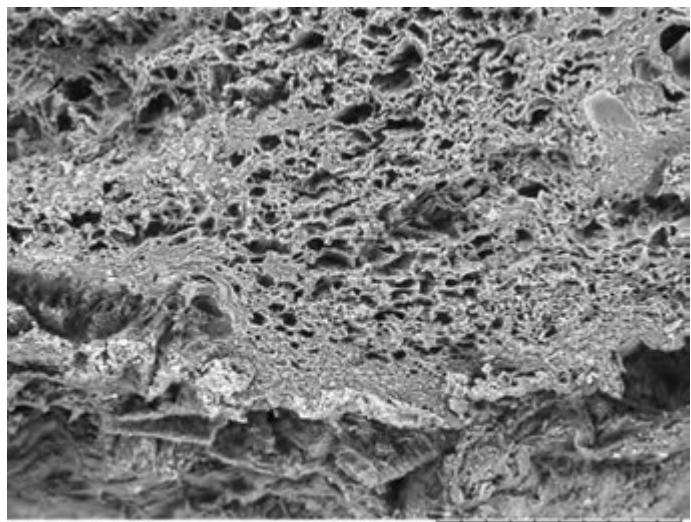


5006-04P11285 2016/12/08 09:55 L x200 500 µm

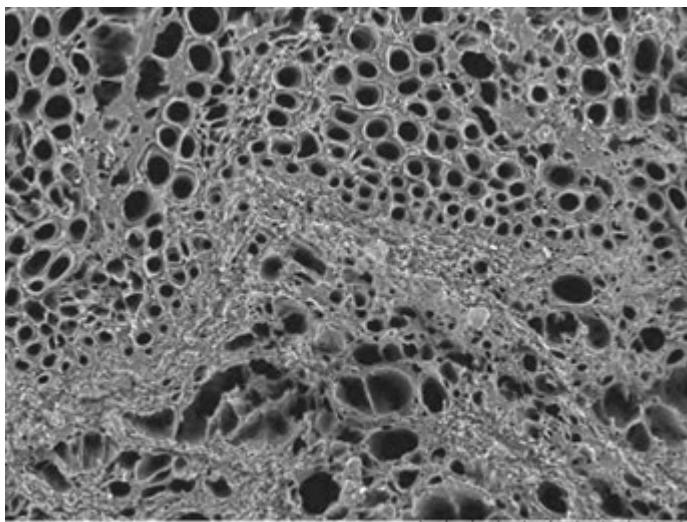
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Charred

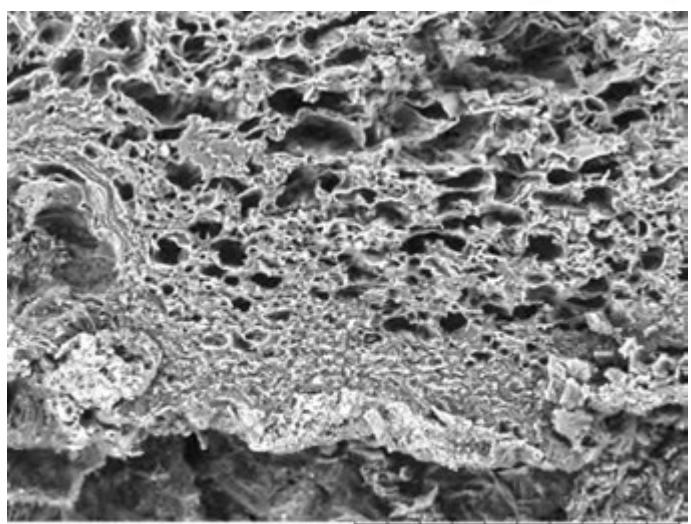
Stem End (Continued)



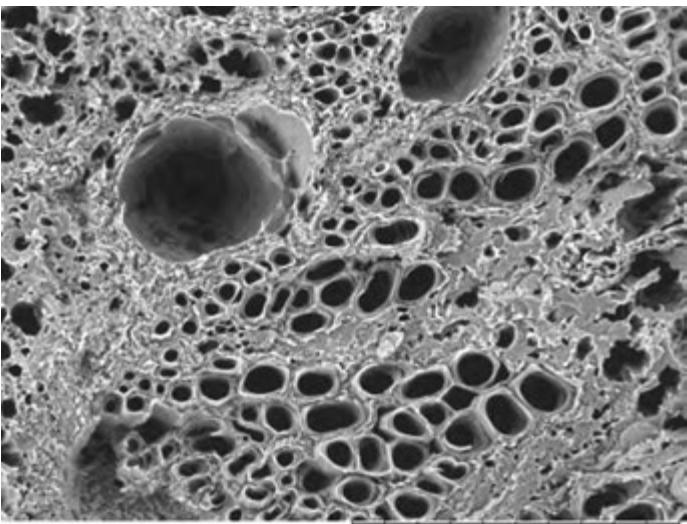
5006-04P11290 2016/12/08 10:03 L x250 300 um



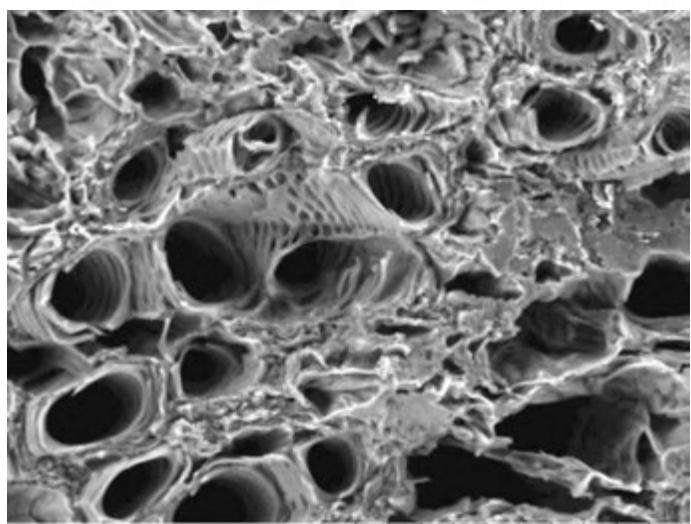
5006-04P11288 2016/12/08 10:00 L x400 200 um



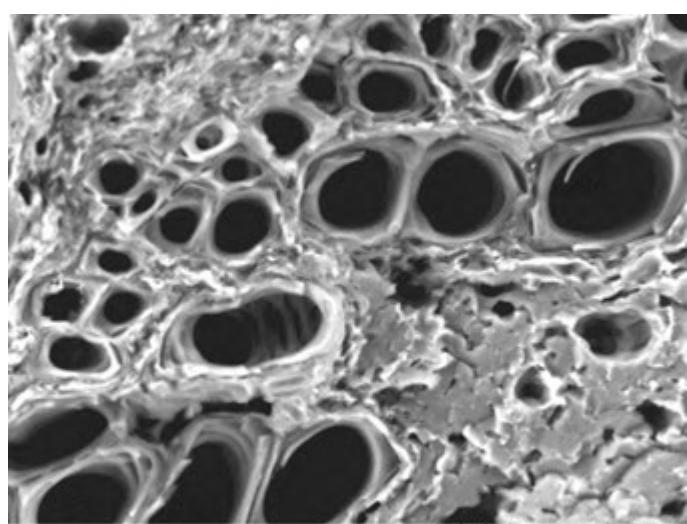
5006-04P11291 2016/12/08 10:04 L x500 200 um



5006-04P11286 2016/12/08 09:56 L x500 200 um



5006-04P11293 2016/12/08 10:07 L x1.0k 100 um

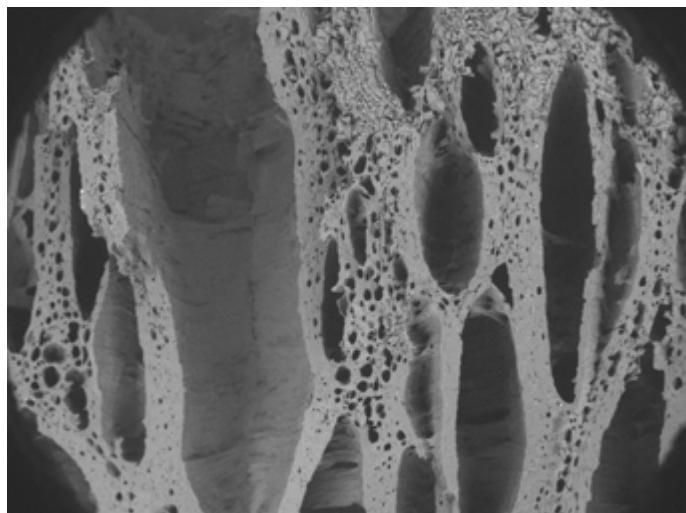


5006-04P11287 2016/12/08 09:58 L x1.5k 50 um

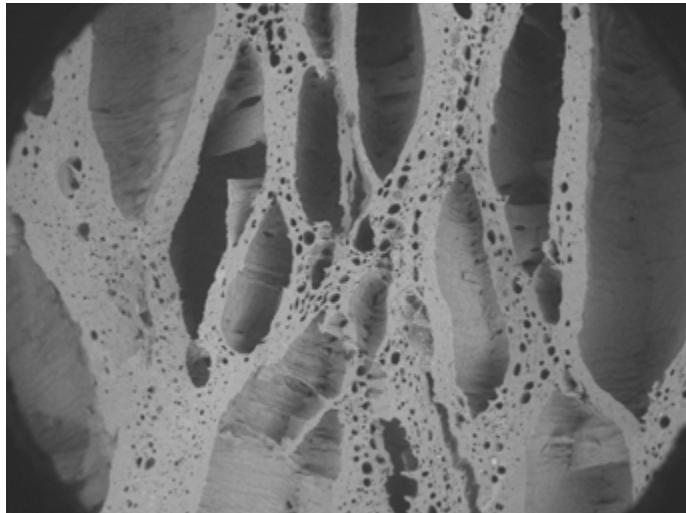
Manihot esculenta
EUPHORBIACEAE

Common Name: Manioc
Sample Type: Charred

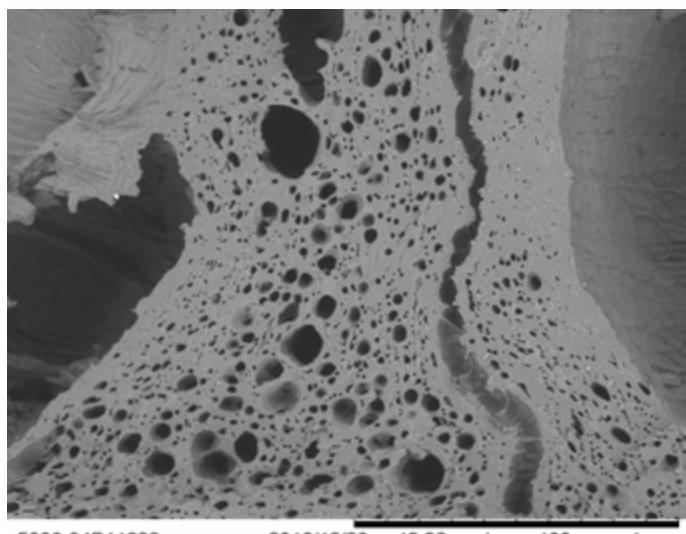
Tangential



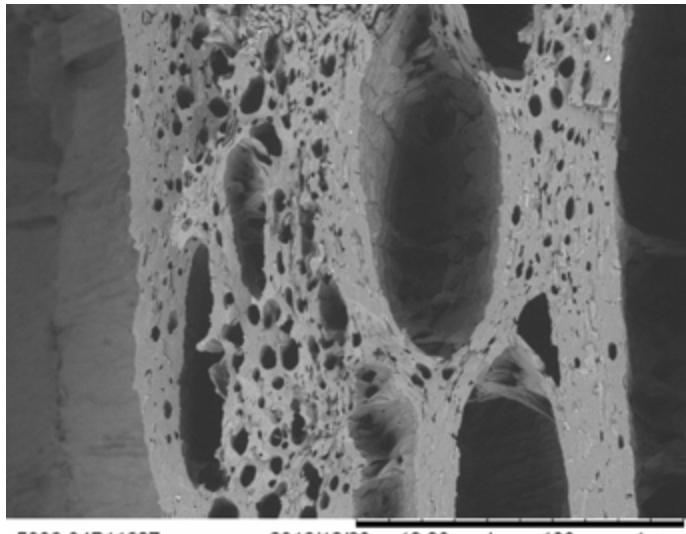
5006-04P11696 2016/12/20 13:29 L x50 2 mm



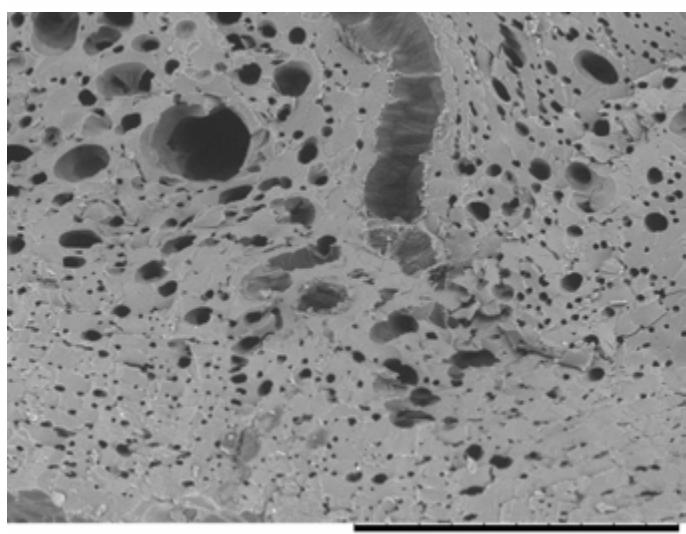
5006-04P11695 2016/12/20 13:28 L x50 2 mm



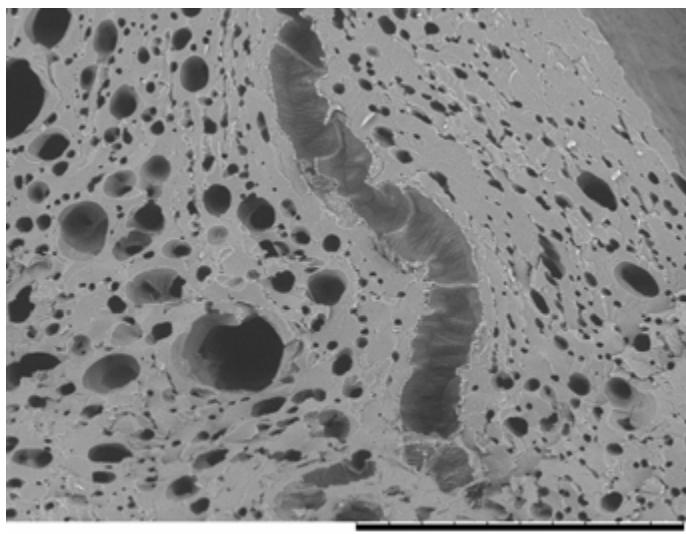
5006-04P11698 2016/12/20 13:32 L x100 1 mm



5006-04P11697 2016/12/20 13:30 L x100 1 mm



5006-04P11706 2016/12/20 13:41 L x200 500 µm

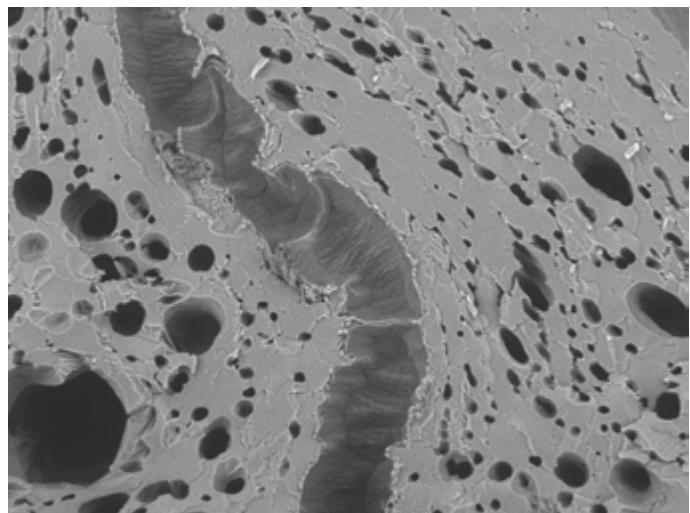


5006-04P11700 2016/12/20 13:34 L x200 500 µm

Manihot esculenta
EUPHORBIACEAE

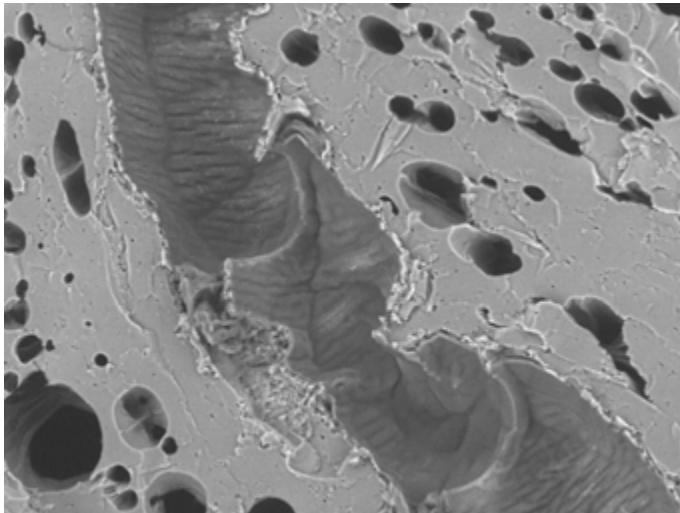
Common Name: Manioc
Sample Type: Charred

Tangential (Continued)



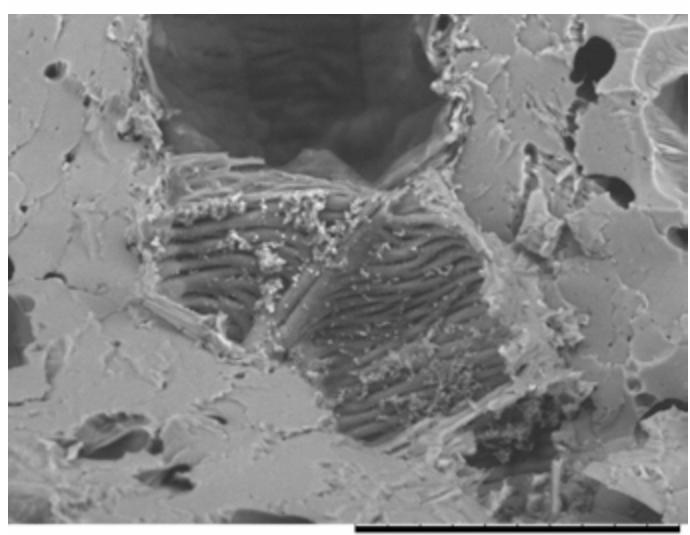
5006-04P11701

2016/12/20 13:36 L x300 300 um



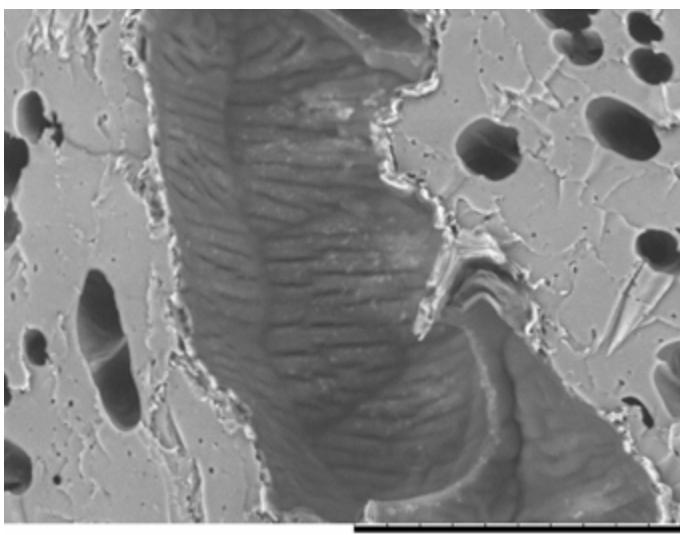
5006-04P11702

2016/12/20 13:37 L x600 100 um



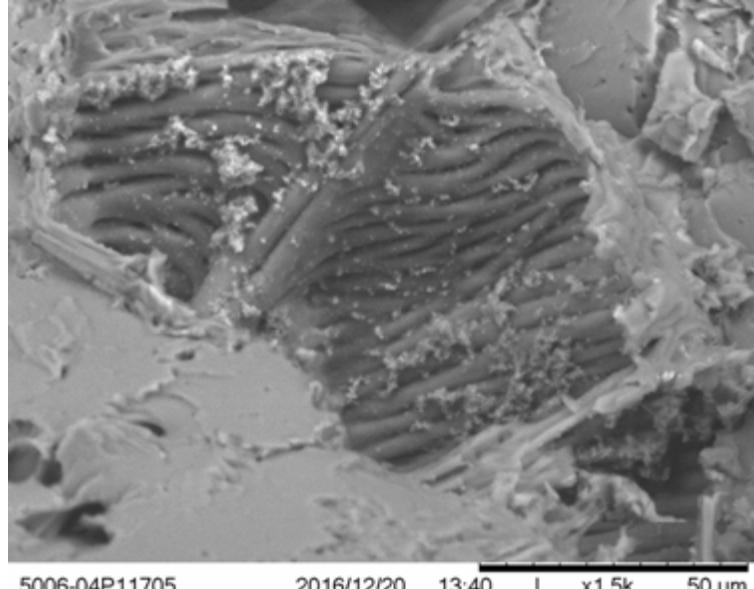
5006-04P11704

2016/12/20 13:39 L x1.0k 100 um



5006-04P11703

2016/12/20 13:38 L x1.0k 100 um



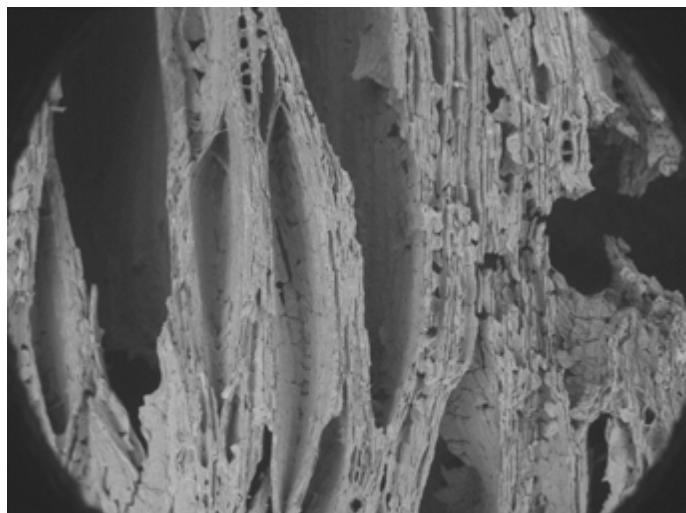
5006-04P11705

2016/12/20 13:40 L x1.5k 50 um

Manihot esculenta
EUPHORBIACEAE

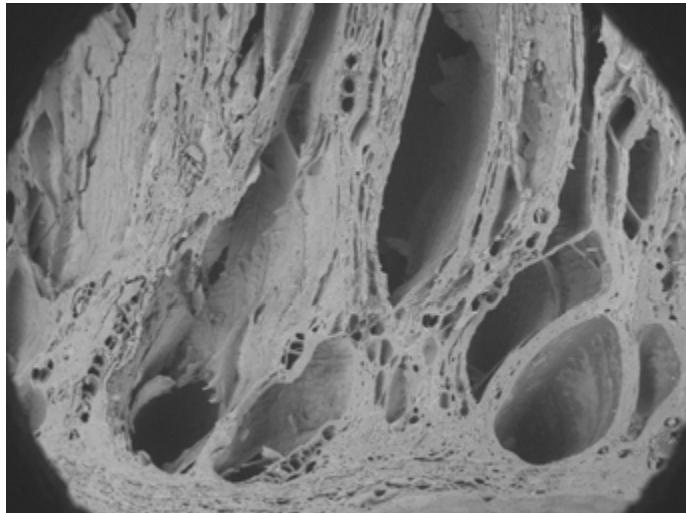
Common Name: Manioc
Sample Type: Charred

Transverse



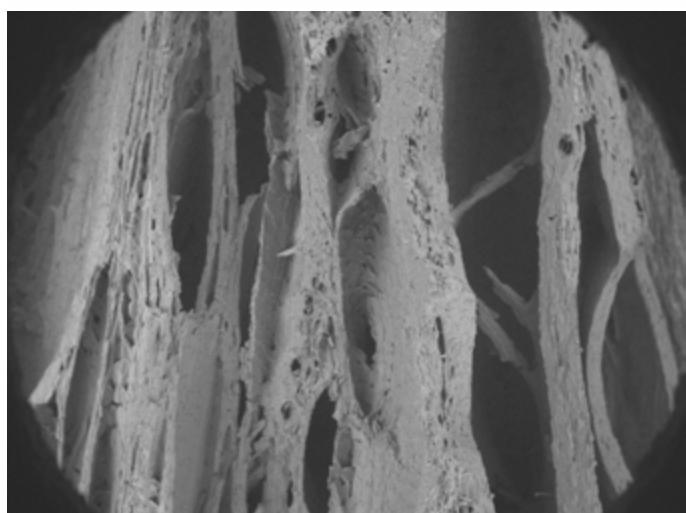
5006-04P11708

2016/12/20 13:54 L x50



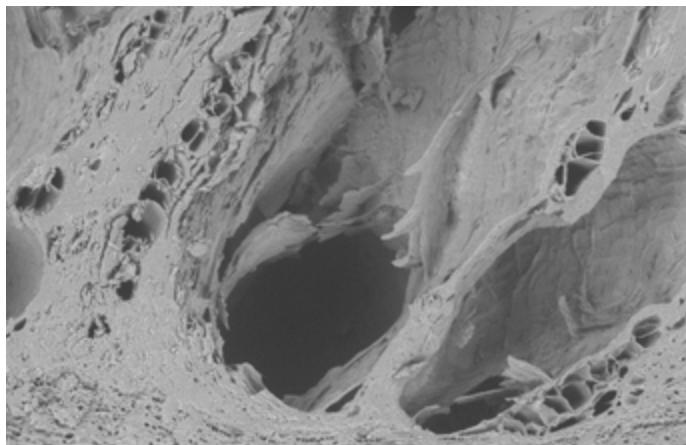
5006-04P11709

2016/12/20 13:55 L x50



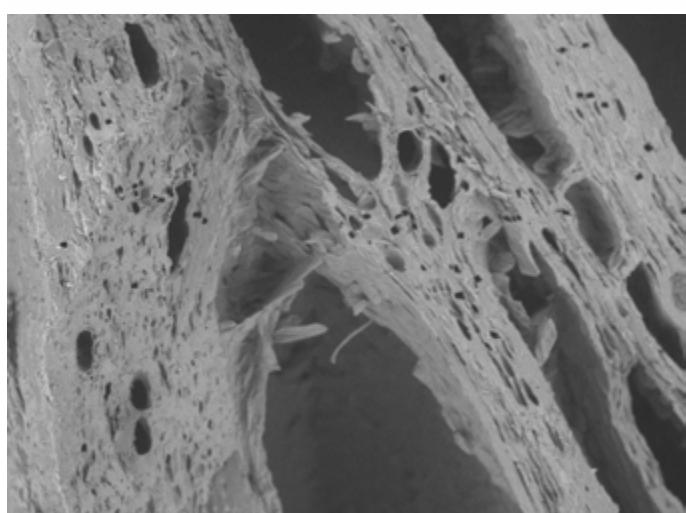
5006-04P11707

2016/12/20 13:52 L x50



5006-04P11715

2016/12/20 14:03 L x100



5006-04P11714

2016/12/20 14:02 L x100



5006-04P11712

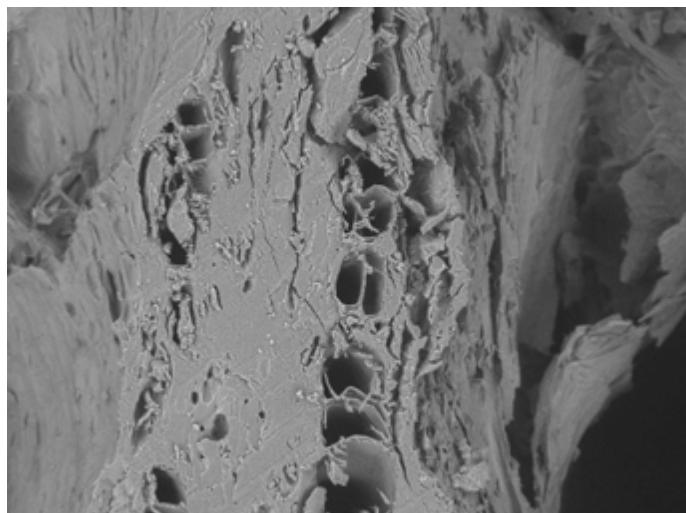
2016/12/20 13:59 L x200

500 um

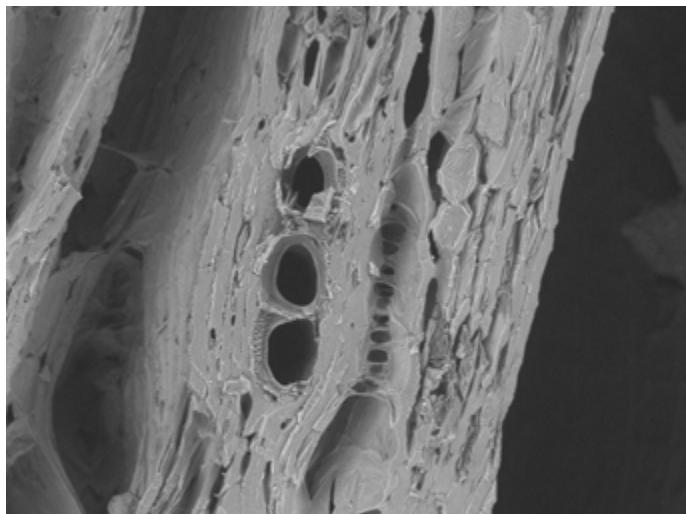
Manihot esculenta
EUPHORBIACEAE

Common Name: Manioc
Sample Type: Charred

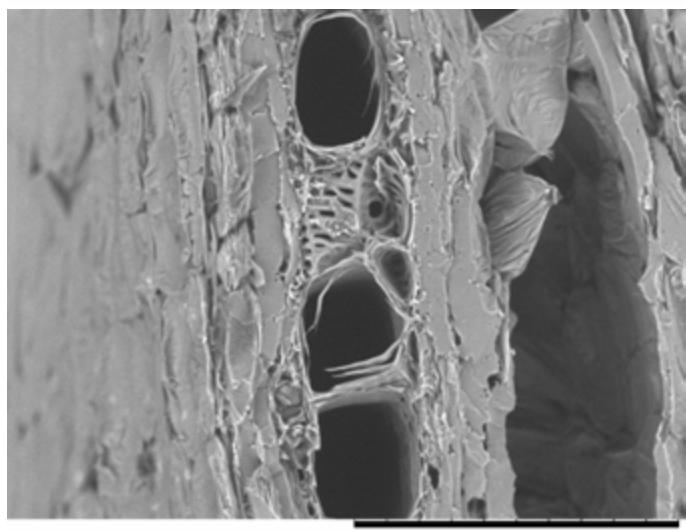
Transverse (Continued)



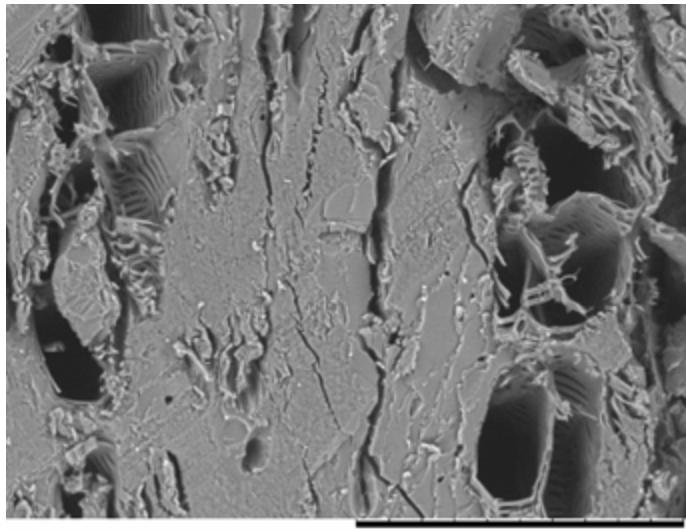
5006-04P11716 2016/12/20 14:04 L x200 500 um



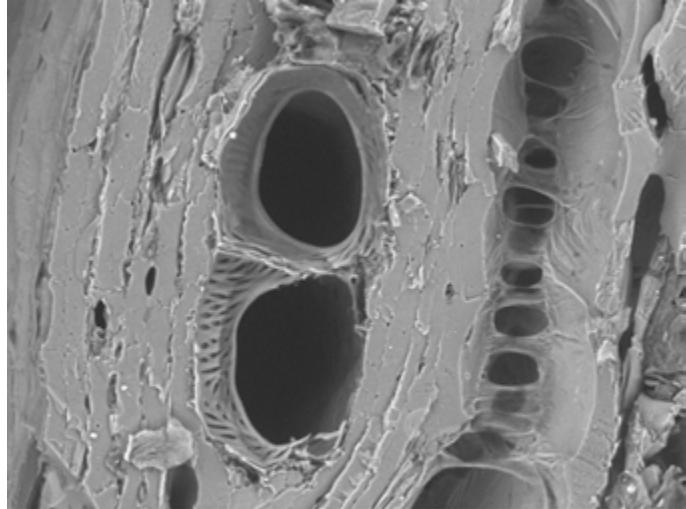
5006-04P11710 2016/12/20 13:57 L x200 500 um



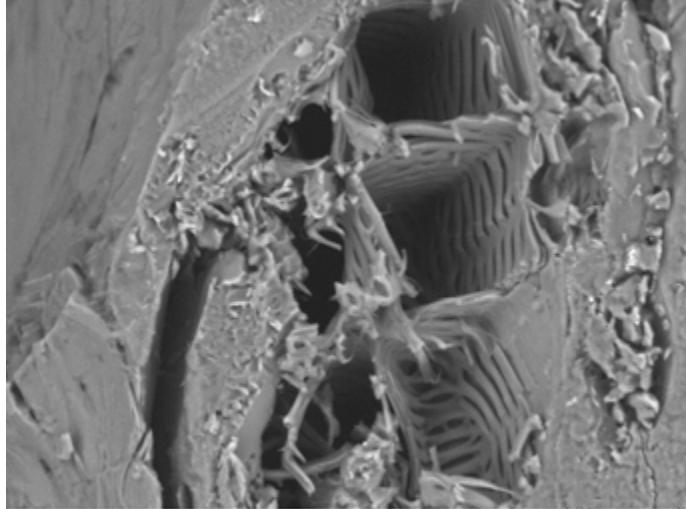
5006-04P11713 2016/12/20 14:00 L x500 200 um



5006-04P11717 2016/12/20 14:05 L x500 200 um



5006-04P11711 2016/12/20 13:58 L x500 200 um

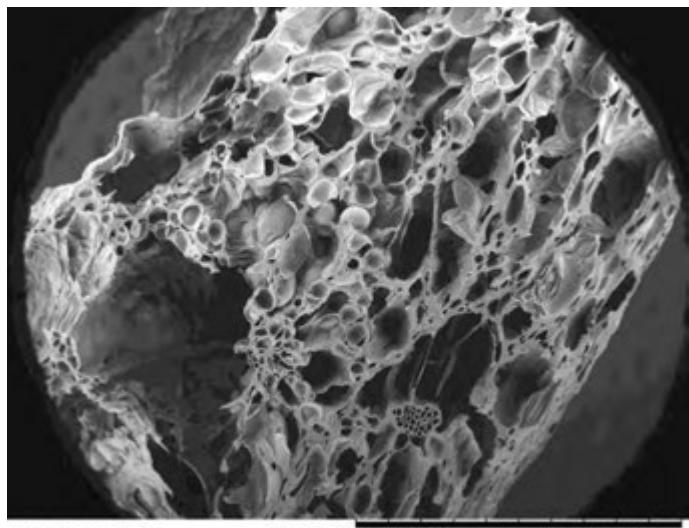


5006-04P11718 2016/12/20 14:06 L x500 200 um

Oxalis tuberosa
OXALIDACEAE

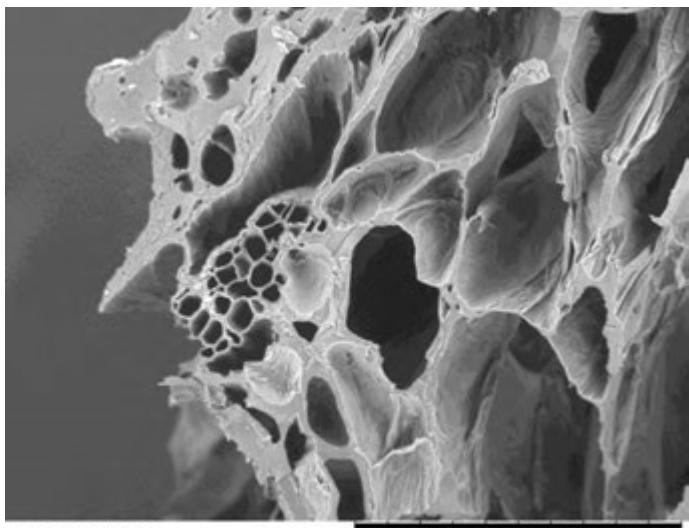
Common Name: Oca
Sample Type: Charred

Transverse

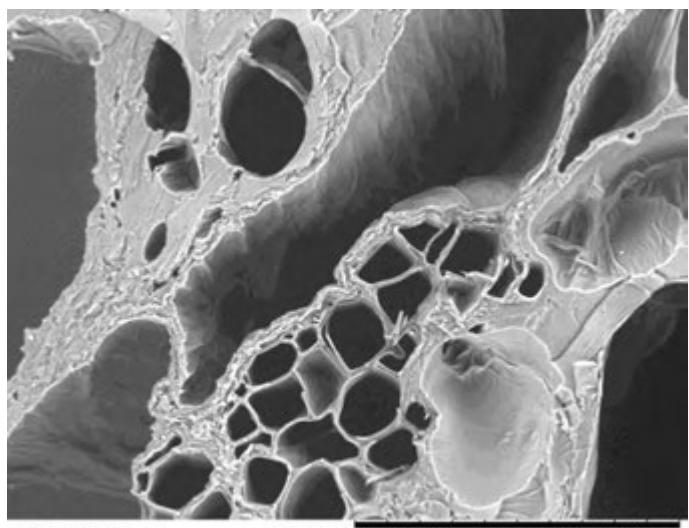


5006-04P11294

2016/12/08 10:16 L x50 2 mm

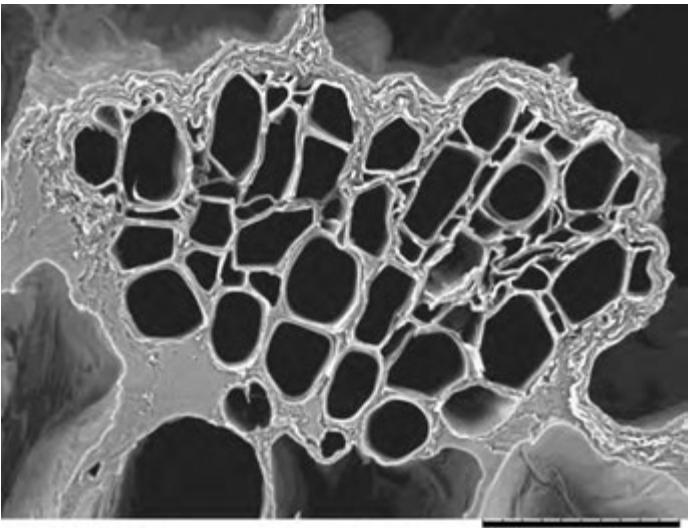


5006-04P11296 2016/12/08 10:19 L x200 500 um

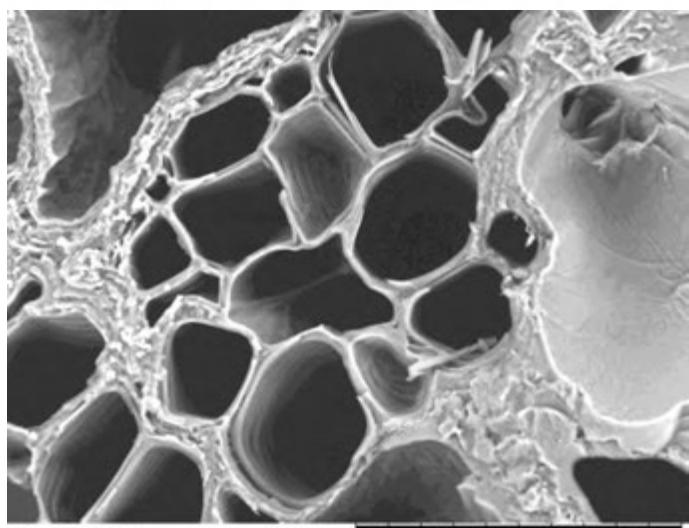


5006-04P11297

2016/12/08 10:20 L x500 200 um

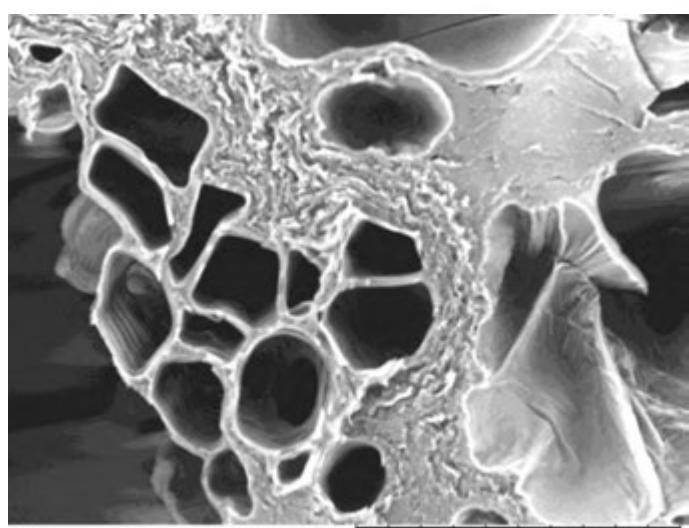


5006-04P11300 2016/12/08 10:25 L x600 100 um



5006-04P11298

2016/12/08 10:22 L x1.0k 100 um

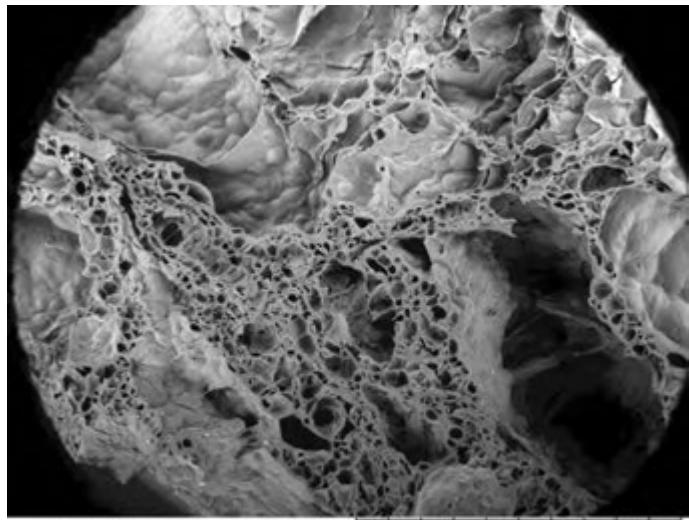


5006-04P11299 2016/12/08 10:24 L x1.0k 100 um

Pachyrhizus erosus
FABACEAE

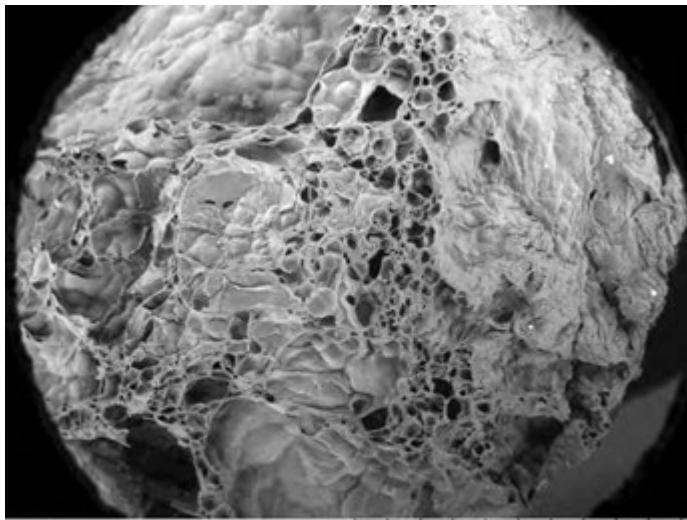
Common Name: Jicama
Sample Type: Charred

Transverse

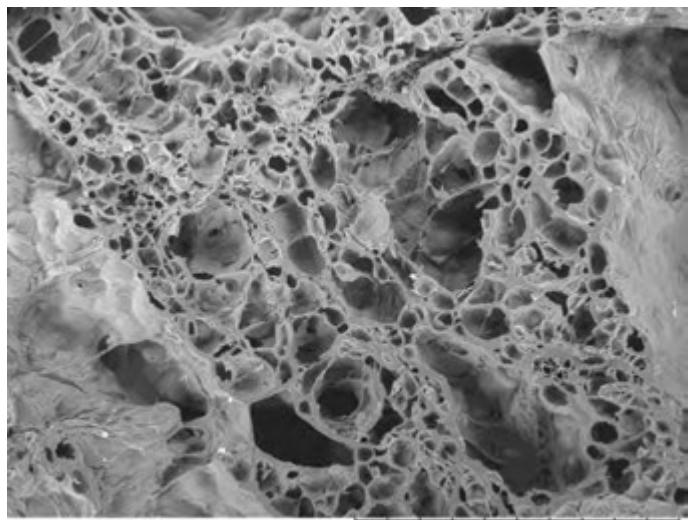


5006-04P11303

2016/12/08 10:36 L x50 2 mm

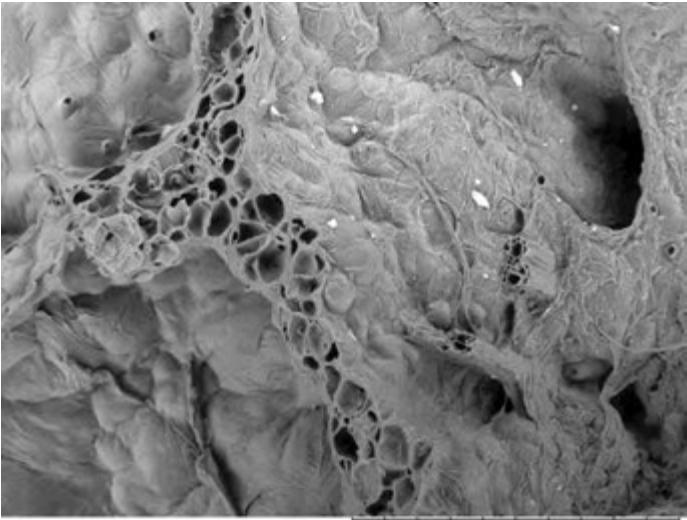


5006-04P11302 2016/12/08 10:35 L x50 2 mm

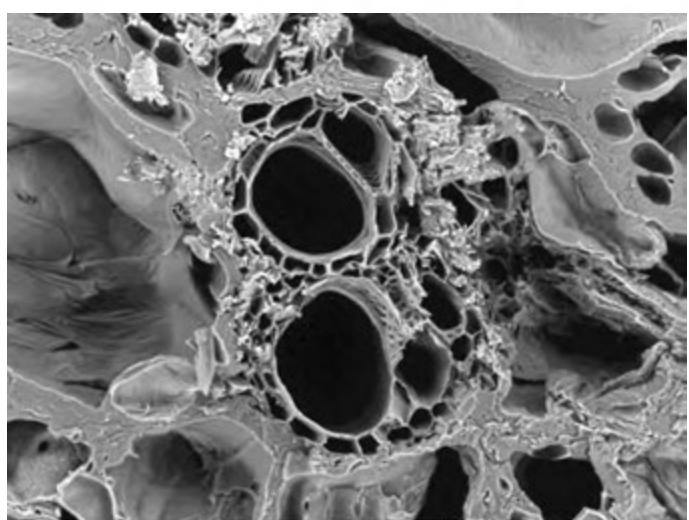


5006-04P11307

2016/12/08 10:42 L x100 1 mm

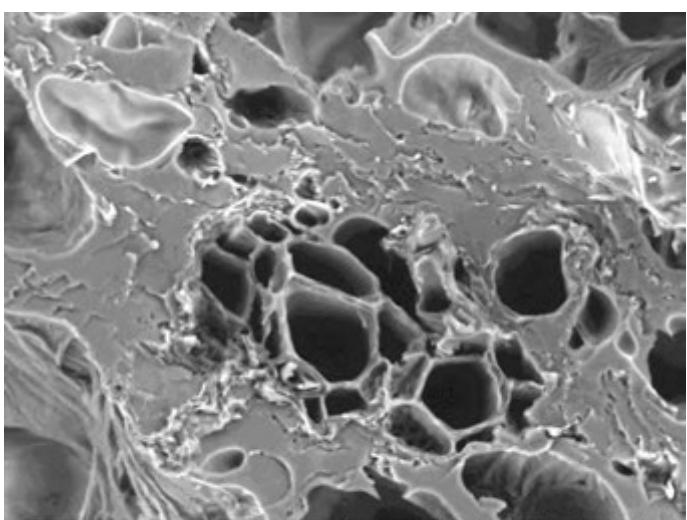


5006-04P11309 2016/12/08 10:45 L x100 1 mm



5006-04P11305

2016/12/08 10:39 L x500 200 um

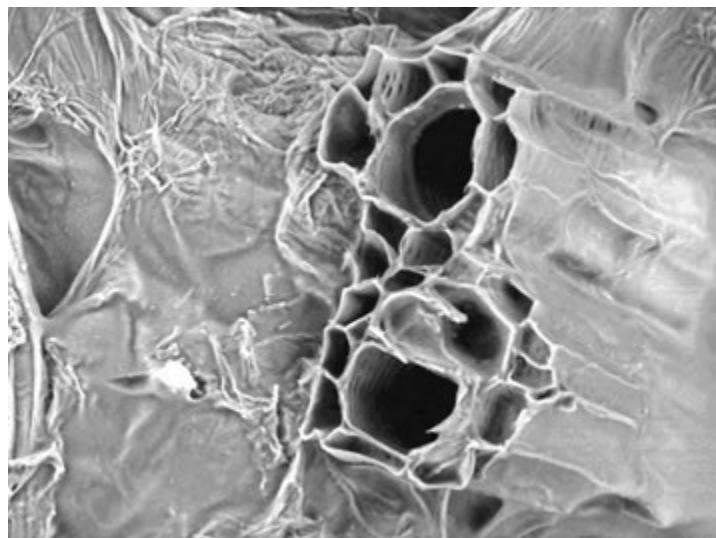


5006-04P11308 2016/12/08 10:43 L x1.0k 100 um

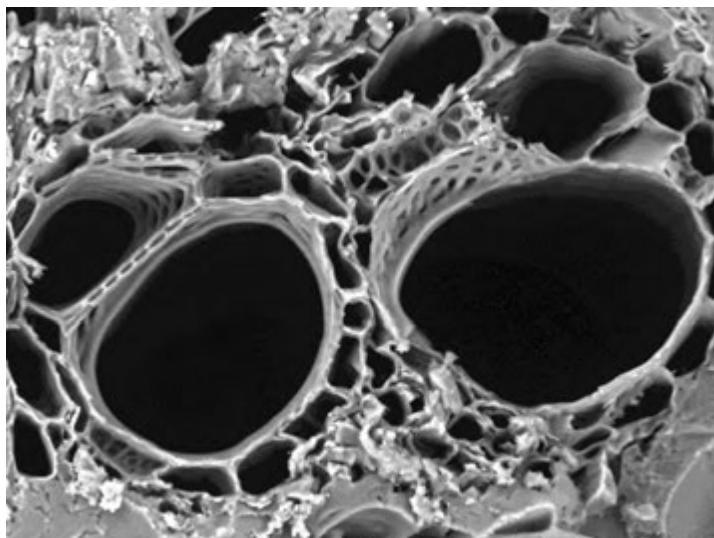
Pachyrhizus erosus
FABACEAE

Common Name: Jicama
Sample Type: Charred

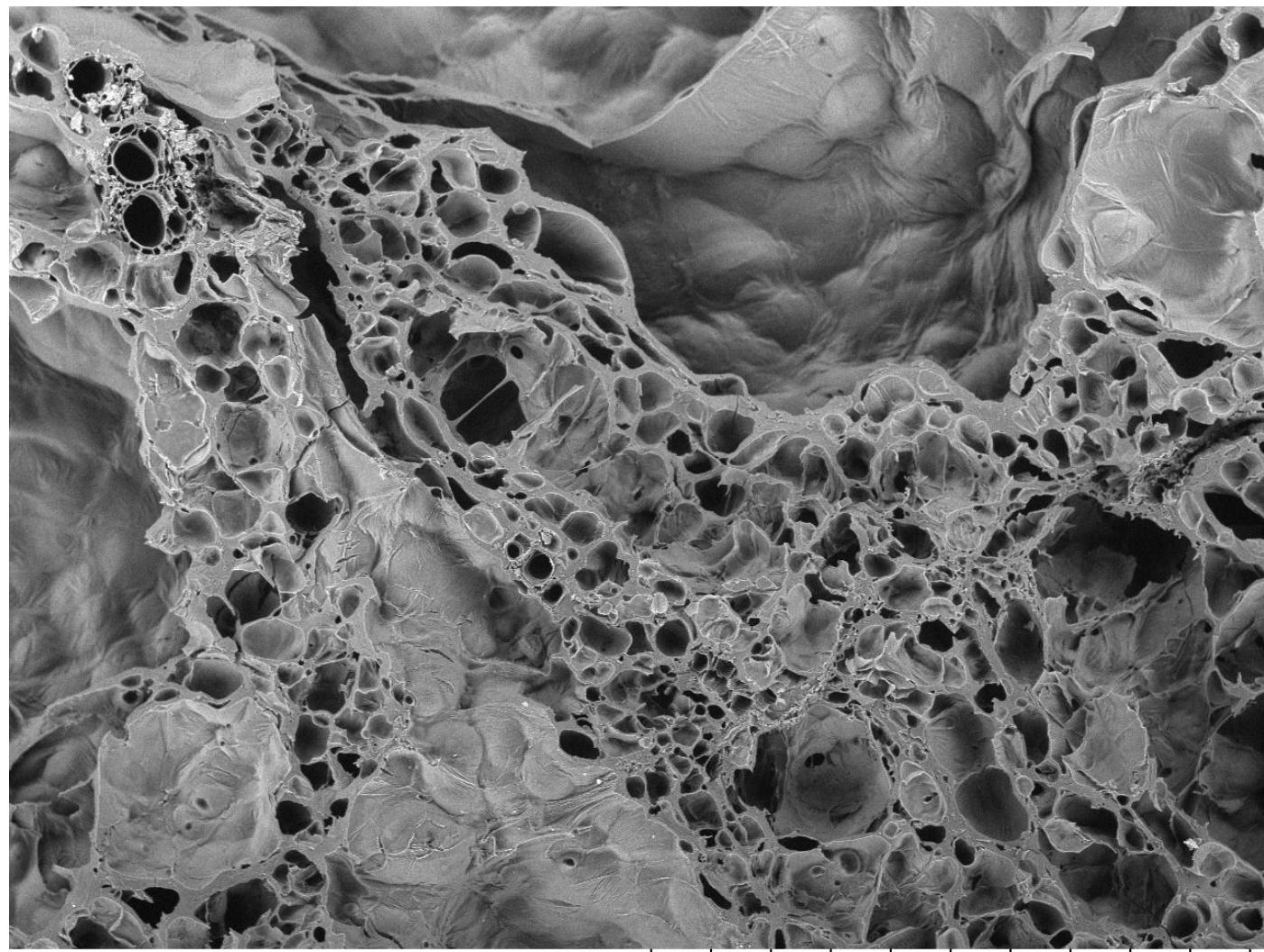
Transverse (continued)



5006-04P11310 2016/12/08 10:47 L x800 100 µm



5006-04P11306 2016/12/08 10:40 L x1.0k 100 µm

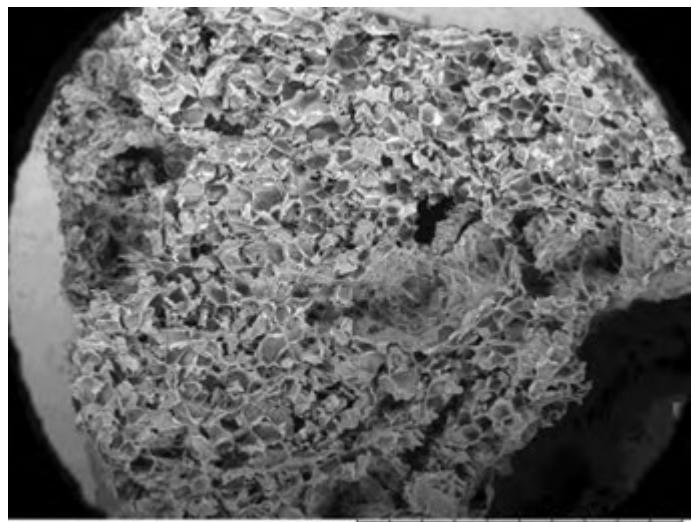


5006-04P11304 2016/12/08 10:37 L x100 1 mm

Smallanthus sonchifolius
ASTERACEAE

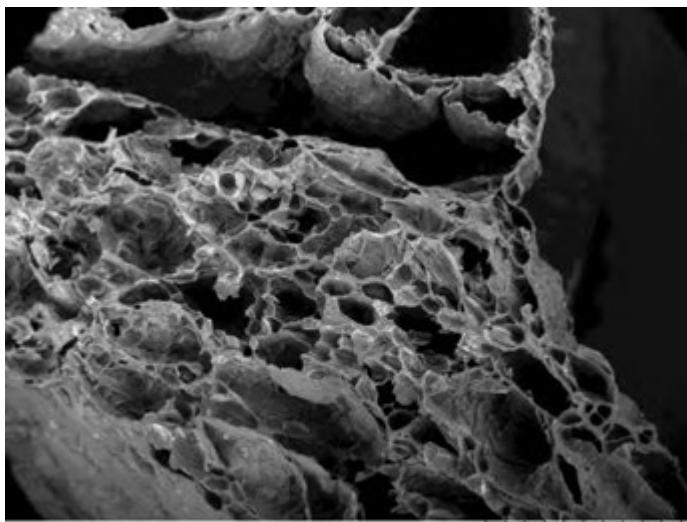
Common Name: Yacon
Sample Type: Charred

Transverse



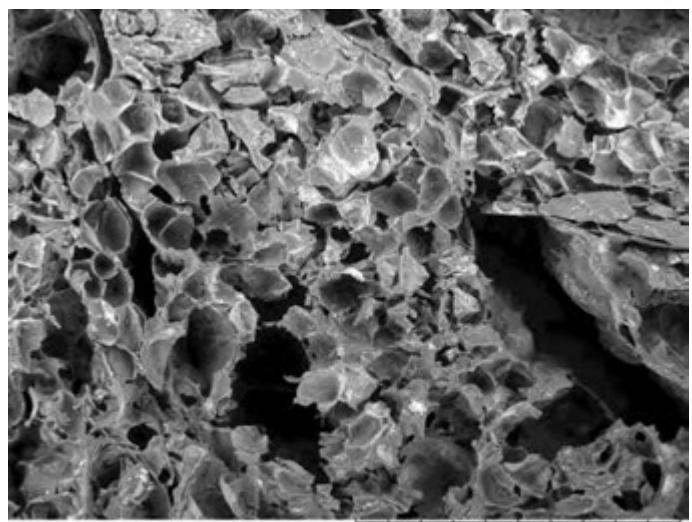
5006-04P11317

2016/12/08 11:15 L x50 2 mm



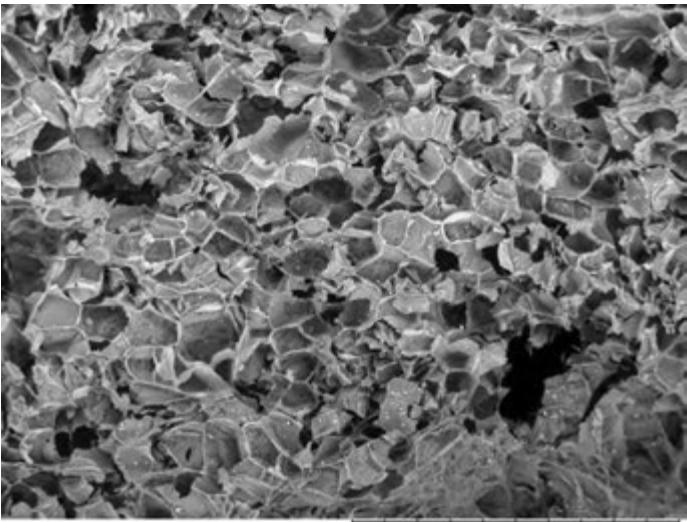
5006-04P11323

2016/12/08 11:22 L x60 1 mm



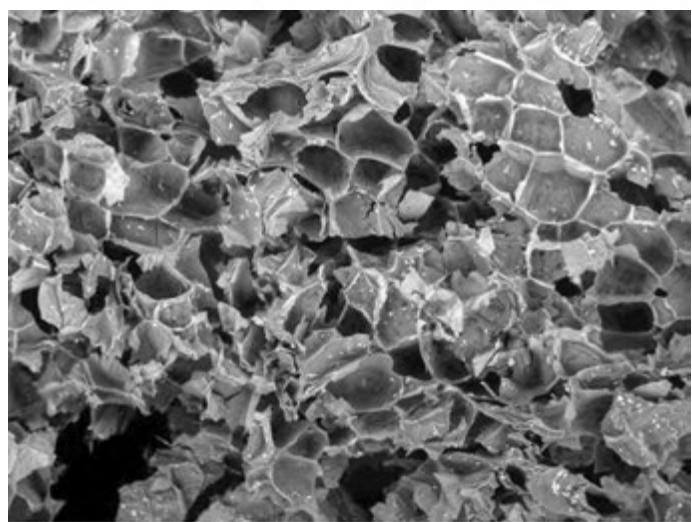
5006-04P11321

2016/12/08 11:20 L x100 1 mm



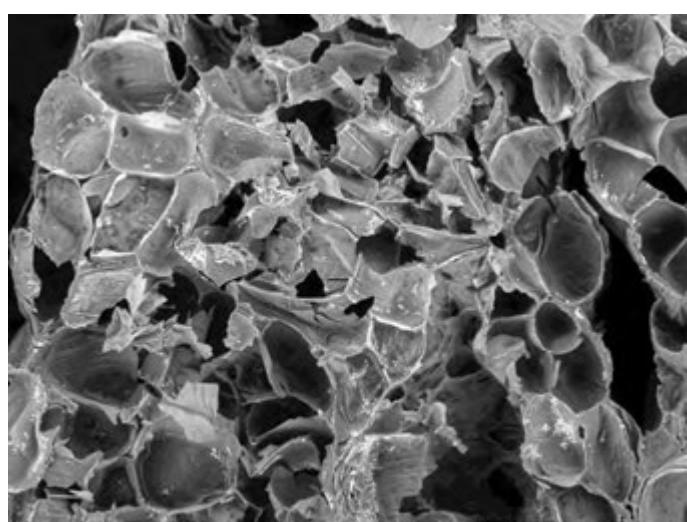
5006-04P11318

2016/12/08 11:16 L x100 1 mm



5006-04P11320

2016/12/08 11:18 L x150 500 um



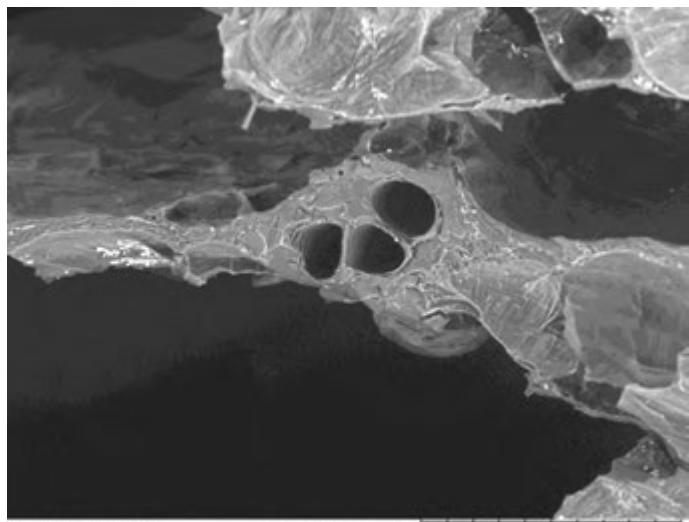
5006-04P11322

2016/12/08 11:21 L x200 500 um

Smallanthus sonchifolius
ASTERACEAE

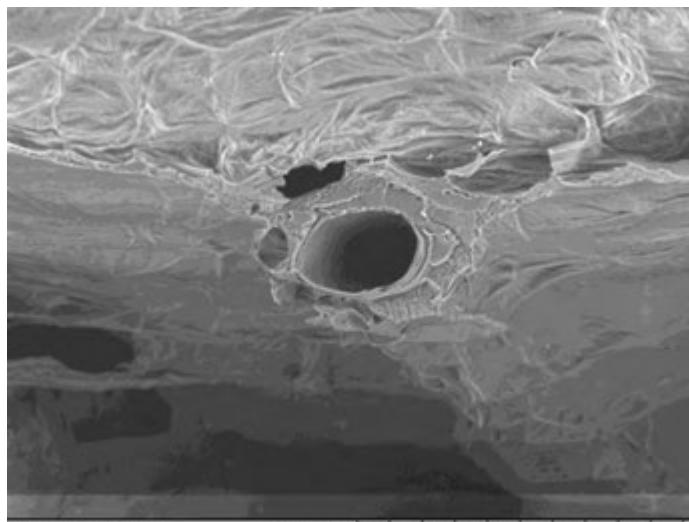
Common Name: Yacon
Sample Type: Charred

Transverse (Continued)

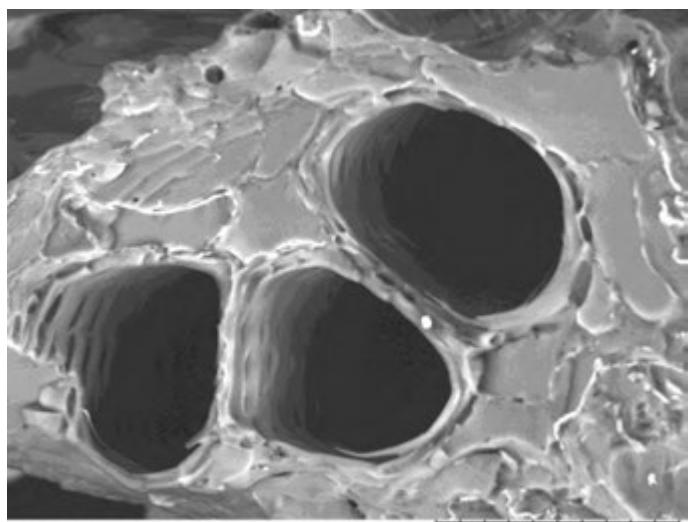


5006-04P11375

2016/12/08 13:33 L x400 200 um

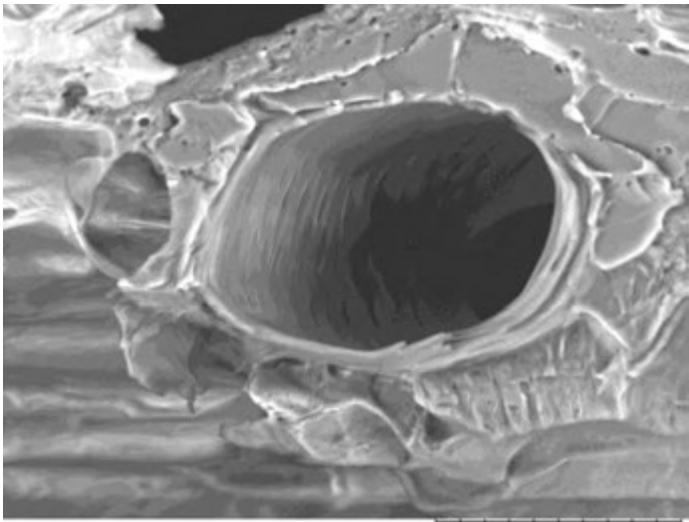


5006-04P11378 2016/12/08 13:37 L x500 200 um

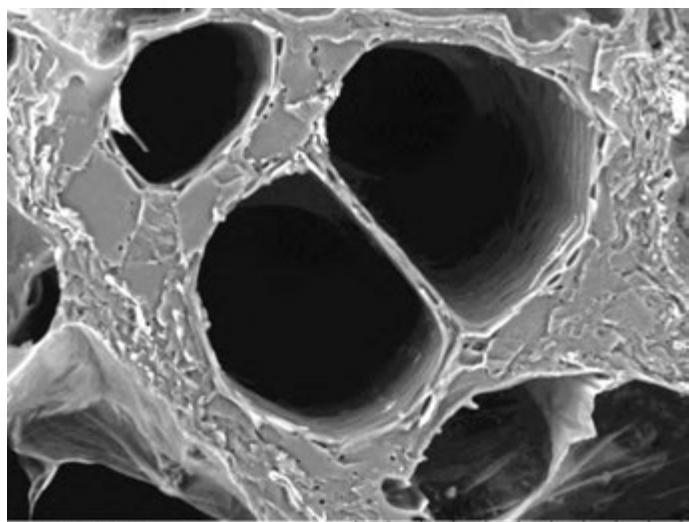


5006-04P11376

2016/12/08 13:34 L x1.5k 50 um

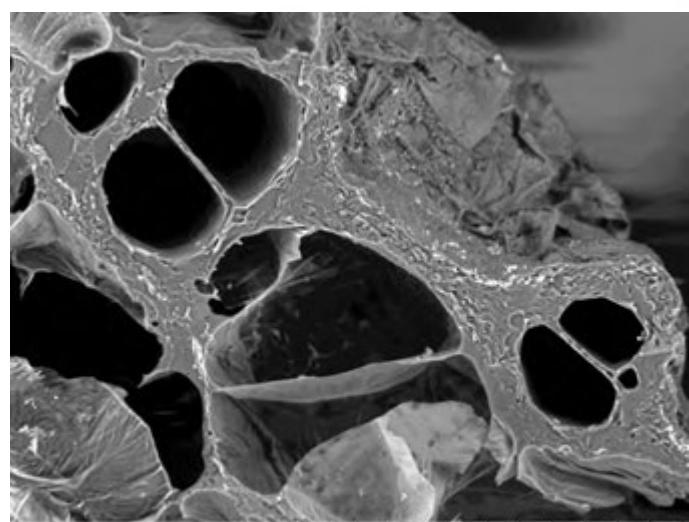


5006-04P11377 2016/12/08 13:36 L x1.5k 50 um



5006-04P11326

2016/12/08 11:26 L x1.0k 100 um

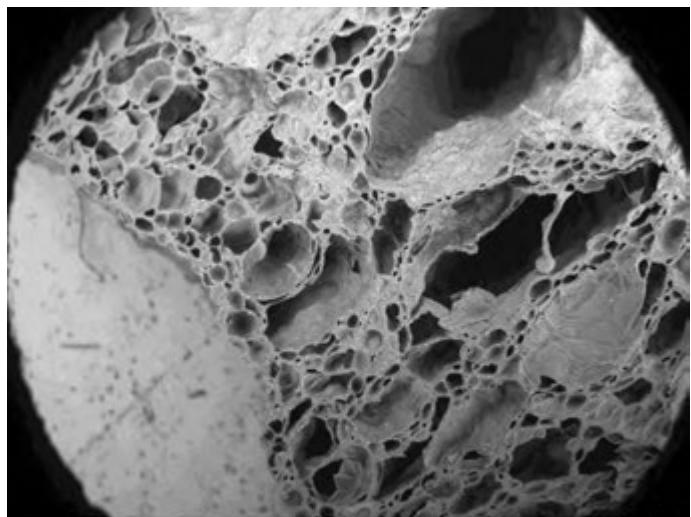


5006-04P11324 2016/12/08 11:24 L x500 200 um

Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Charred

Tangential

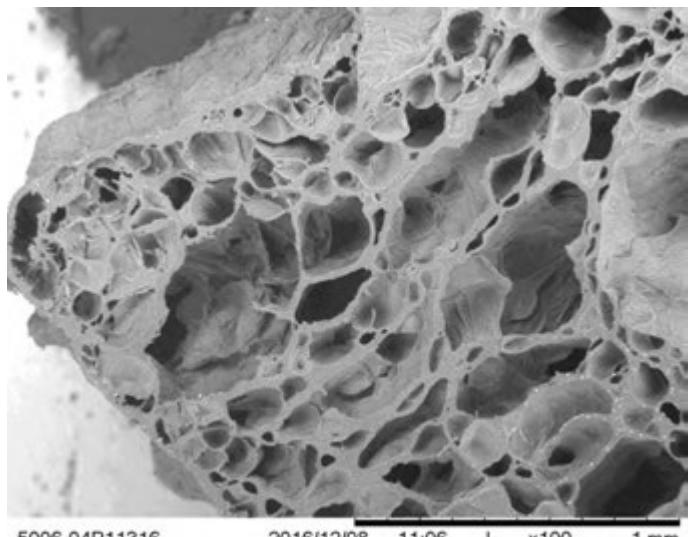


5006-04P11312

2016/12/08 10:57 L x50 2 mm

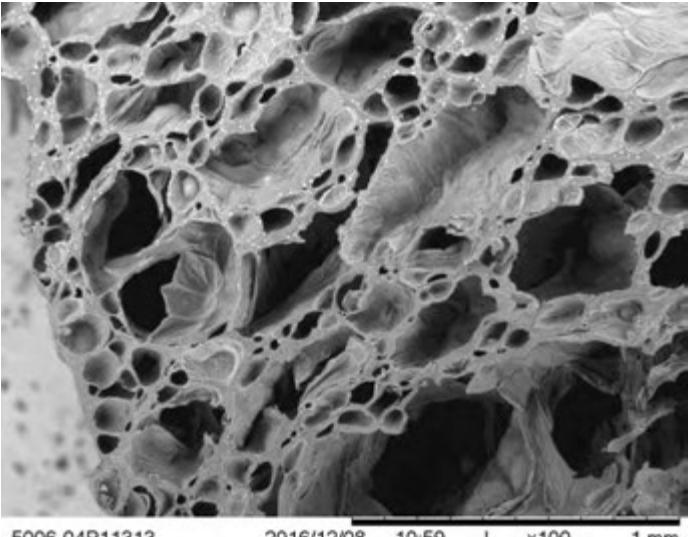


5006-04P11311 2016/12/08 10:56 L x50 2 mm

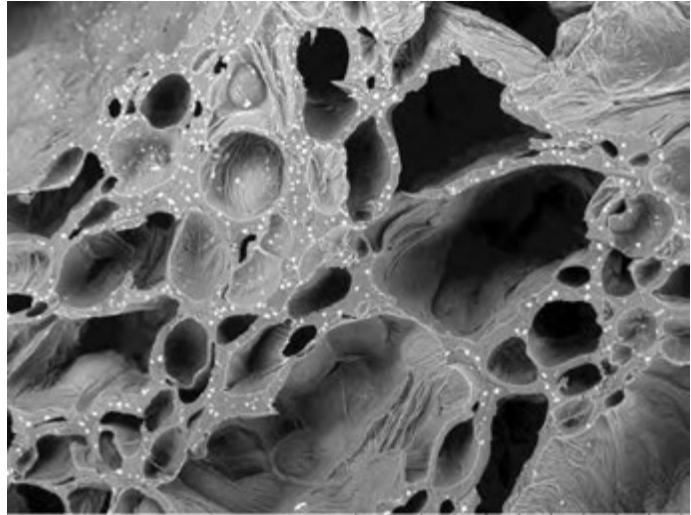


5006-04P11316

2016/12/08 11:06 L x100 1 mm

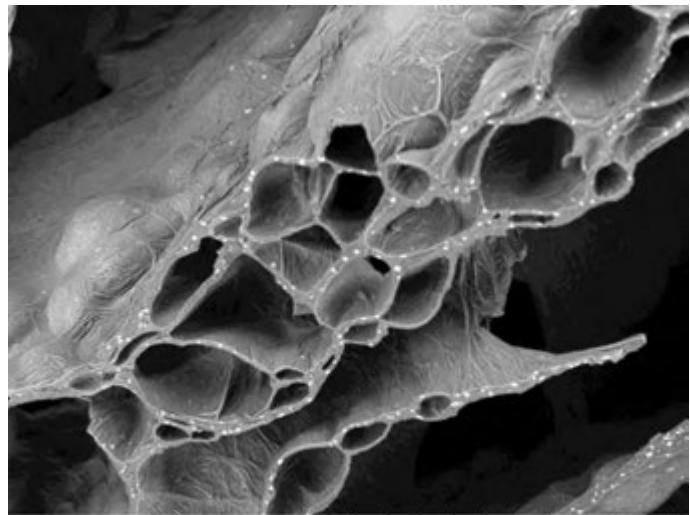


5006-04P11313 2016/12/08 10:59 L x100 1 mm



5006-04P11315

2016/12/08 11:04 L x200 500 um

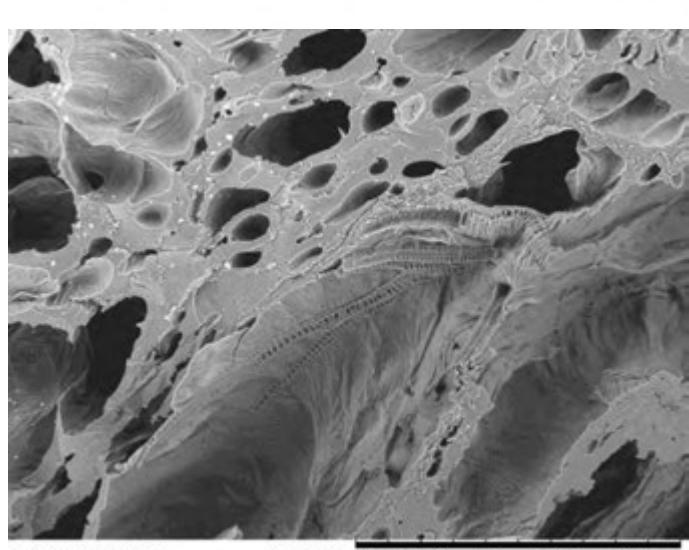
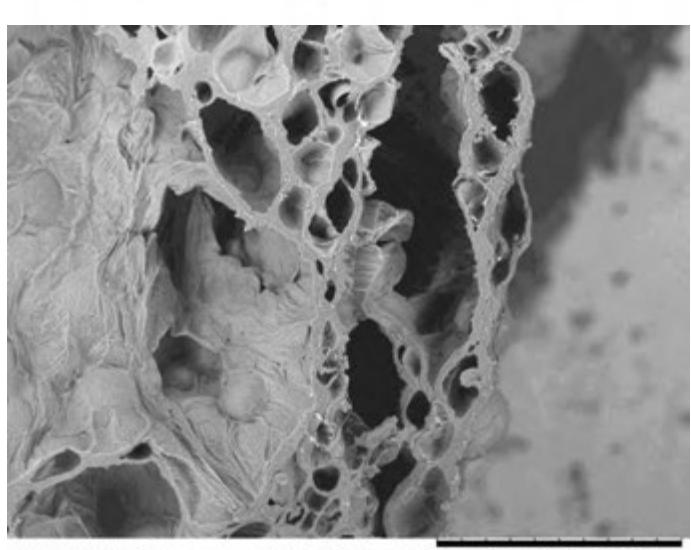
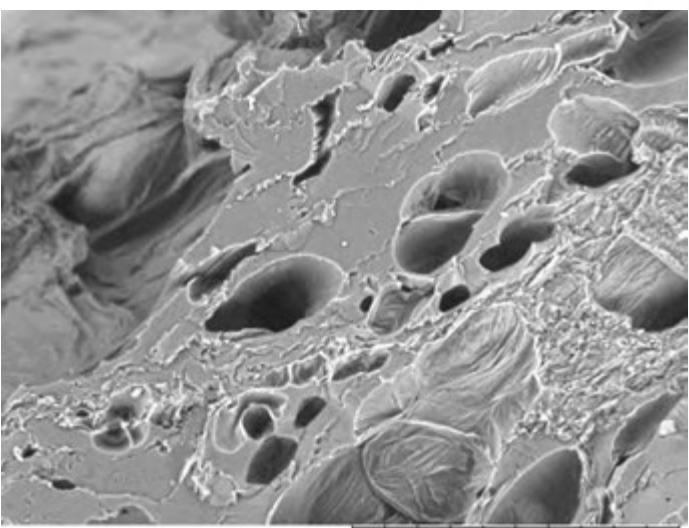
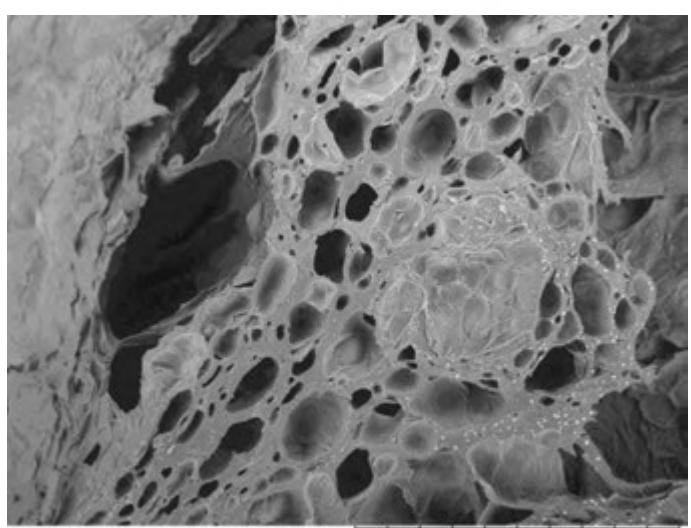
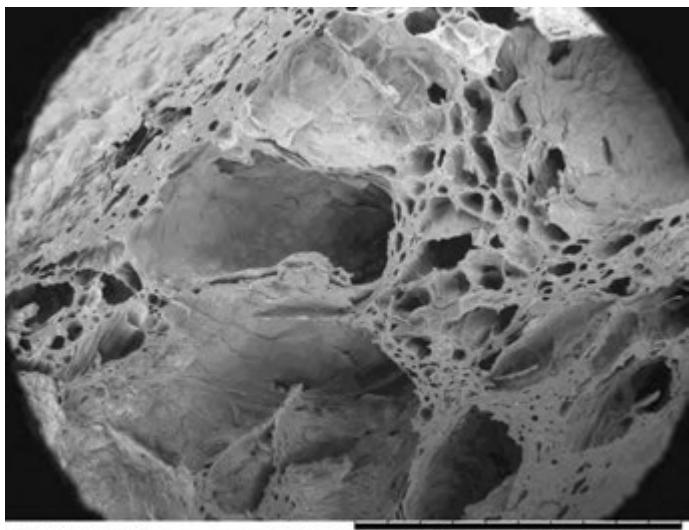
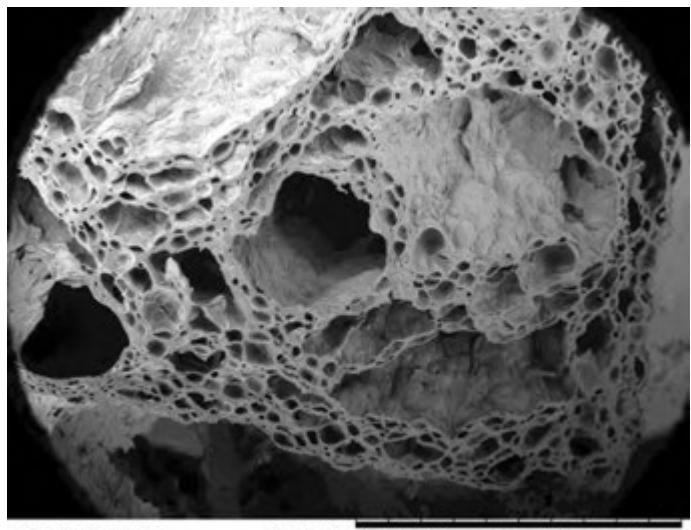


5006-04P11314 2016/12/08 11:01 L x200 500 um

Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Charred

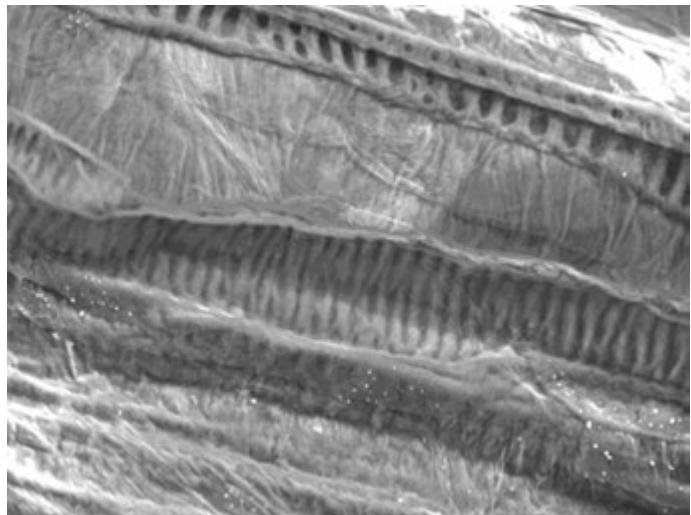
Transverse



Solanum
SOLANACEAE

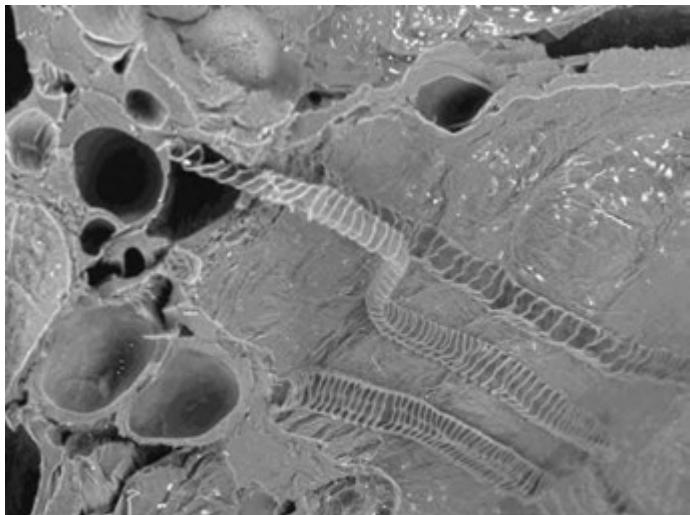
Common Name: Papa
Sample Type: Charred

Transverse (Xylem)

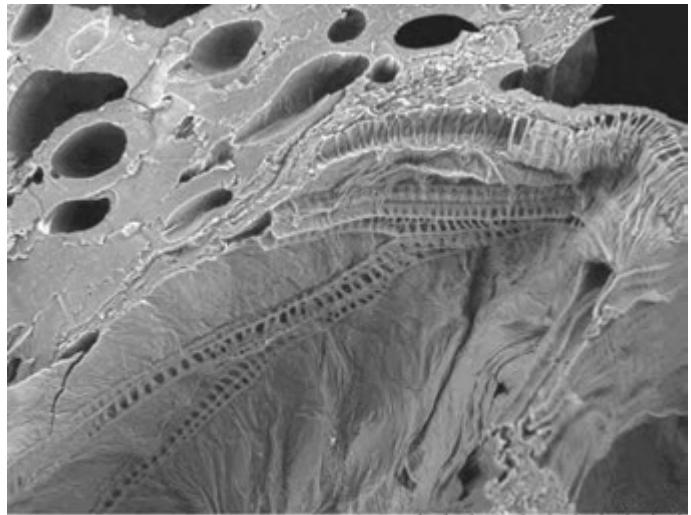


5006-04P11334

2016/12/08 11:46 L x1.2k 50 um

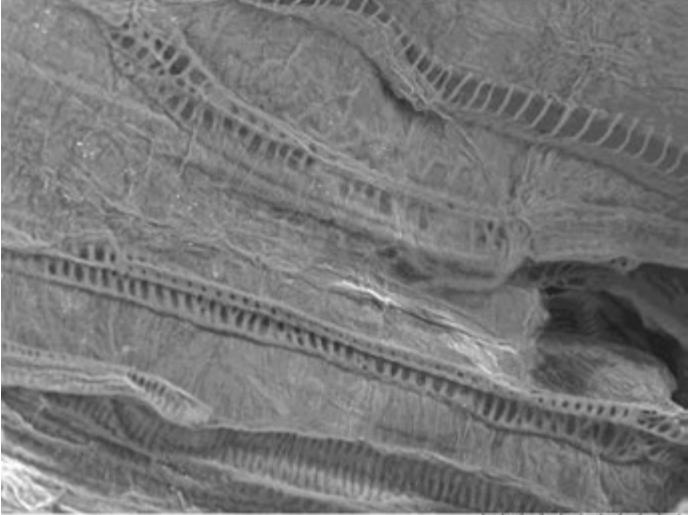


5006-04P11330 2016/12/08 11:40 L x400 200 um

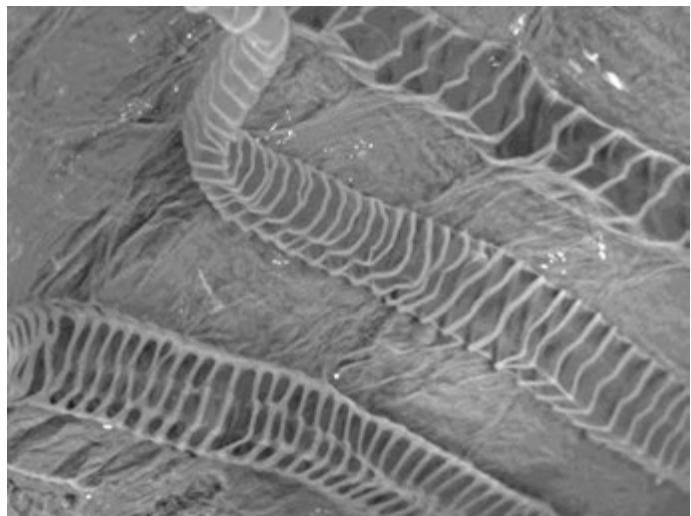


5006-04P11339

2016/12/08 11:54 L x400 200 um

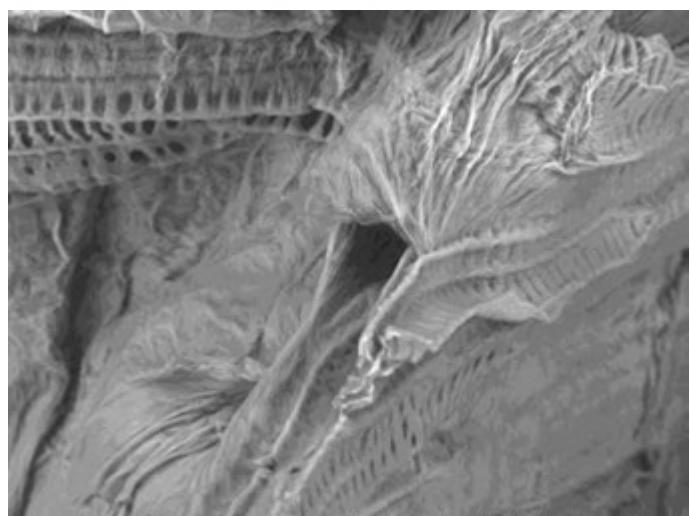


5006-04P11333 2016/12/08 11:45 L x600 100 um



5006-04P11332

2016/12/08 11:43 L x1.0k 100 um

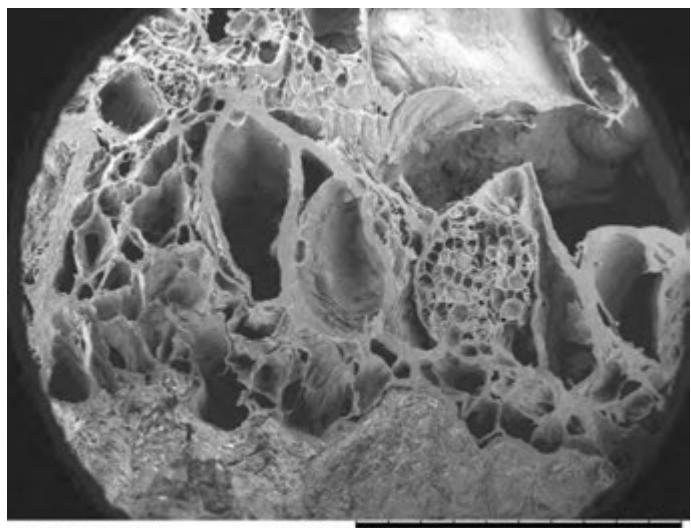


5006-04P11340 2016/12/08 11:57 L x1.0k 100 um

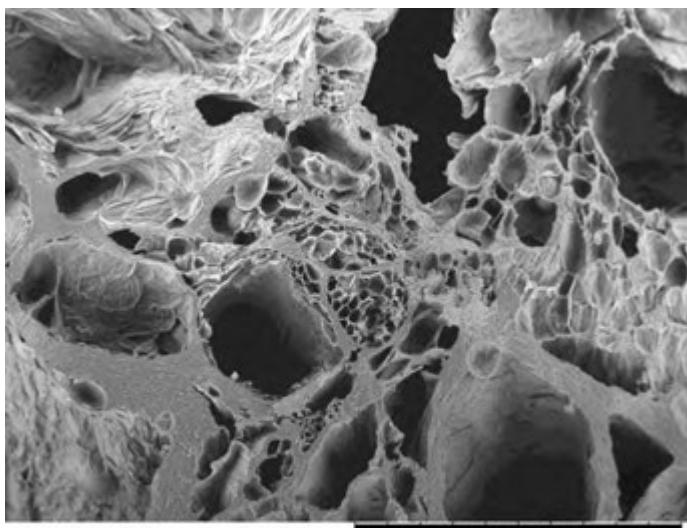
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Charred

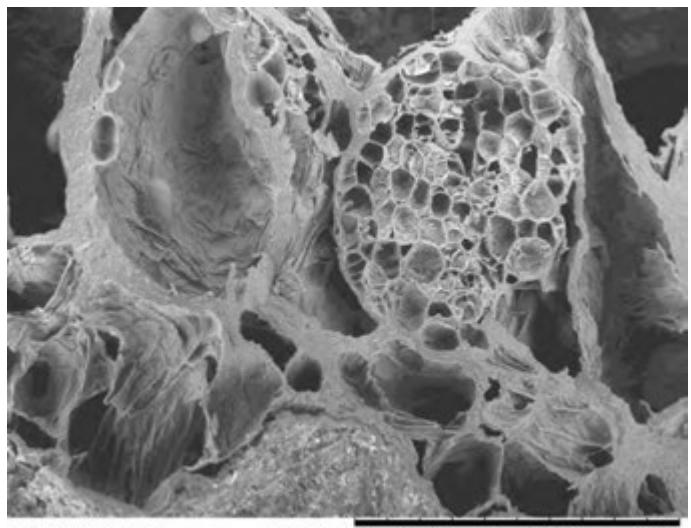
Tangential



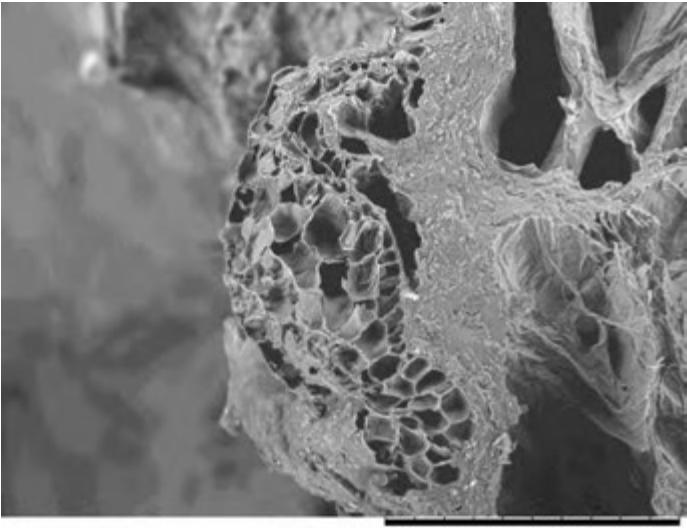
5006-04P11341 2016/12/08 12:07 L x50 2 mm



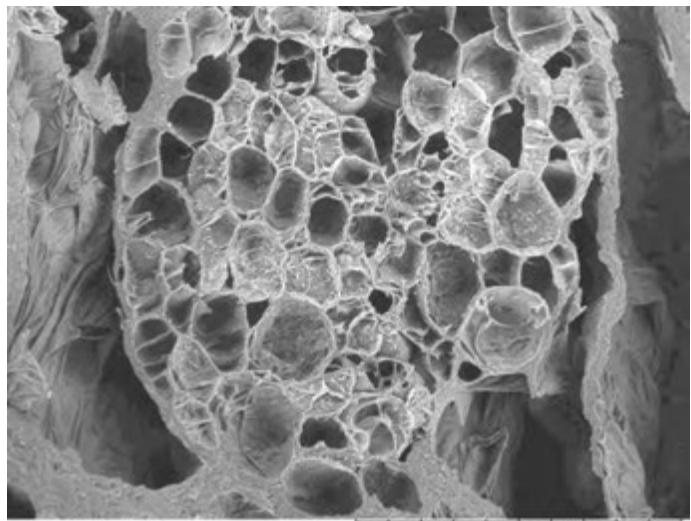
5006-04P11346 2016/12/08 12:14 L x100 1 mm



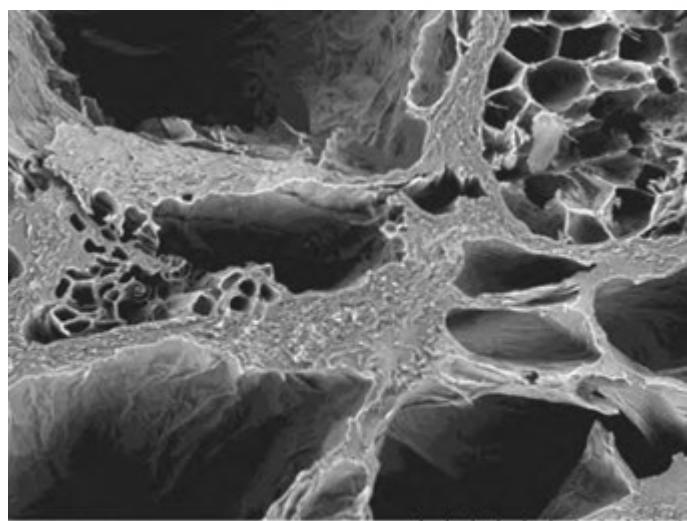
5006-04P11342 2016/12/08 12:08 L x100 1 mm



5006-04P11345 2016/12/08 12:12 L x180 500 μm



5006-04P11343 2016/12/08 12:09 L x200 500 μm

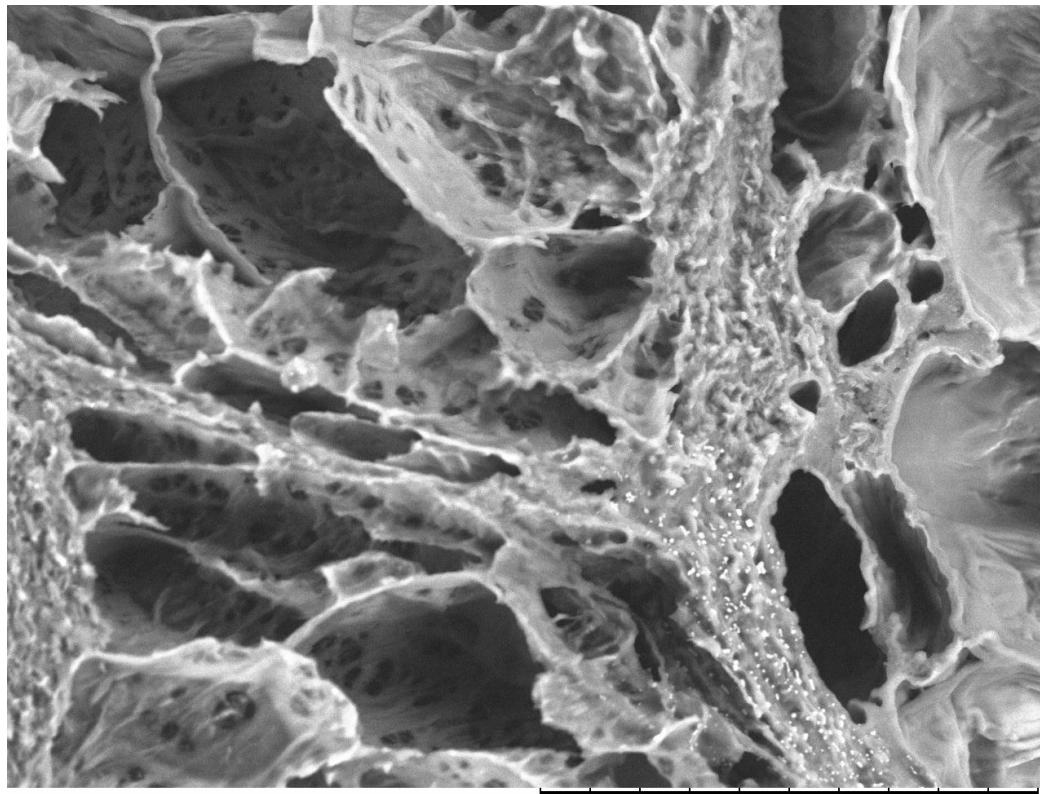


5006-04P11350 2016/12/08 12:19 L x400 200 μm

Tropaeolum tuberosum
TROPAEOLACEAE

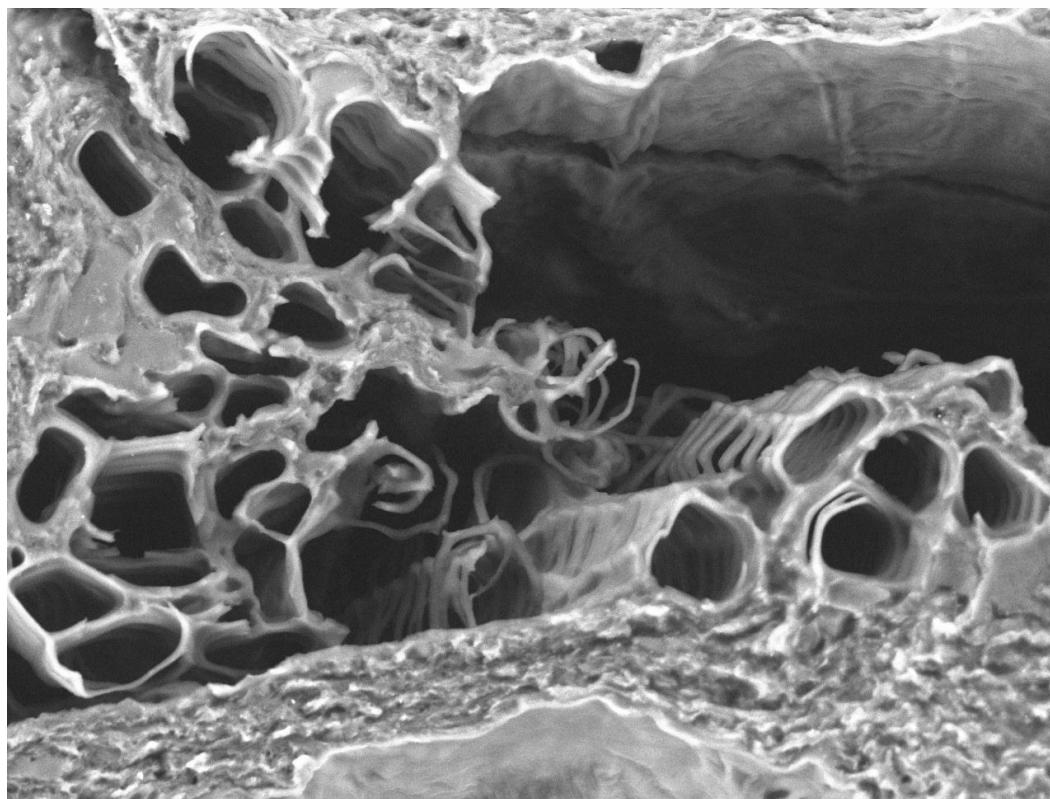
Common Name: Mashua
Sample Type: Charred

Tangential (Continued)



5006-04P11349

2016/12/08 12:18 L x1.0k 100 μm



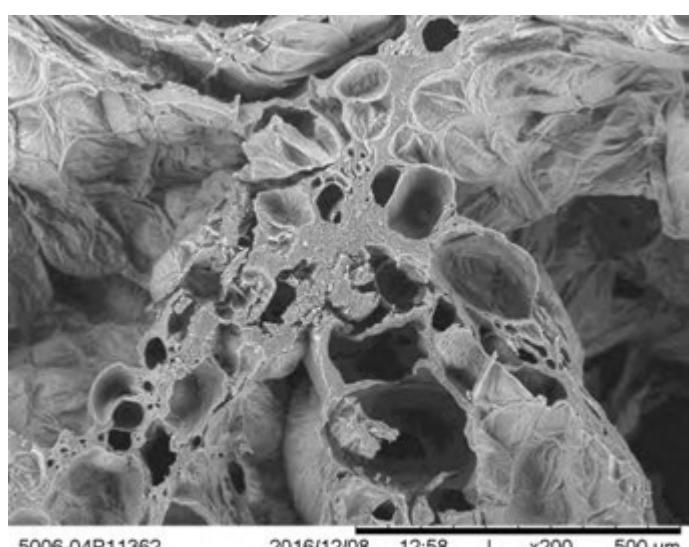
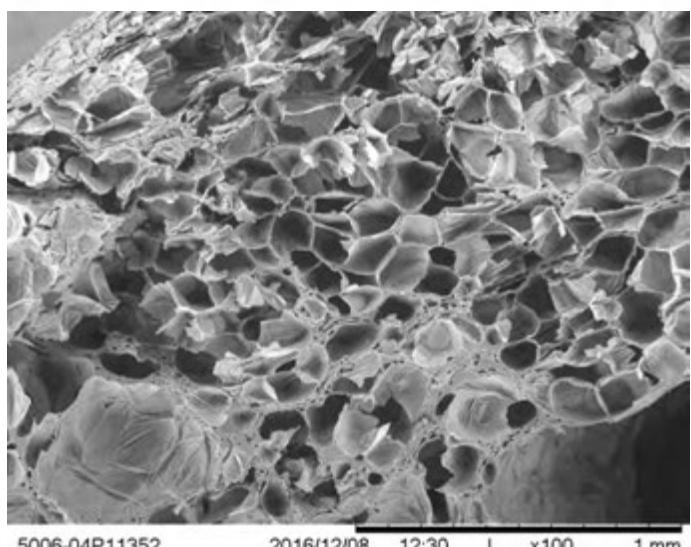
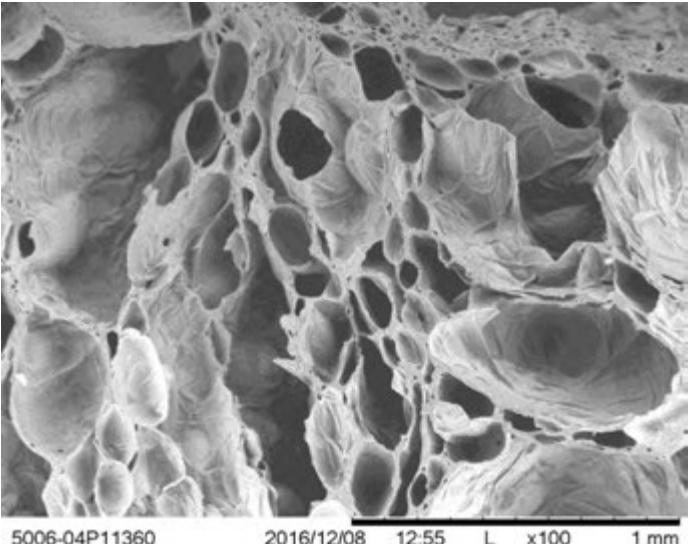
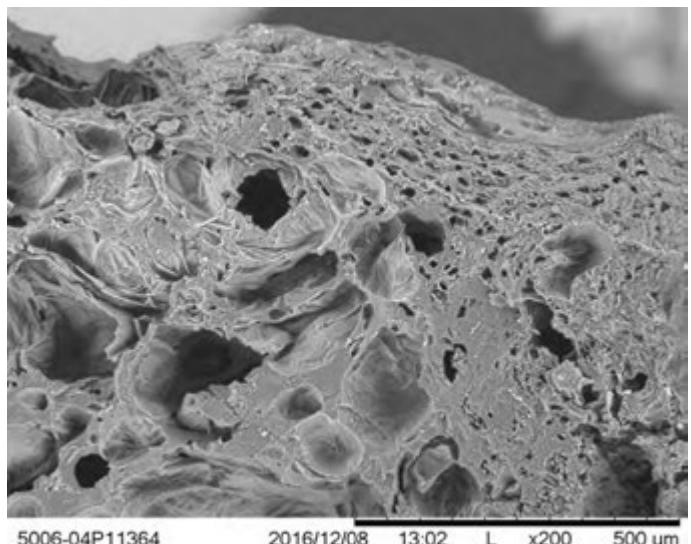
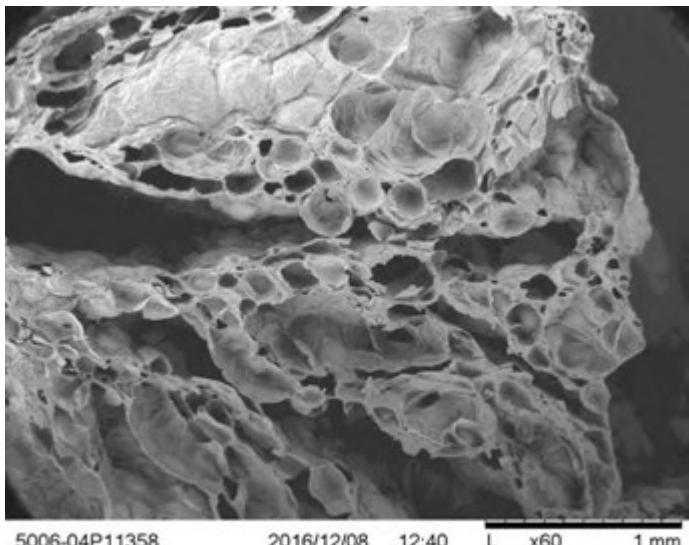
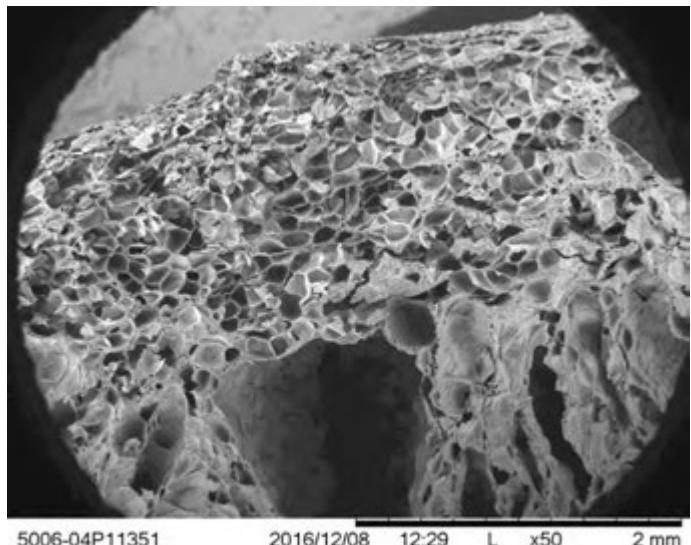
5006-04P11348

2016/12/08 12:16 L x1.2k 50 μm

Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Charred

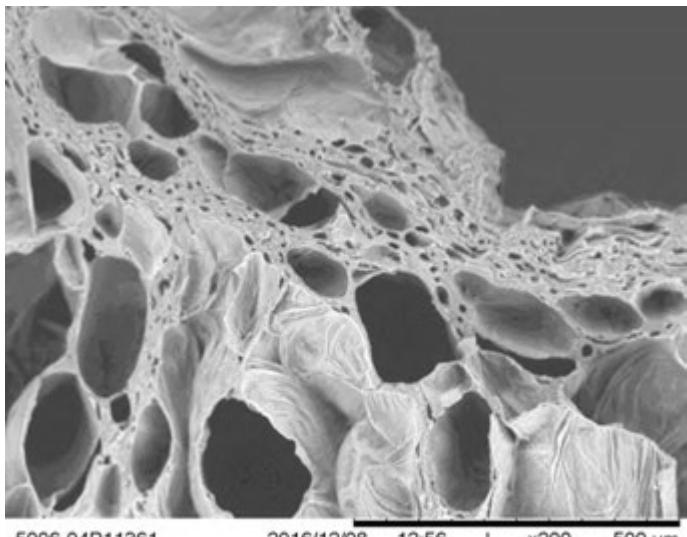
Transverse



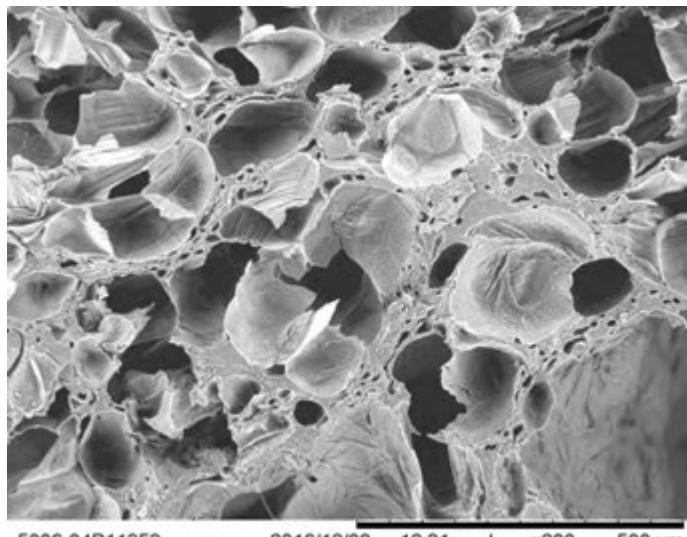
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Charred

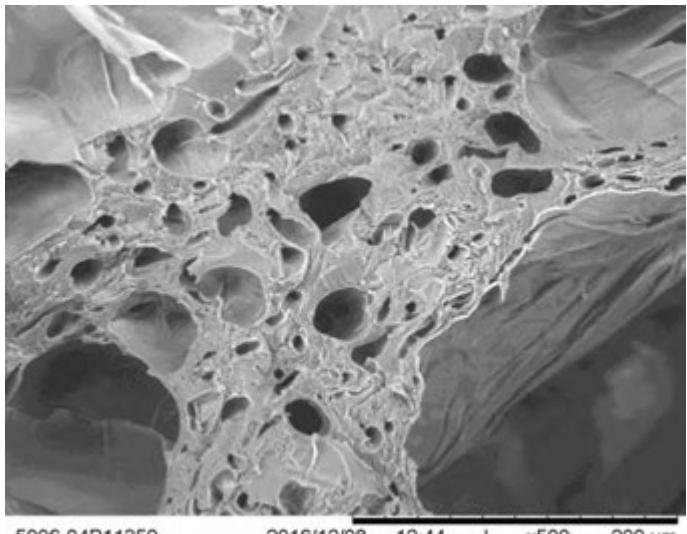
Transverse (Continued)



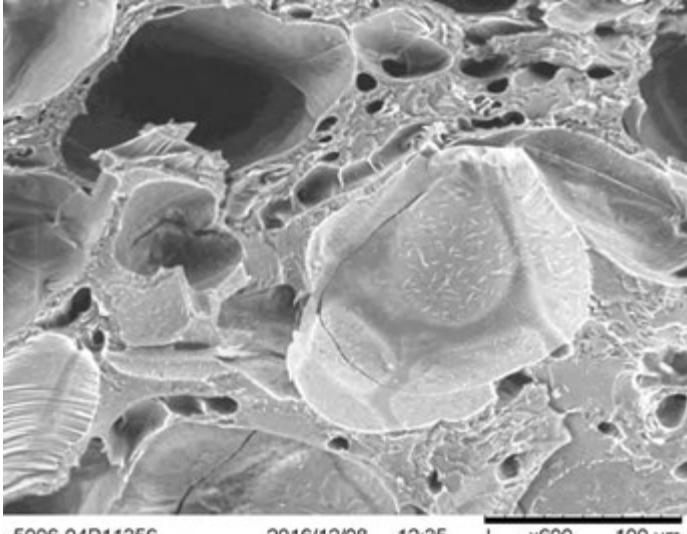
5006-04P11361 2016/12/08 12:56 L x200 500 um



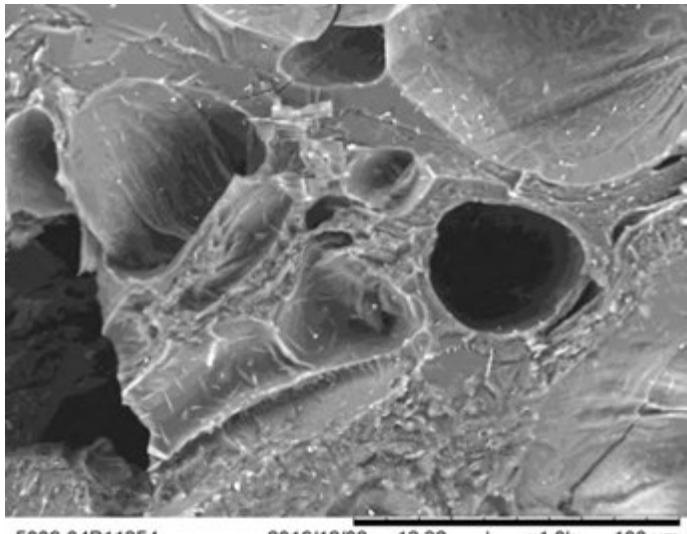
5006-04P11353 2016/12/08 12:31 L x200 500 um



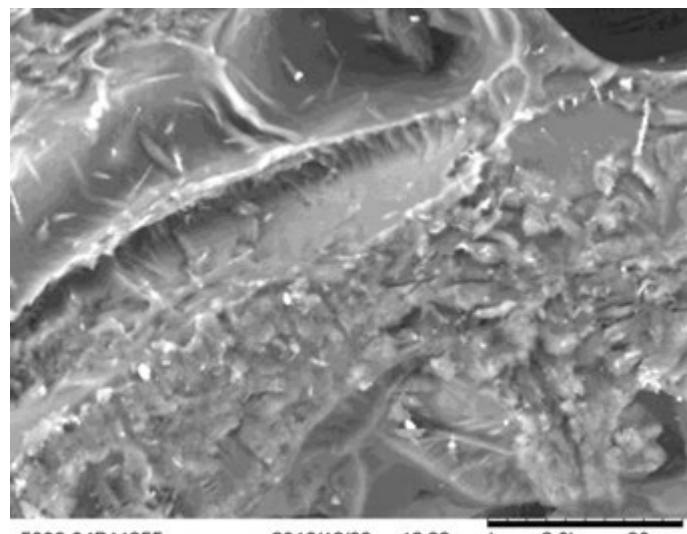
5006-04P11359 2016/12/08 12:44 L x500 200 um



5006-04P11356 2016/12/08 12:35 L x600 100 um



5006-04P11354 2016/12/08 12:32 L x1.0k 100 um

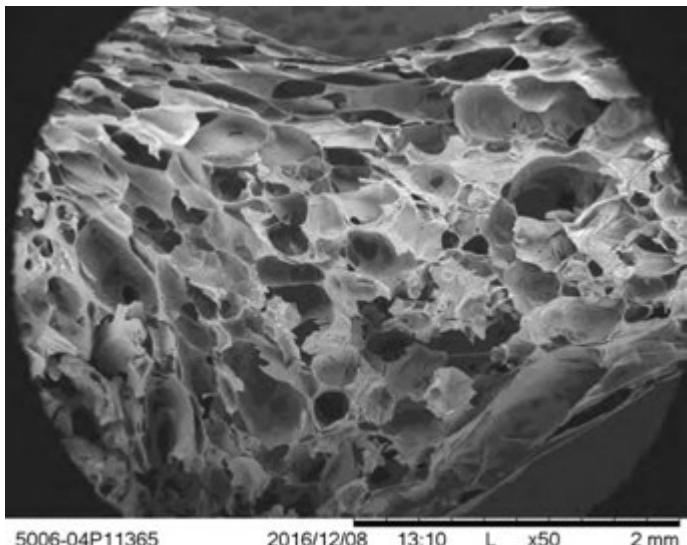


5006-04P11355 2016/12/08 12:33 L x2.0k 30 um

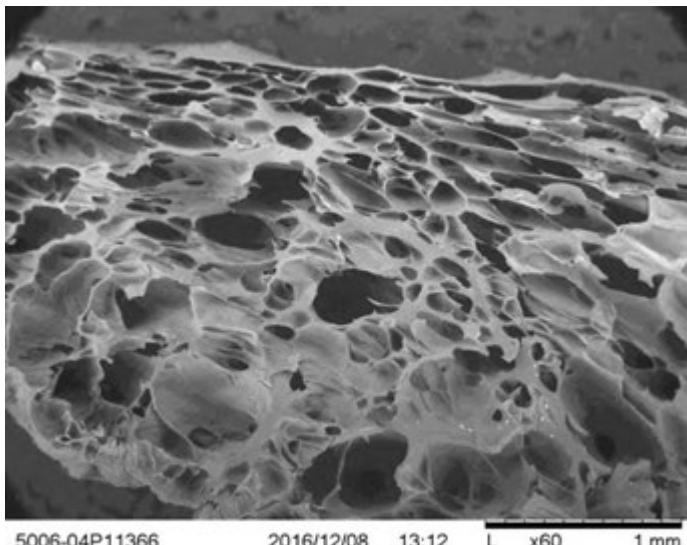
Ullucus tuberosus
BASELLACEAE

Common Name: Papalisa/Ollucu
Sample Type: Charred

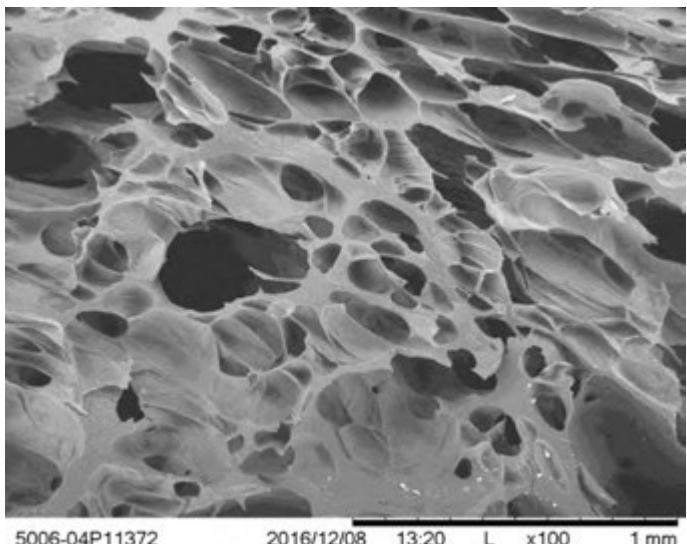
Tangential



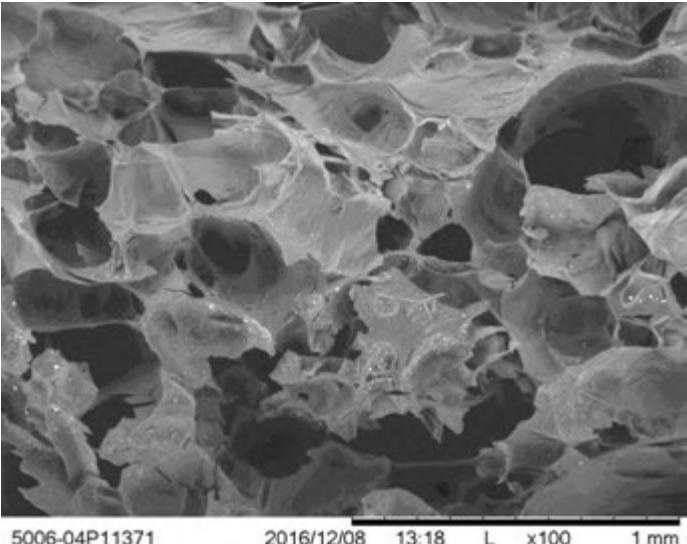
5006-04P11365 2016/12/08 13:10 L x50 2 mm



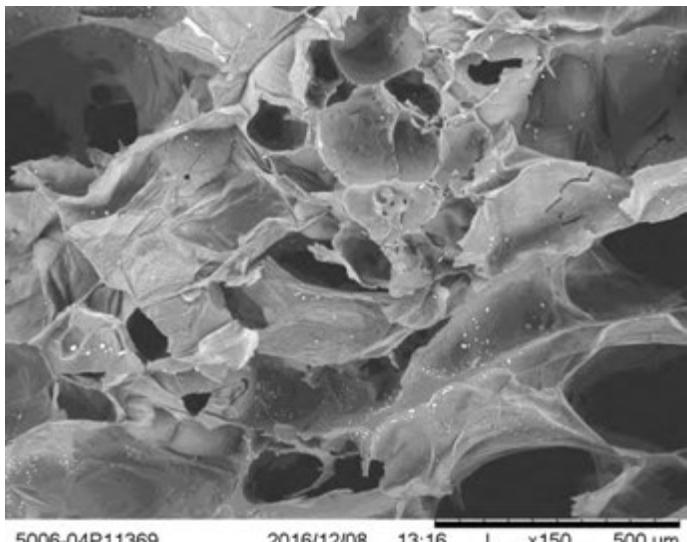
5006-04P11366 2016/12/08 13:12 L x60 1 mm



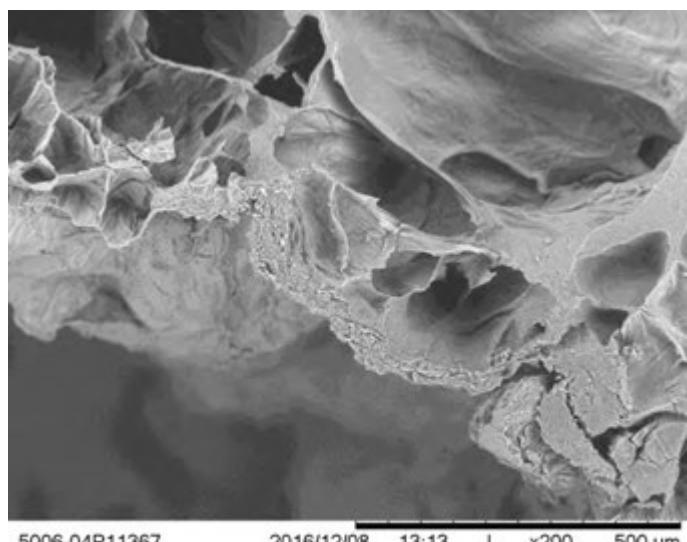
5006-04P11372 2016/12/08 13:20 L x100 1 mm



5006-04P11371 2016/12/08 13:18 L x100 1 mm



5006-04P11369 2016/12/08 13:16 L x150 500 um

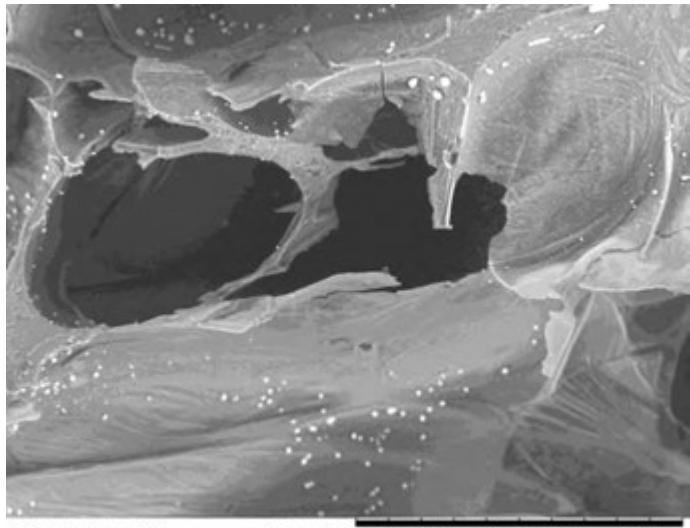


5006-04P11367 2016/12/08 13:13 L x200 500 um

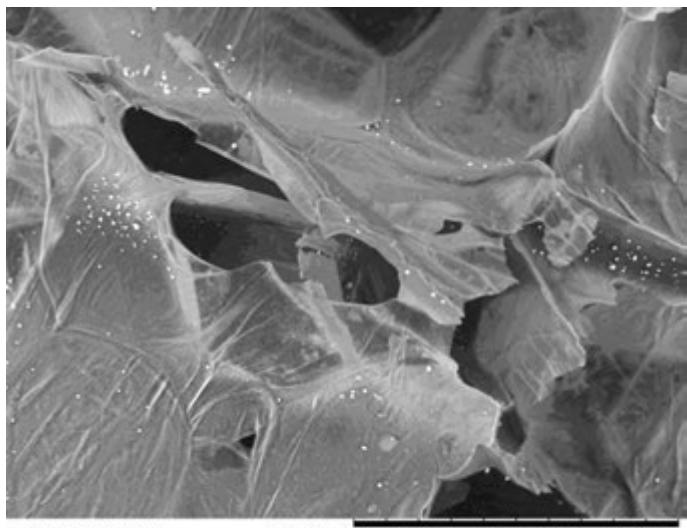
Ullucus tuberosus
BASELLACEAE

Common Name: Papalisa/Ollucu
Sample Type: Charred

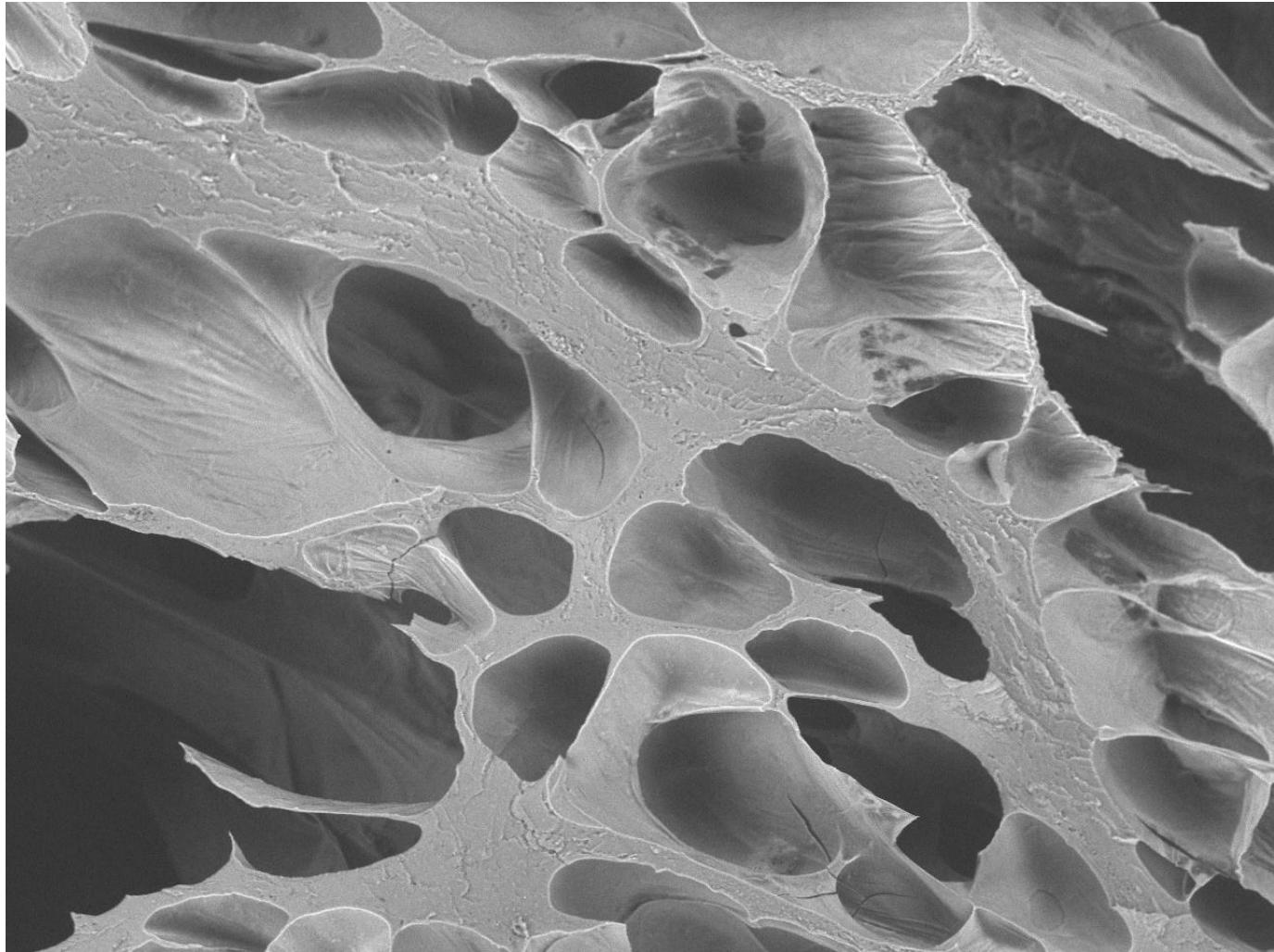
Tangential (Continued)



5006-04P11370 2016/12/08 13:17 L x500 200 µm



5006-04P11368 2016/12/08 13:15 L x500 200 µm



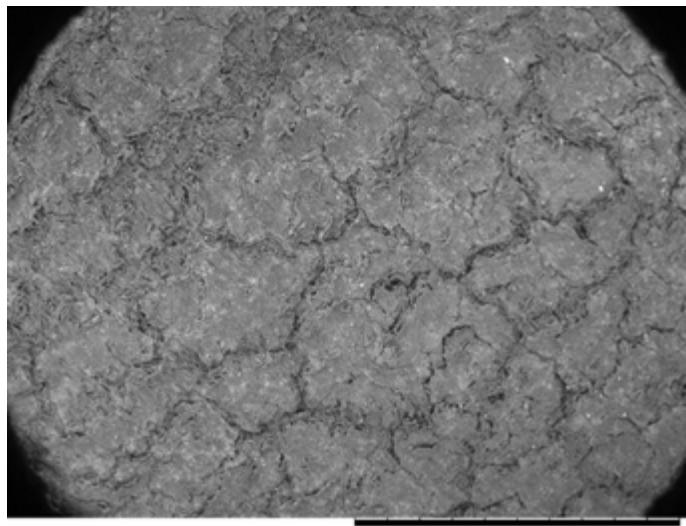
5006-04P11373 2016/12/08 13:21 L x250 300 µm

Specimen Surfaces

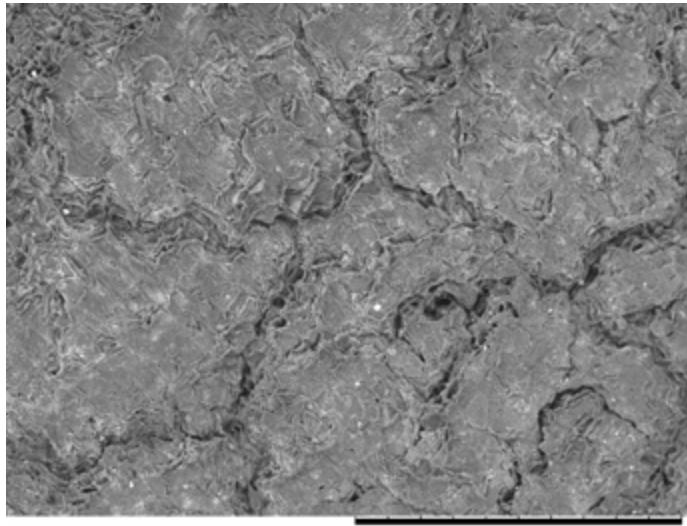
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Charred

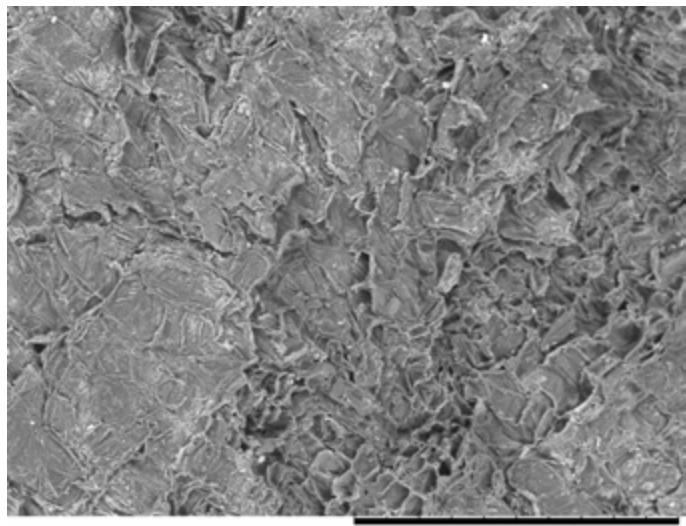
Exterior Surface



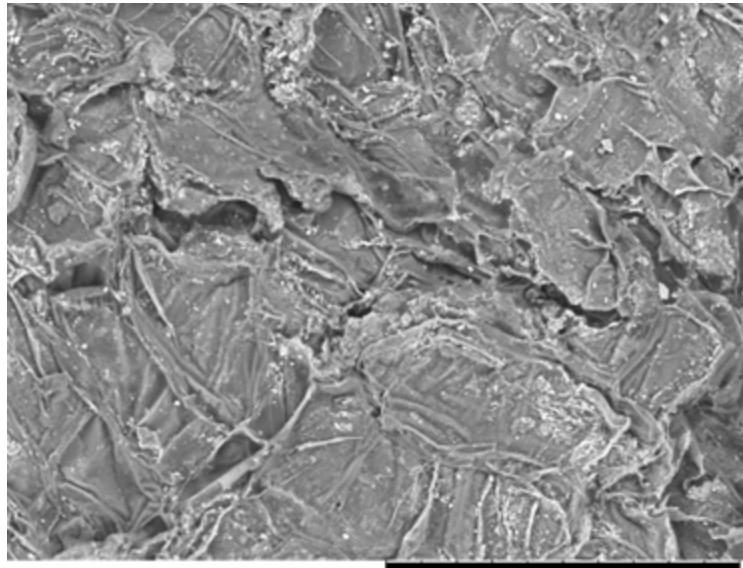
5006-04P11719 2016/12/20 14:14 L x50 2 mm



5006-04P11720 2016/12/20 14:15 L x100 1 mm



5006-04P11721 2016/12/20 14:16 L x200 500 um

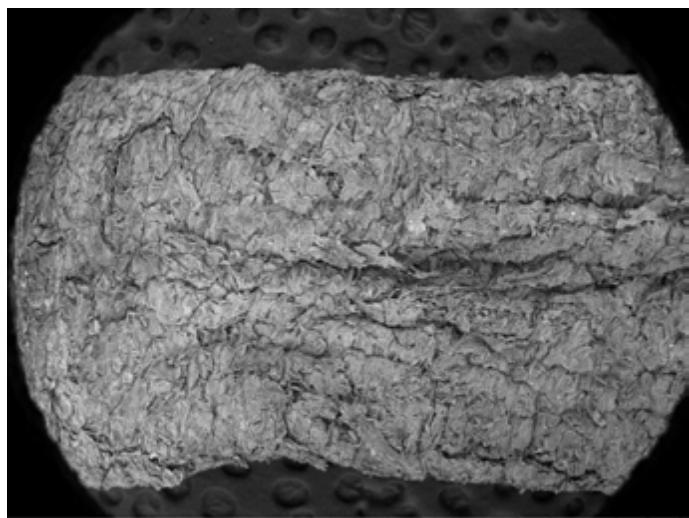


5006-04P11722 2016/12/20 14:17 L x500 200 um

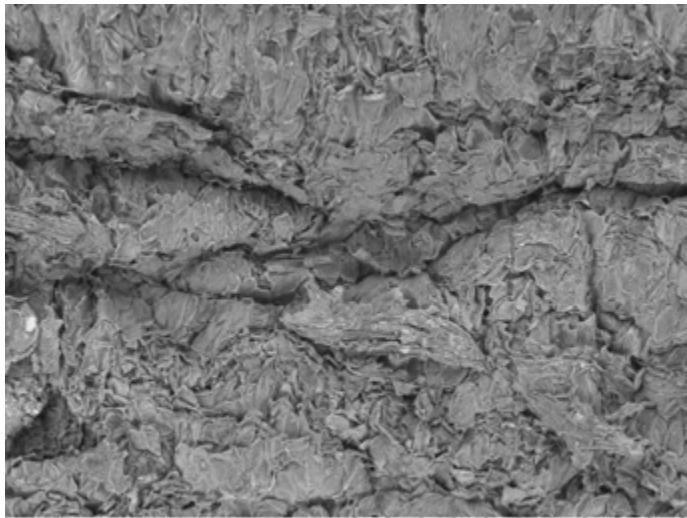
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Wet/Fresh

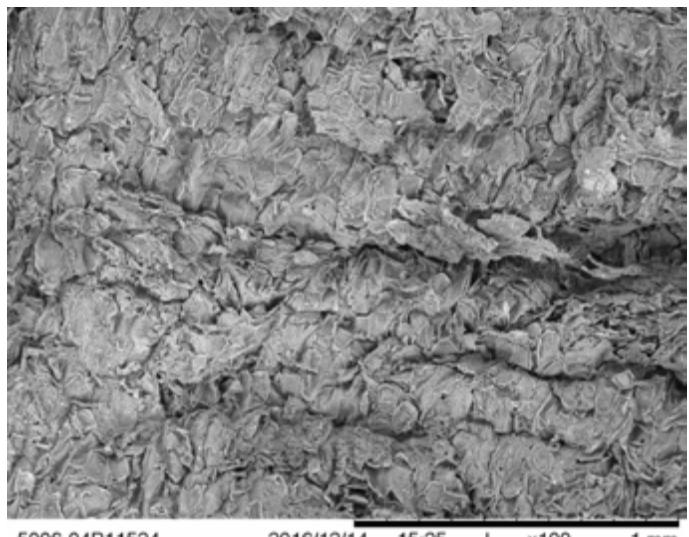
Exterior



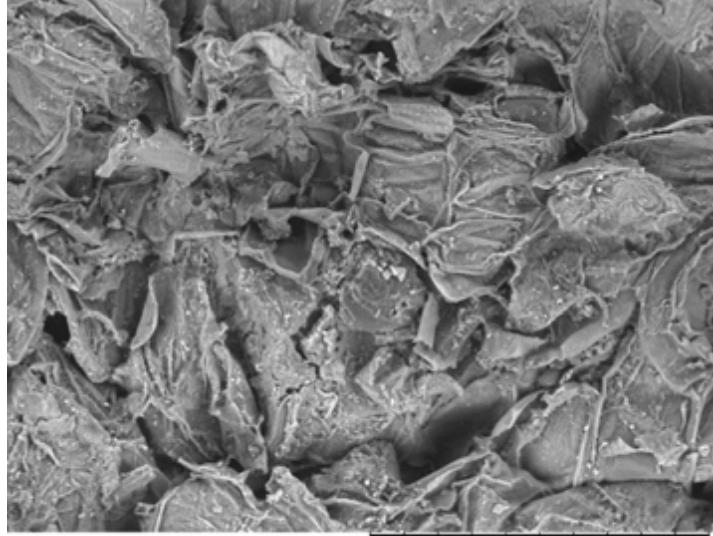
5006-04P11523 2016/12/14 15:24 L x50 2 mm



5006-04P11526 2016/12/14 15:27 L x100 1 mm



5006-04P11524 2016/12/14 15:25 L x100 1 mm

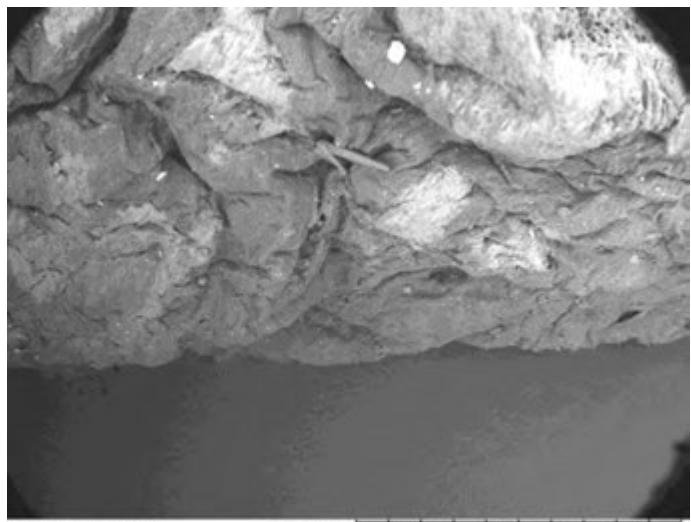


5006-04P11525 2016/12/14 15:26 L x500 200 um

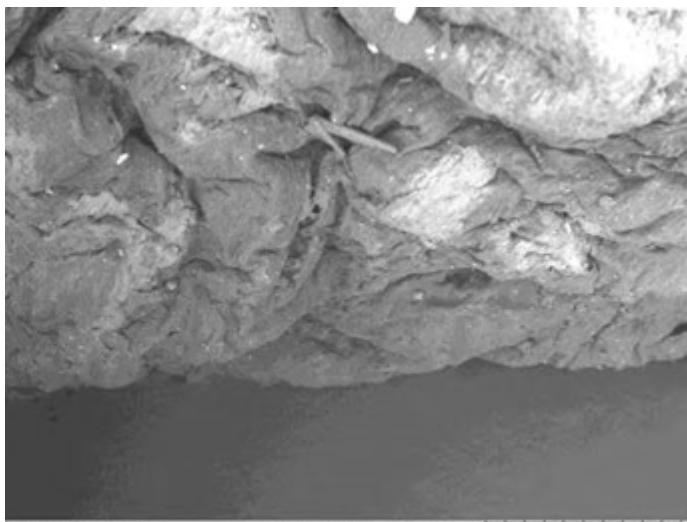
Lepidium meyenii
BRASSICACEAE

Common Name: Maca
Sample Type: Charred

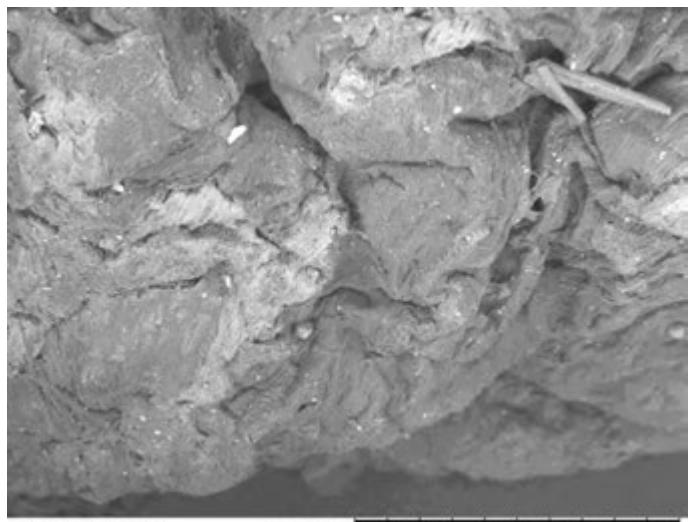
Exterior



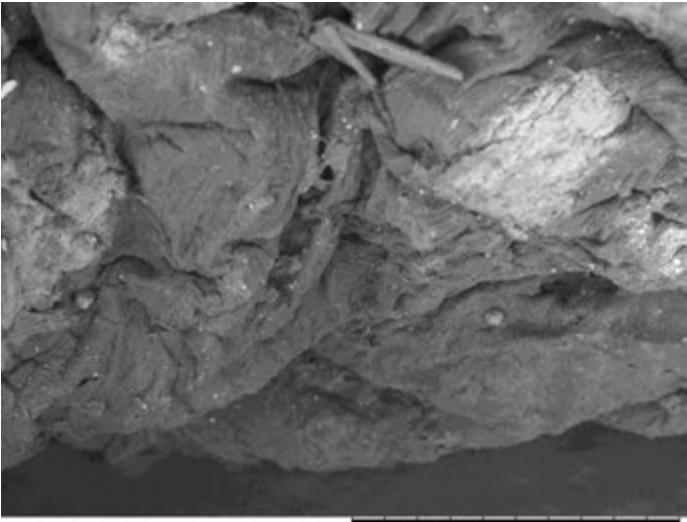
5006-04P11150 2016/12/06 13:39 L x50 2 mm



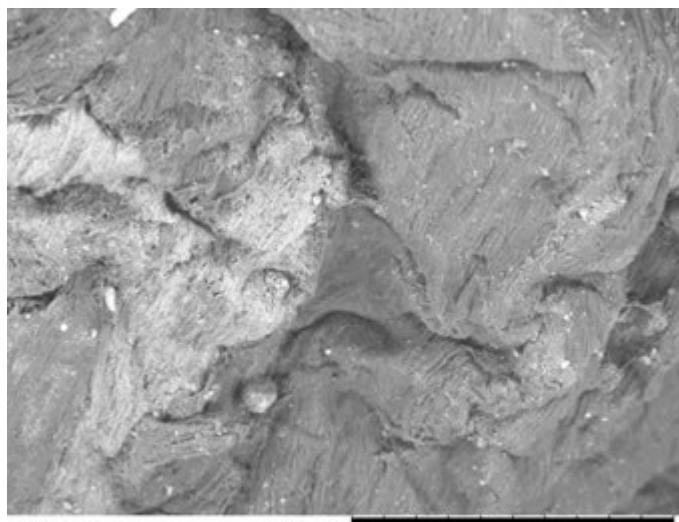
5006-04P11149 2016/12/06 13:39 L x60 1 mm



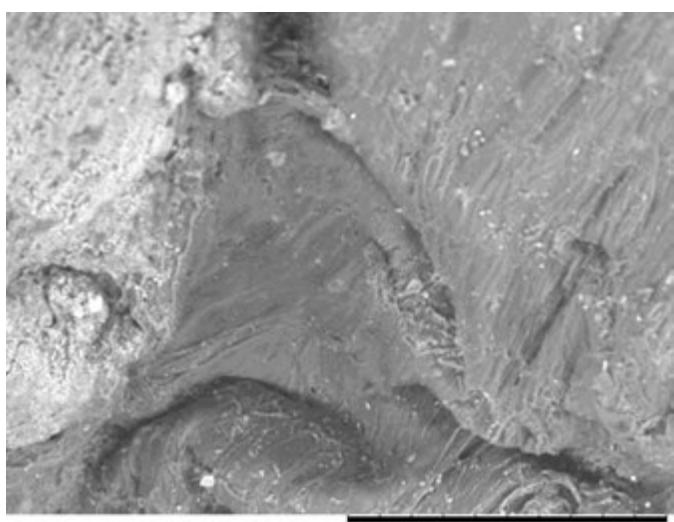
5006-04P11151 2016/12/06 13:41 L x100 1 mm



5006-04P11146 2016/12/06 13:35 L x100 1 mm



5006-04P11152 2016/12/06 13:42 L x200 500 um

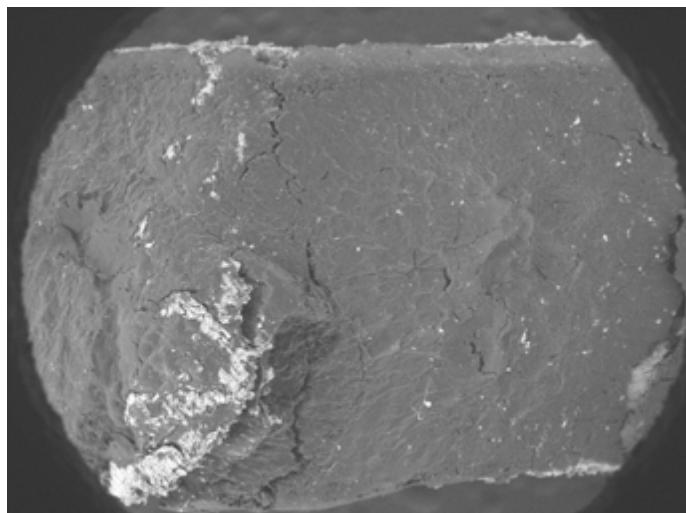


5006-04P11153 2016/12/06 13:43 L x500 200 um

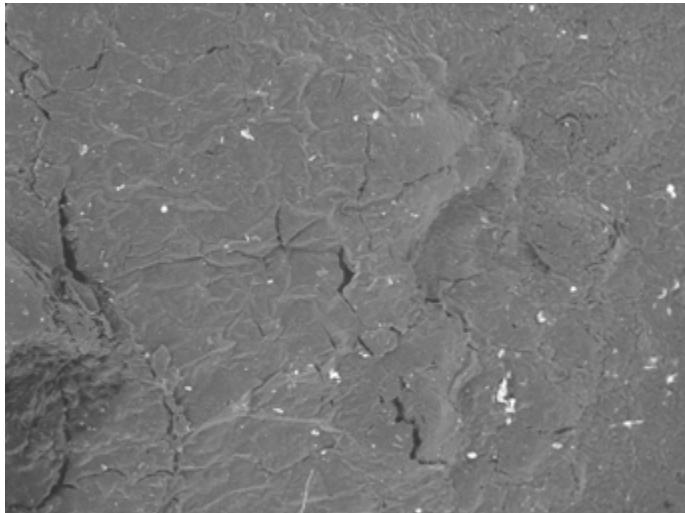
Manihot esculenta
EUPHORBIACEAE

Common Name: Manioc
Sample Type: Wet/Fresh

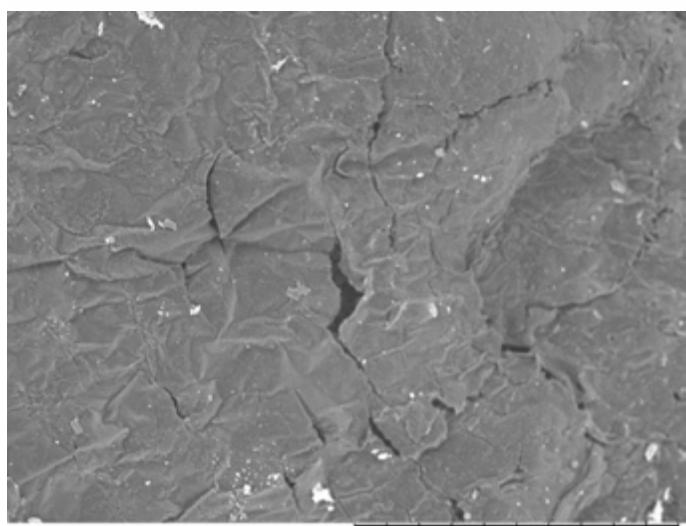
Exterior



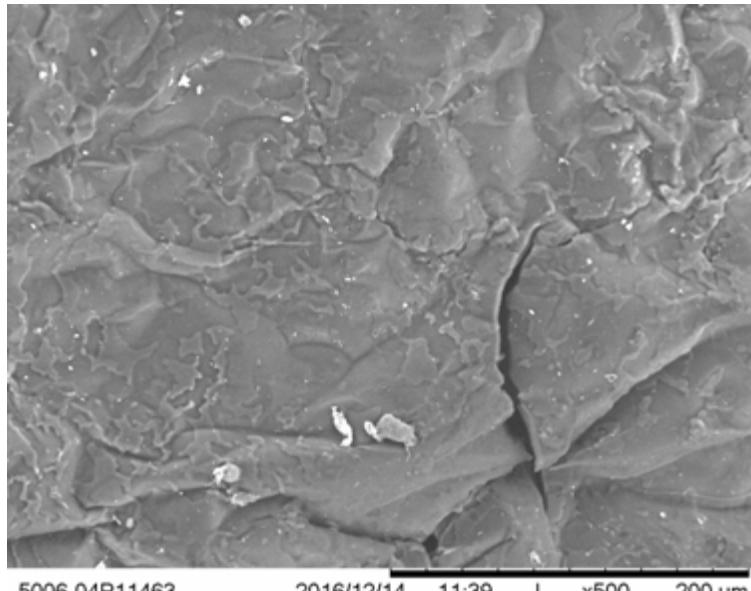
5006-04P11458 2016/12/14 11:34 L x50 2 mm



5006-04P11460 2016/12/14 11:36 L x100 1 mm



5006-04P11461 2016/12/14 11:37 L x200 500 μm

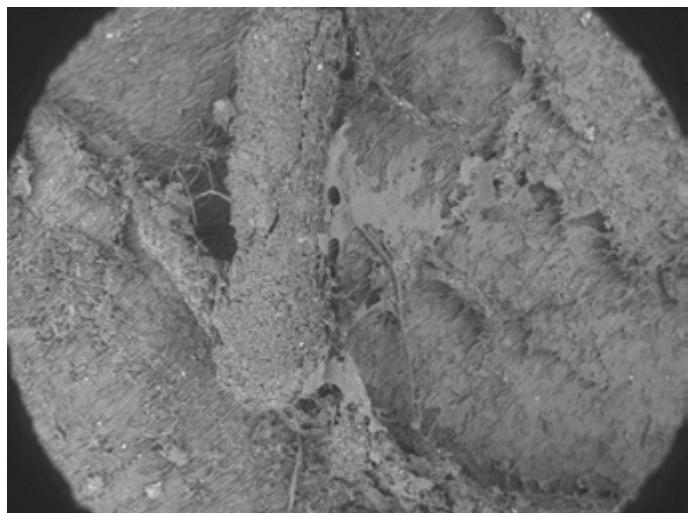


5006-04P11463 2016/12/14 11:39 L x500 200 μm

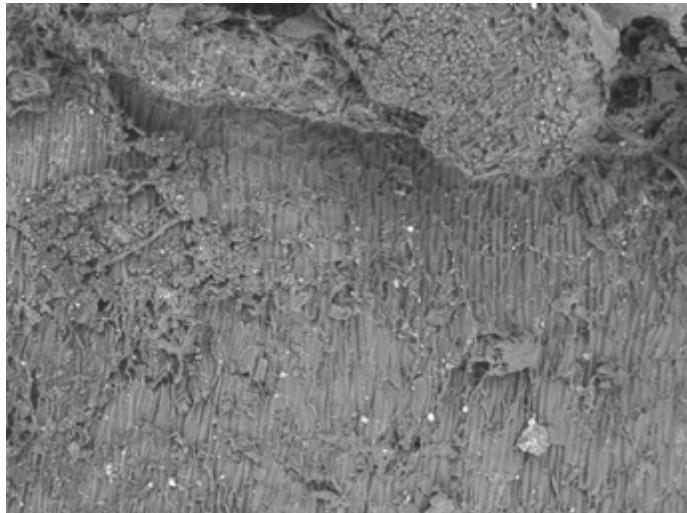
Manihot esculenta
EUPHORBIACEAE

Common Name: Manioc
Sample Type: Charred

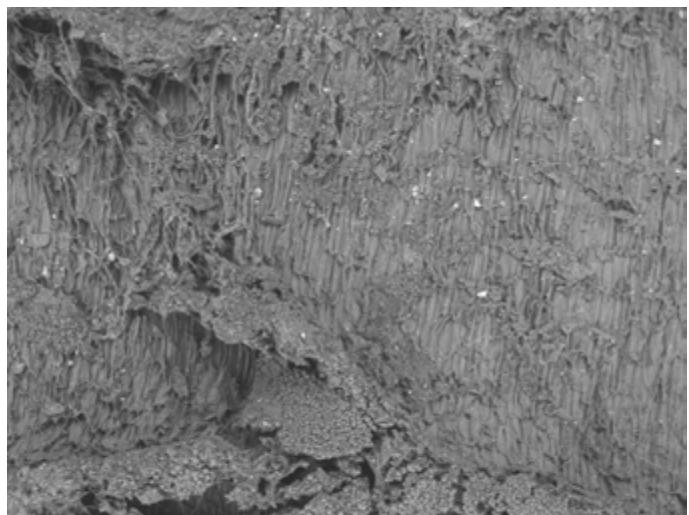
Exterior Surface



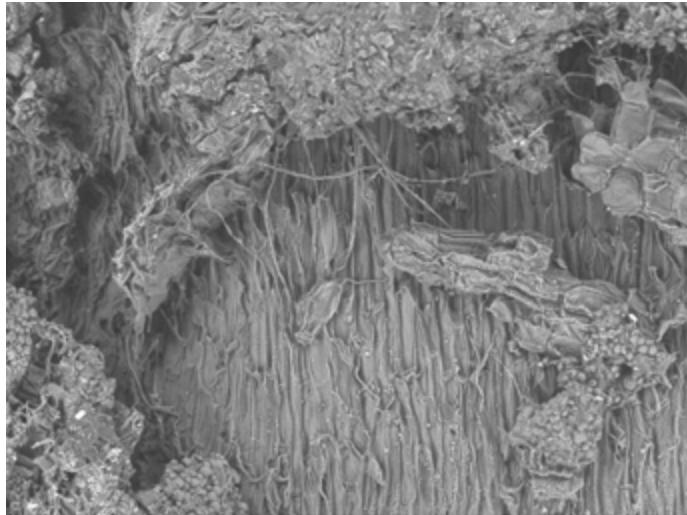
5006-04P11690 2016/12/20 13:12 L x50 2 mm



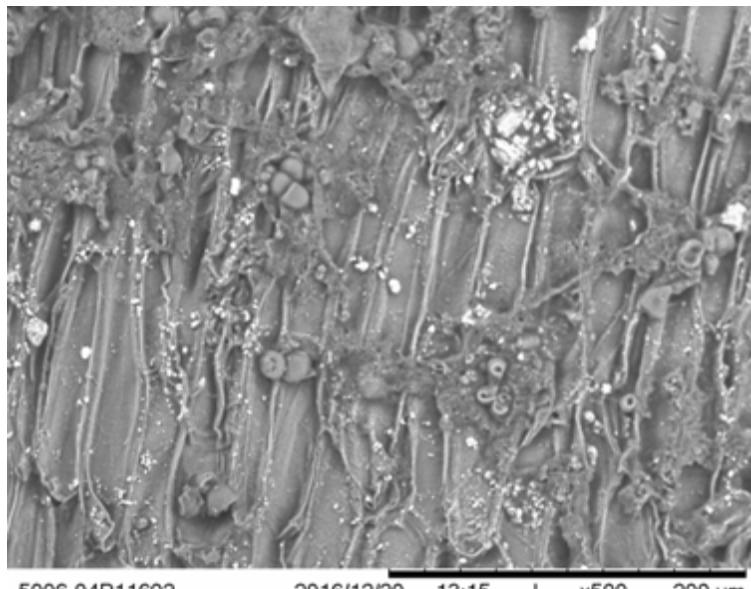
5006-04P11694 2016/12/20 13:18 L x100 1 mm



5006-04P11691 2016/12/20 13:14 L x100 1 mm



5006-04P11693 2016/12/20 13:17 L x200 500 um

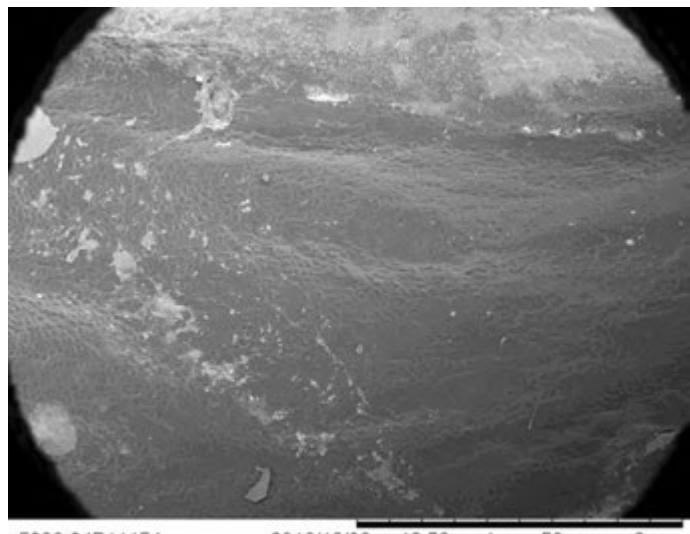


5006-04P11692 2016/12/20 13:15 L x500 200 um

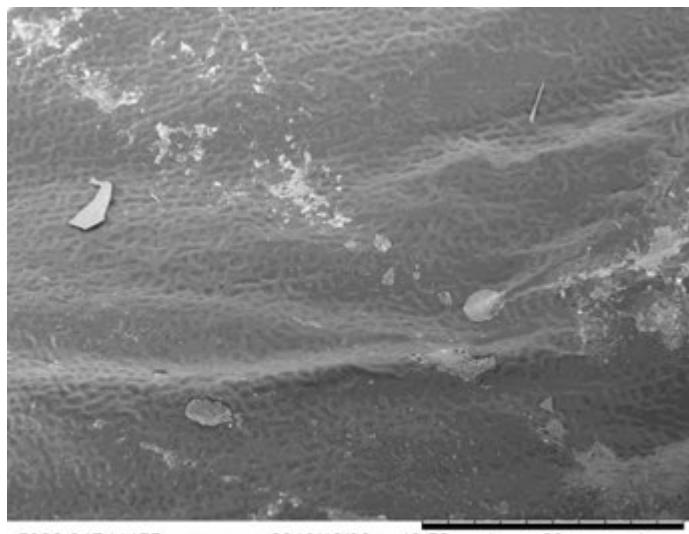
Oxalis *tuberosa*
OXALIDACEAE

Common Name: Oca
Sample Type: Charred

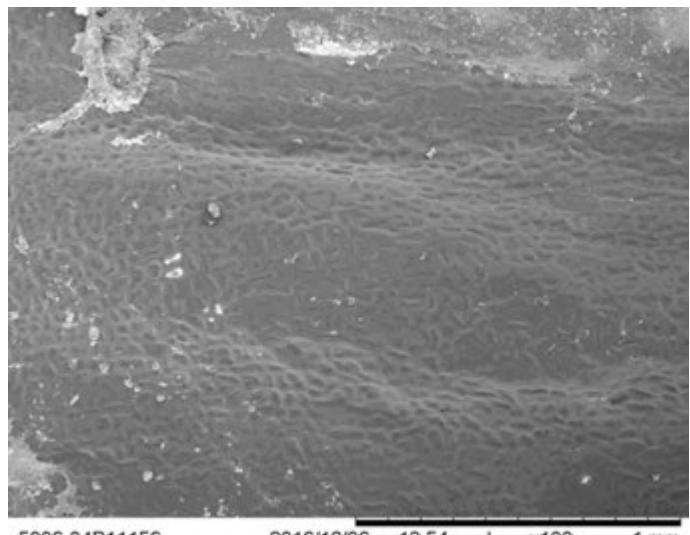
Exterior



5006-04P11154 2016/12/06 13:52 L x50 2 mm



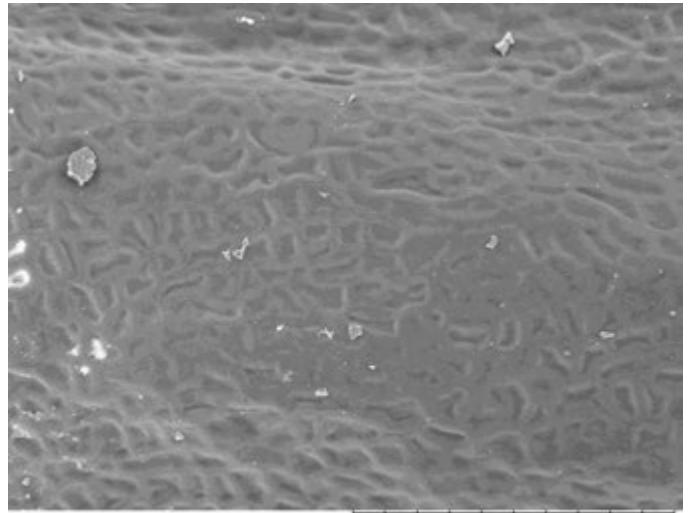
5006-04P11155 2016/12/06 13:53 L x80 1 mm



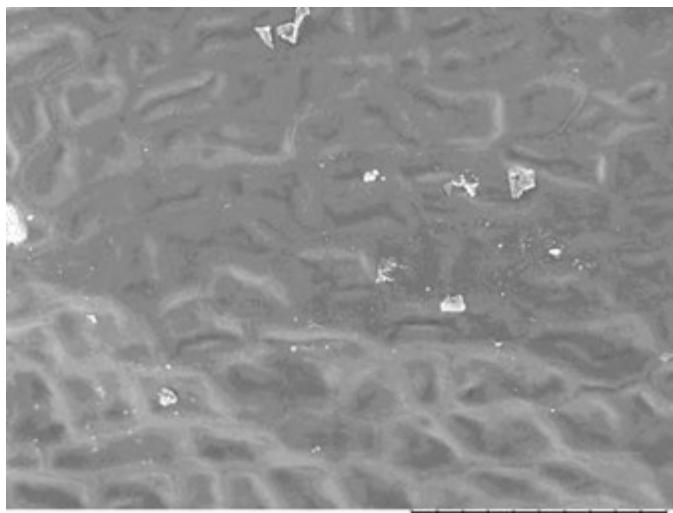
5006-04P11156 2016/12/06 13:54 L x100 1 mm



5006-04P11158 2016/12/06 13:57 L x200 500 µm



5006-04P11157 2016/12/06 13:56 L x200 500 µm

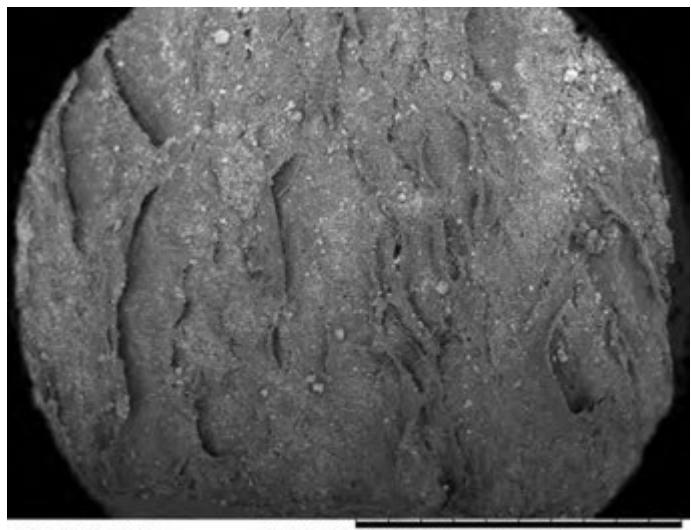


5006-04P11159 2016/12/06 13:58 L x400 200 µm

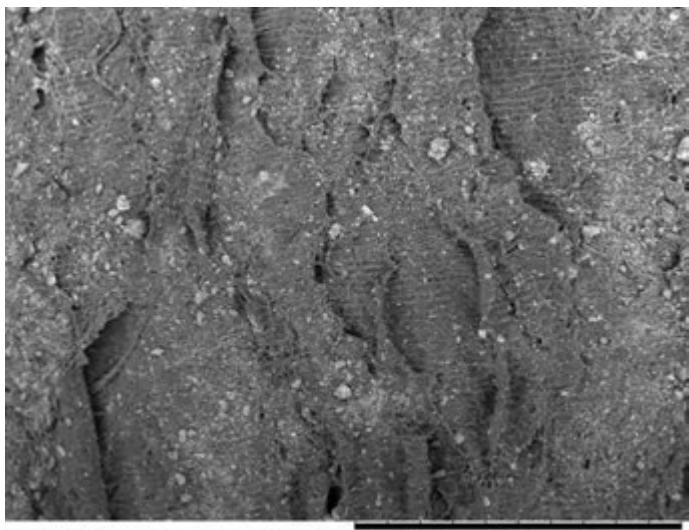
Pachyrhizus erosus
FABACEAE

Common Name: Jicama
Sample Type: Charred

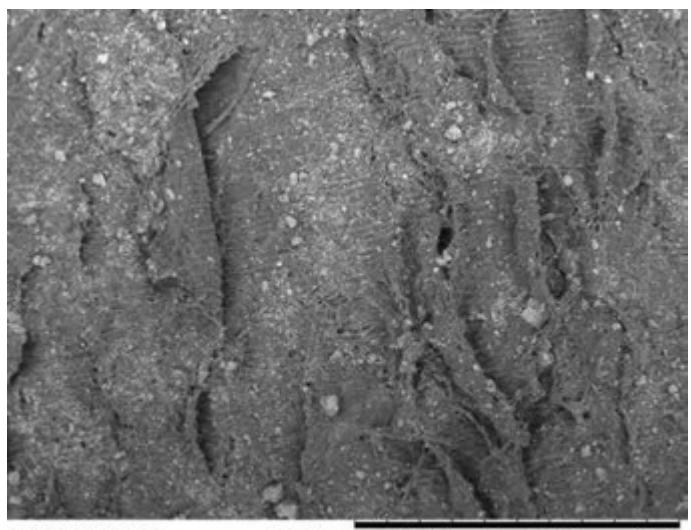
Exterior



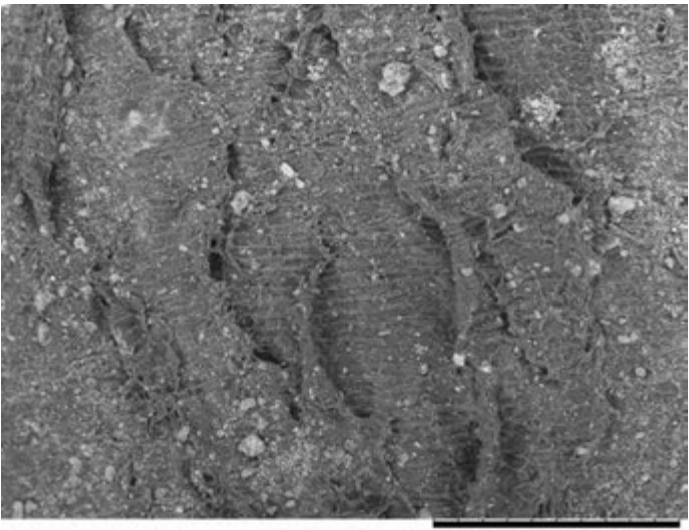
5006-04P11160 2016/12/06 14:07 L x50 2 mm



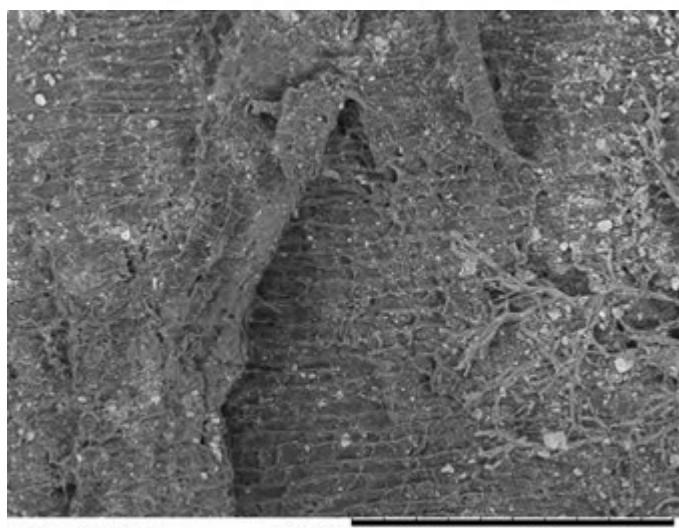
5006-04P11165 2016/12/06 14:13 L x100 1 mm



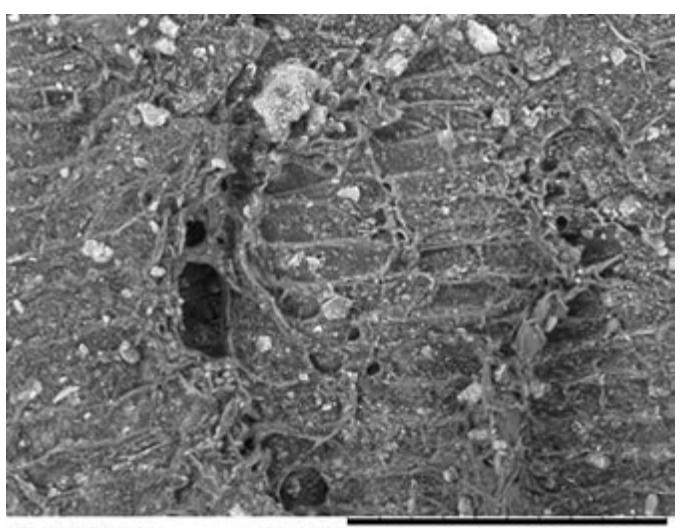
5006-04P11161 2016/12/06 14:08 L x100 1 mm



5006-04P11162 2016/12/06 14:09 L x150 500 µm



5006-04P11163 2016/12/06 14:10 L x200 500 µm

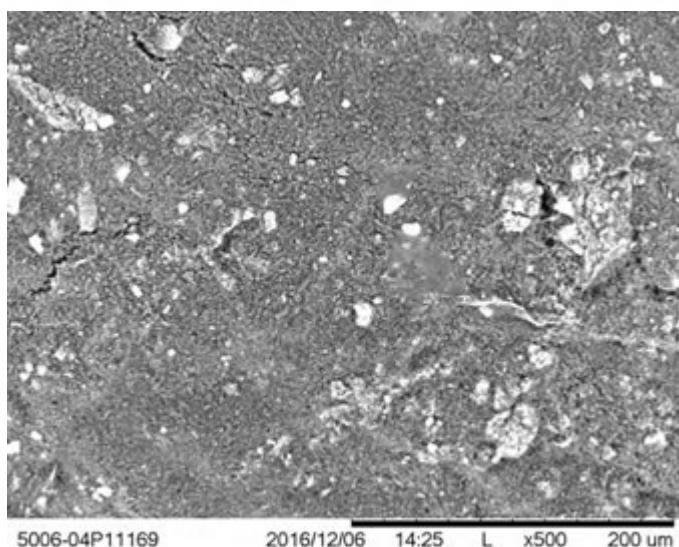
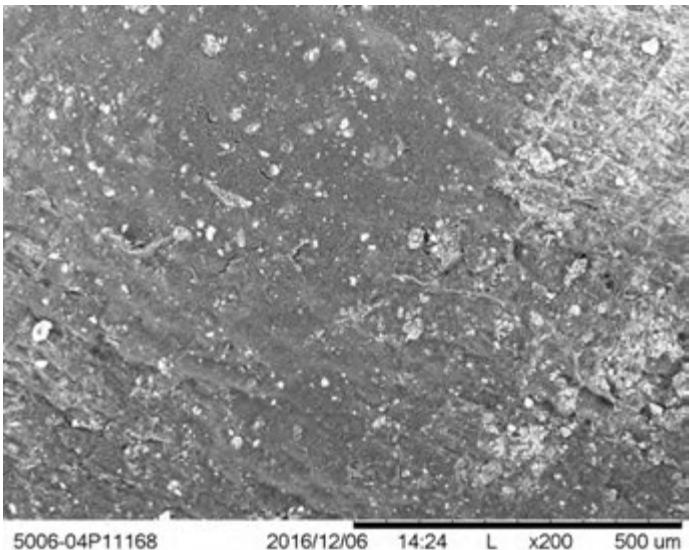
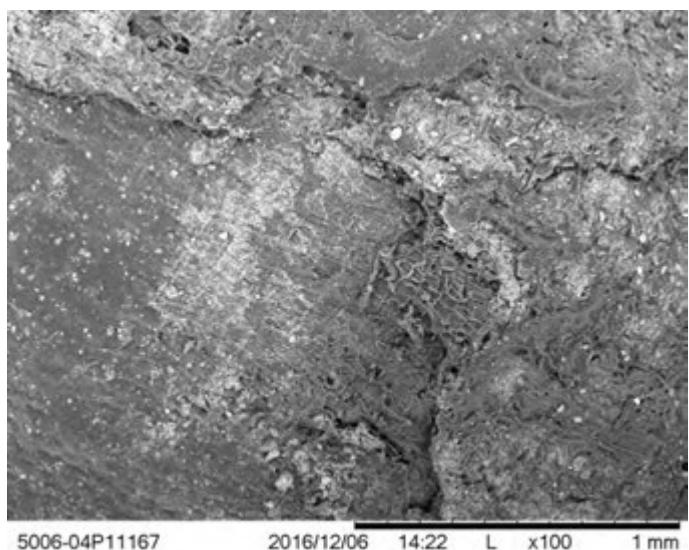
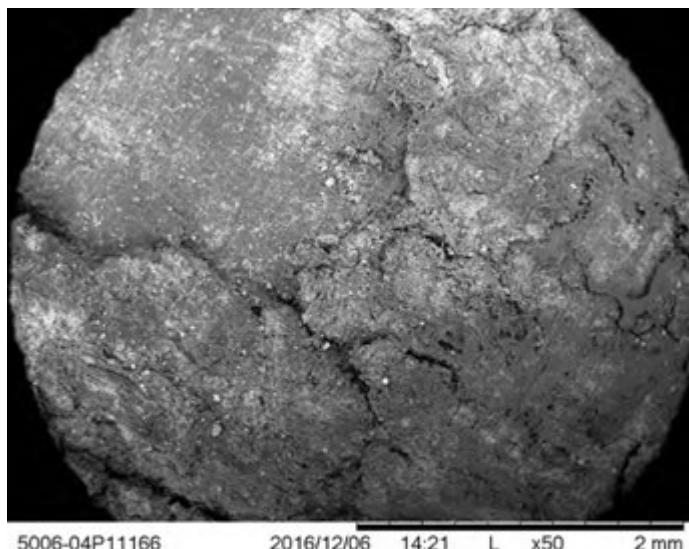
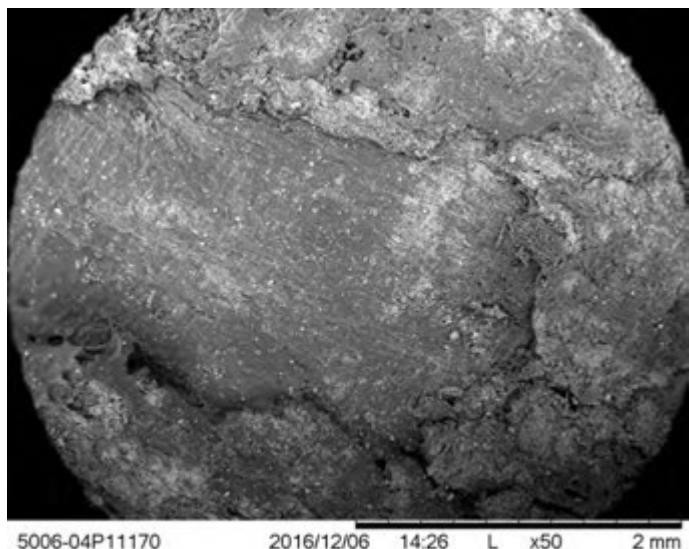


5006-04P11164 2016/12/06 14:12 L x500 200 µm

Smallanthus sonchifolius
ASTERACEAE

Common Name: Yacon
Sample Type: Charred

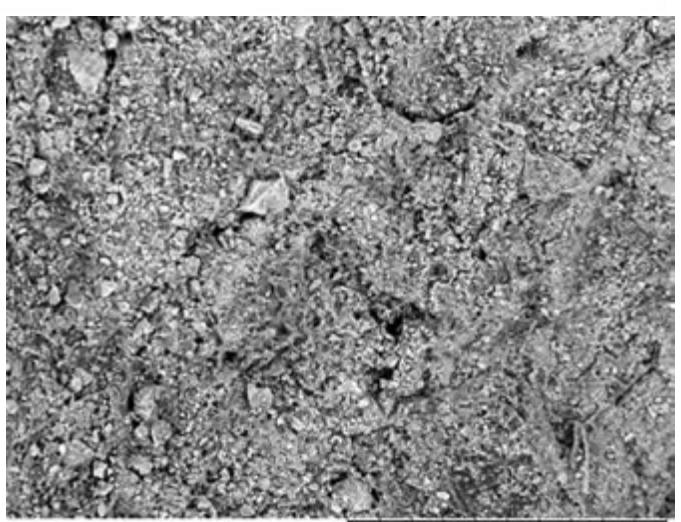
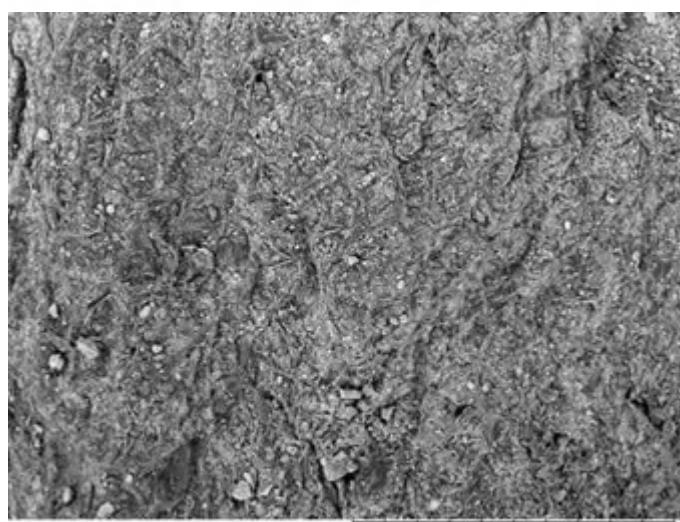
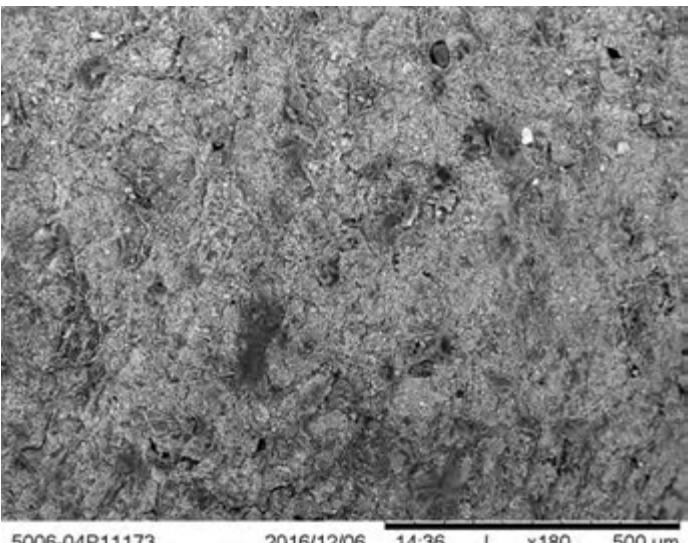
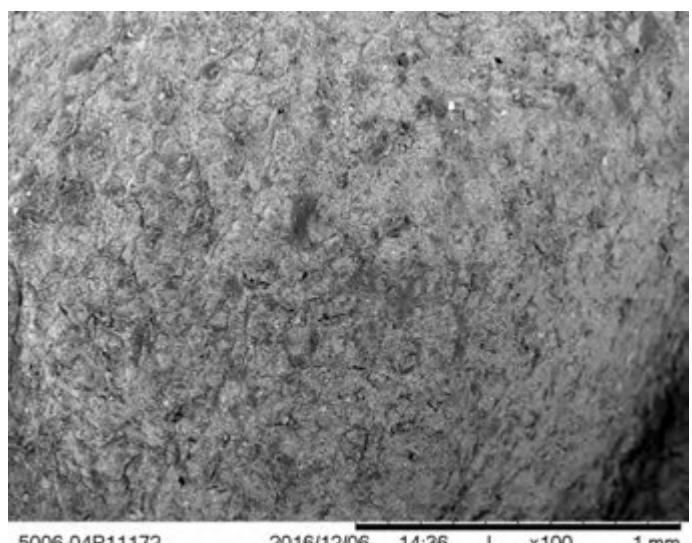
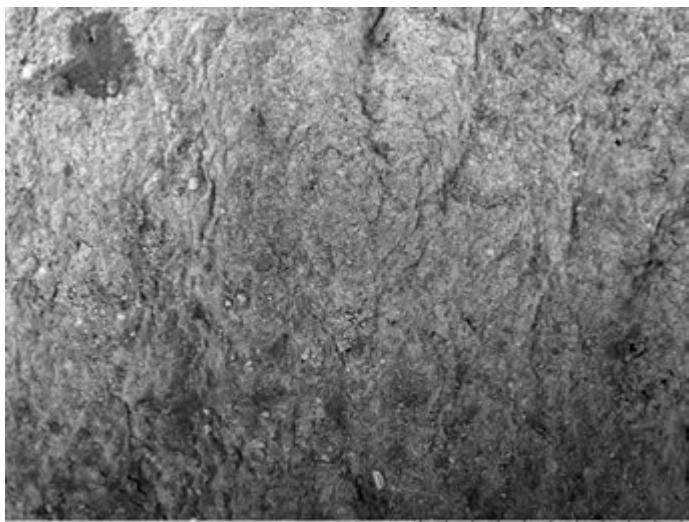
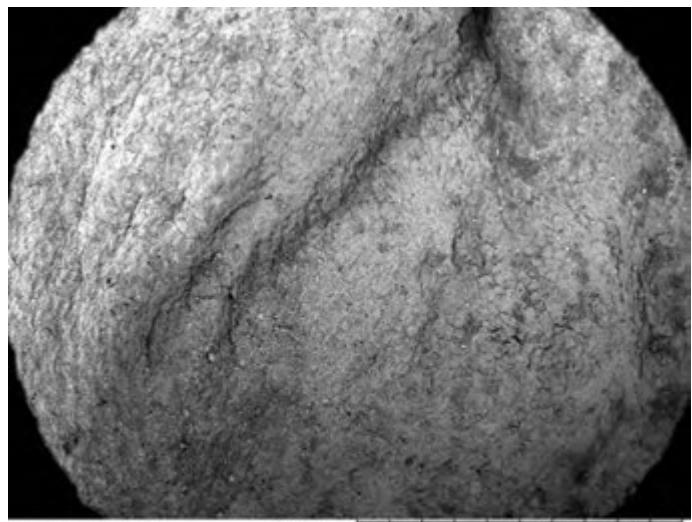
Exterior



Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Charred

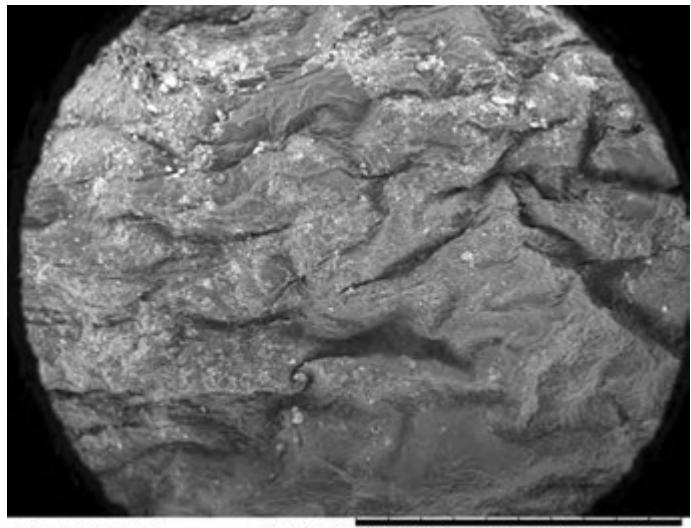
Exterior



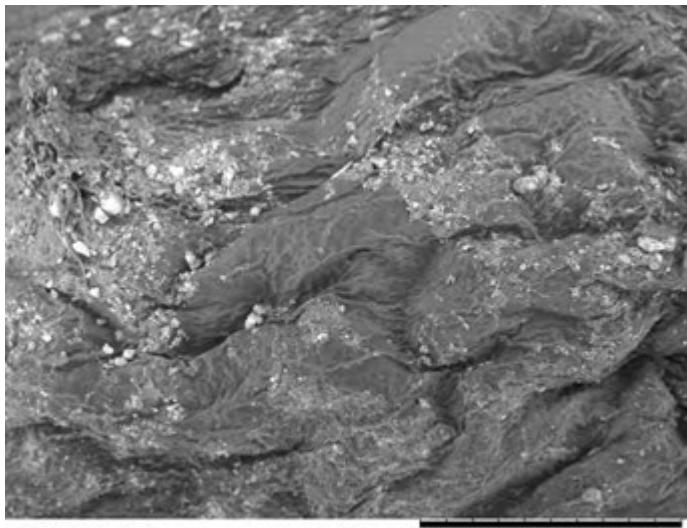
Tropaeolum tuberosum
TROPAEOLACEAE

Common Name: Mashua
Sample Type: Charred

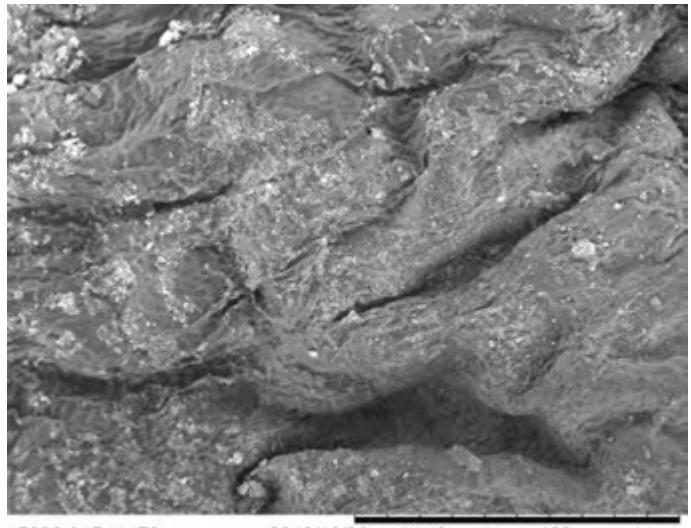
Exterior



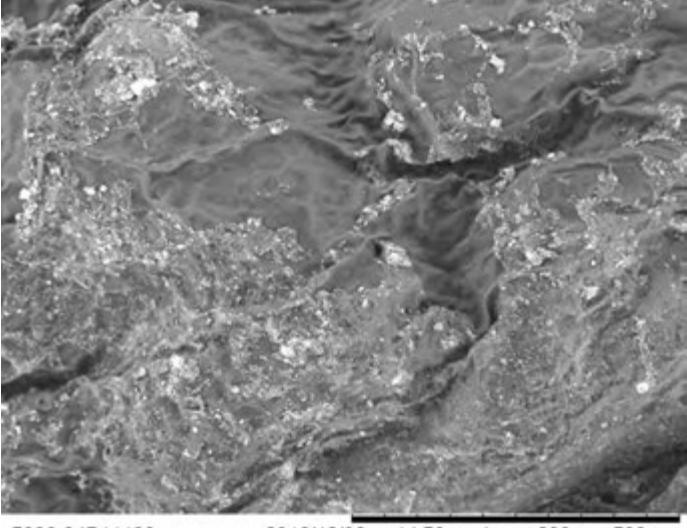
5006-04P11178 2016/12/06 14:48 L x50 2 mm



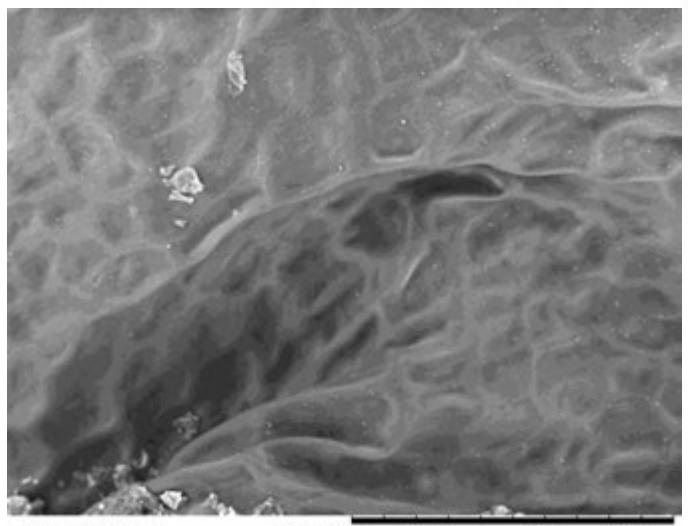
5006-04P11182 2016/12/06 14:53 L x80 1 mm



5006-04P11179 2016/12/06 14:49 L x100 1 mm



5006-04P11180 2016/12/06 14:50 L x200 500 um

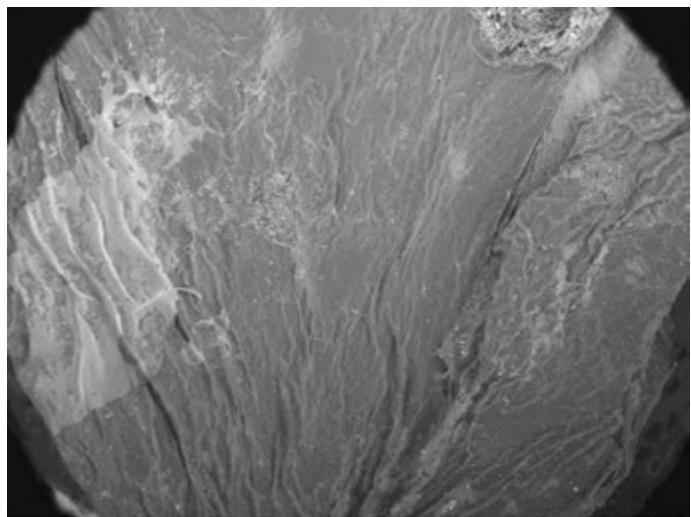


5006-04P11181 2016/12/06 14:52 L x500 200 um

Ullucus tuberosus
BASELLACEAE

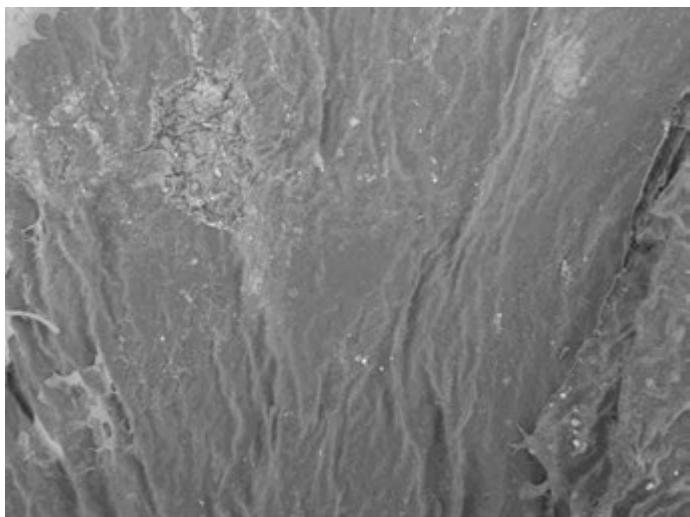
Common Name: Papalisa/Ollucu
Sample Type: Charred

Exterior

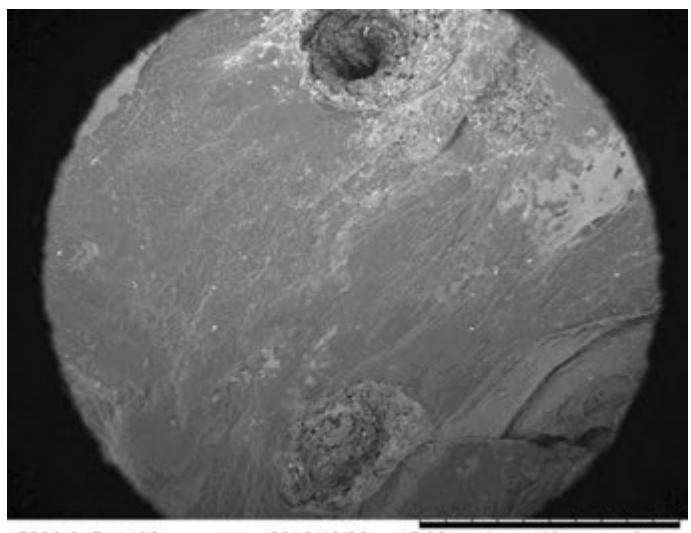


5006-04P11184

2016/12/06 15:03 L x50 2 mm

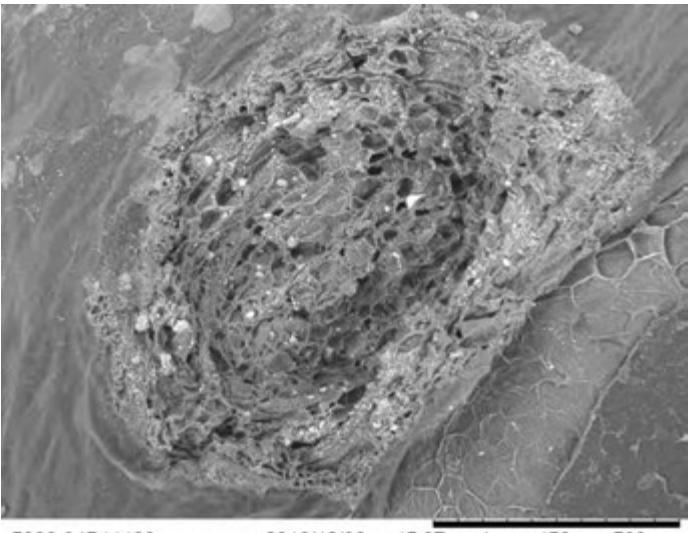


5006-04P11185 2016/12/06 15:04 L x100 1 mm

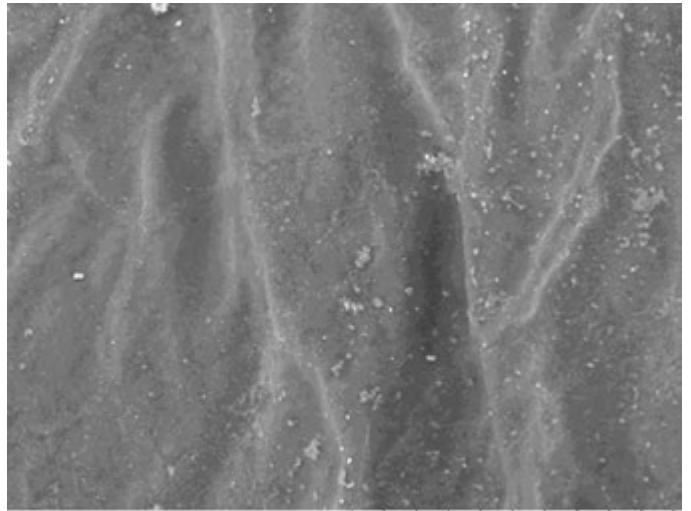


5006-04P11183

2016/12/06 15:02 L x40 2 mm

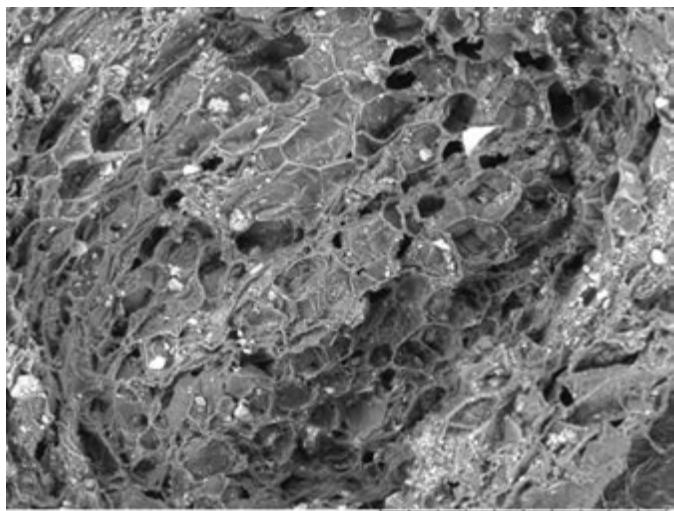


5006-04P11188 2016/12/06 15:07 L x150 500 um



5006-04P11187

2016/12/06 15:06 L x500 200 um

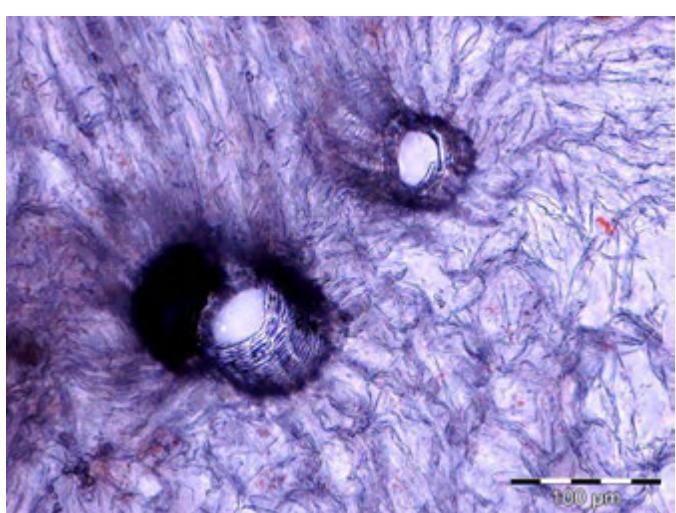
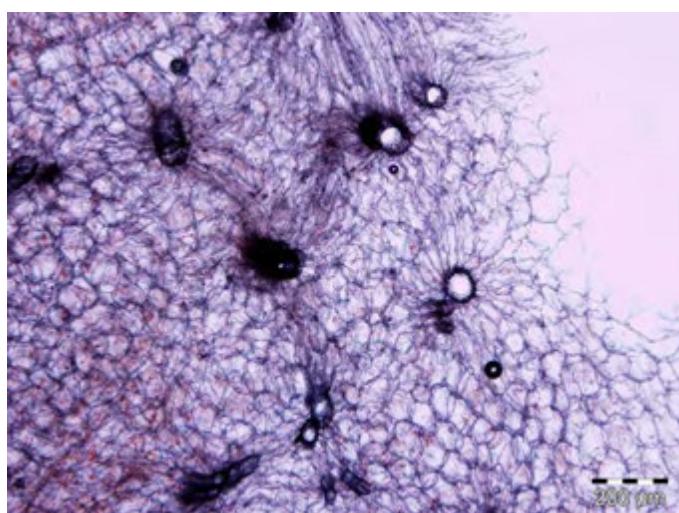
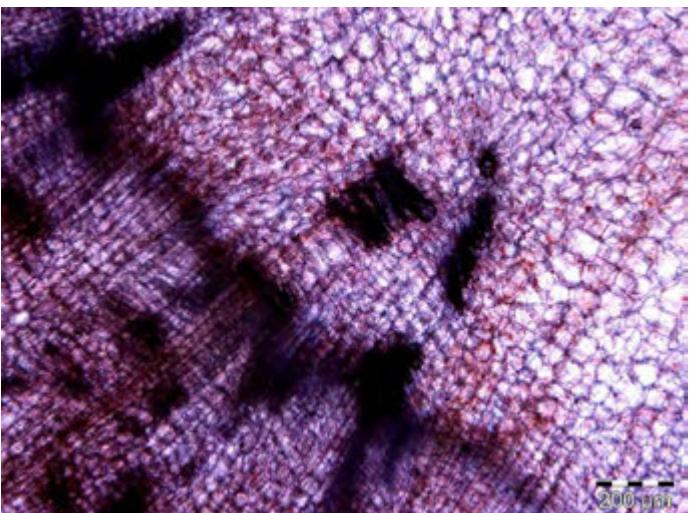
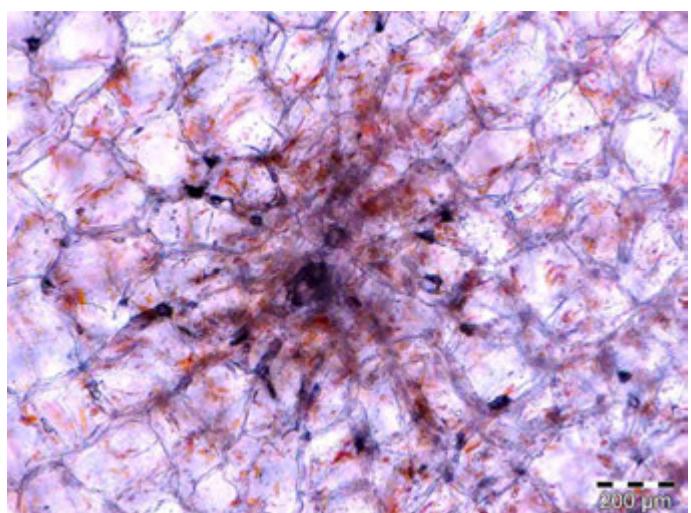
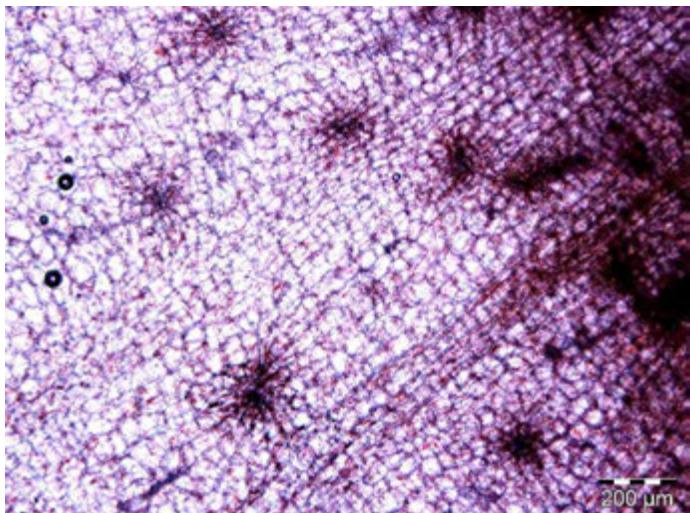
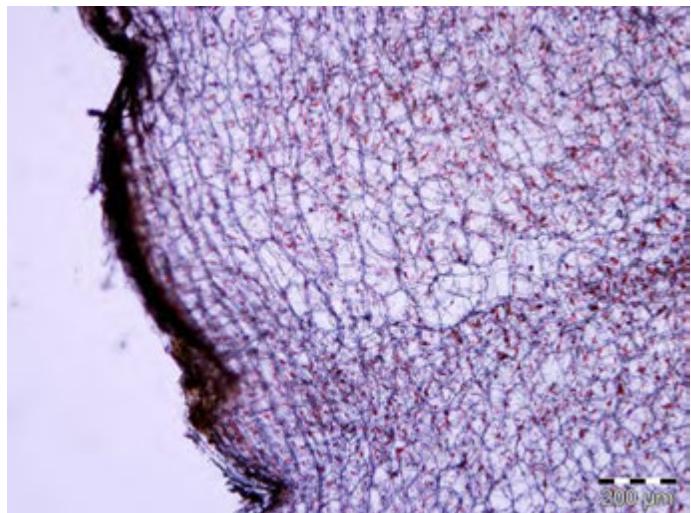


5006-04P11189 2016/12/06 15:09 L x300 300 um

Stained Specimen

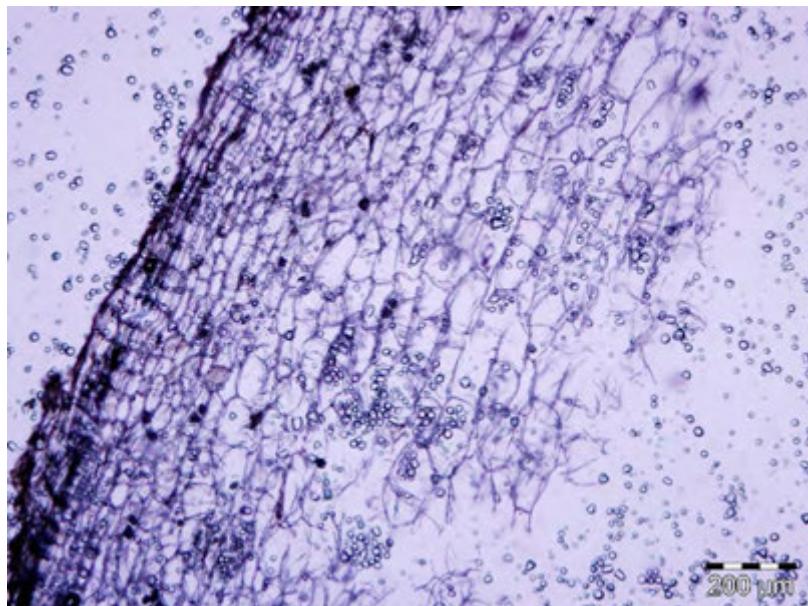
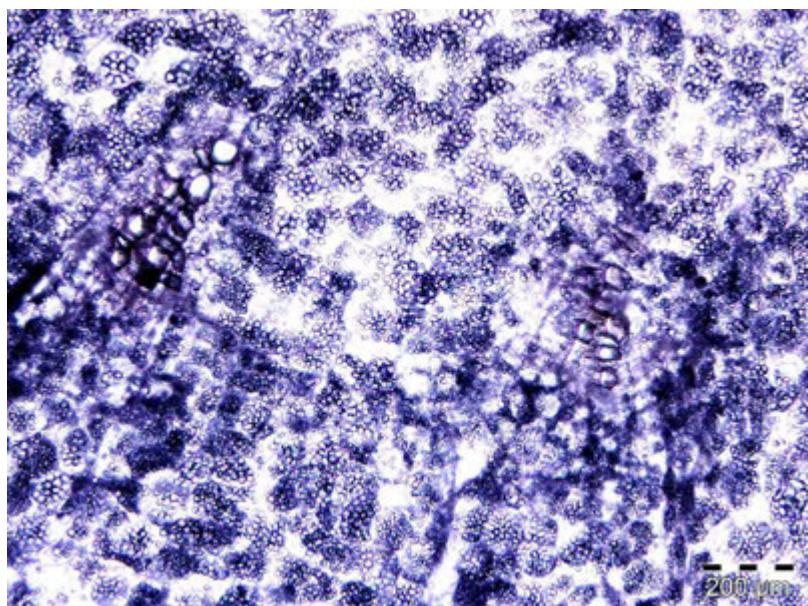
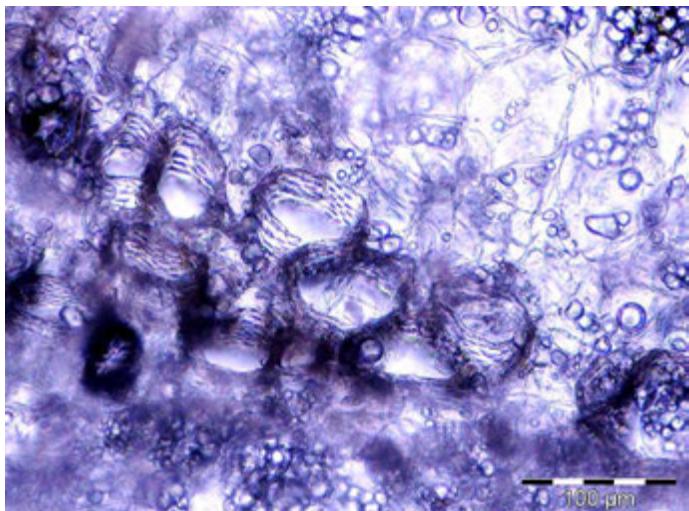
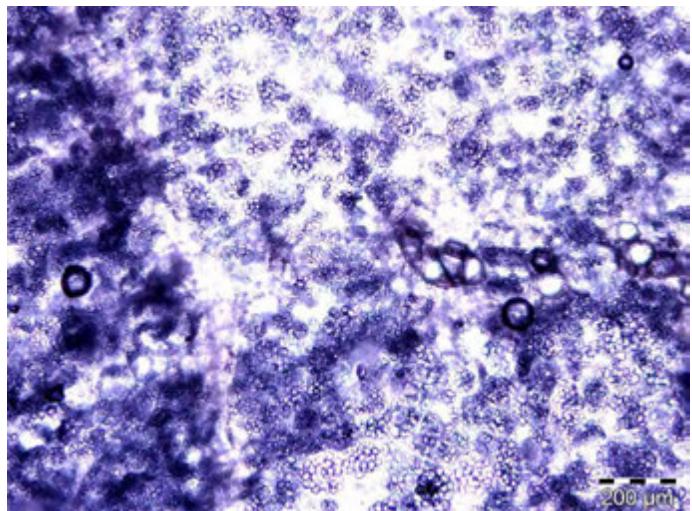
Daucus carota
APIACEAE

Common Name: Carrot
Sample Type: Stained



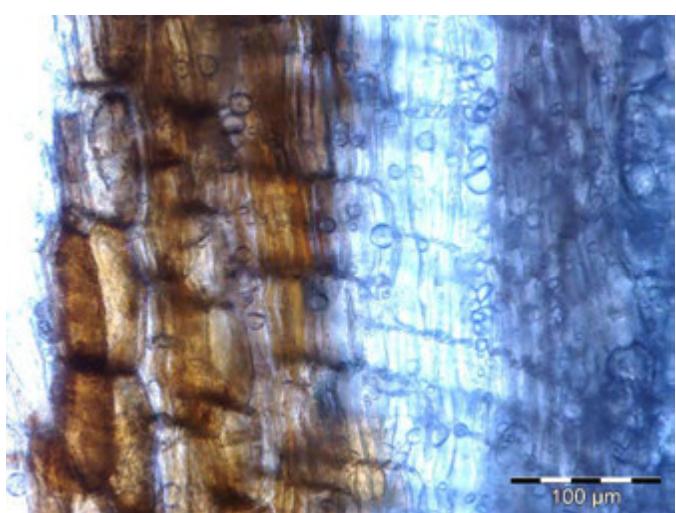
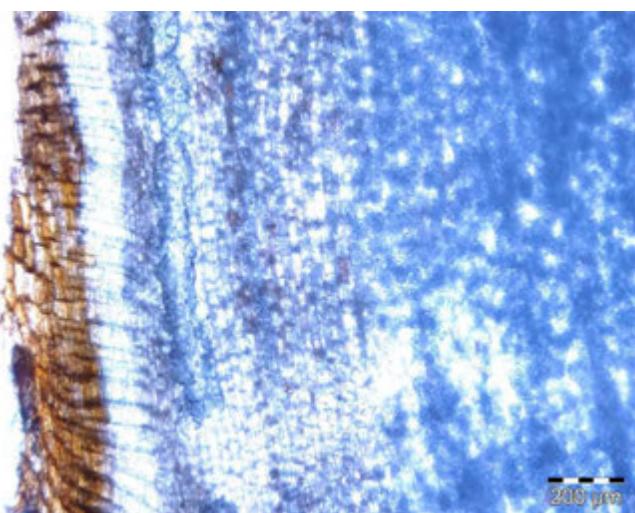
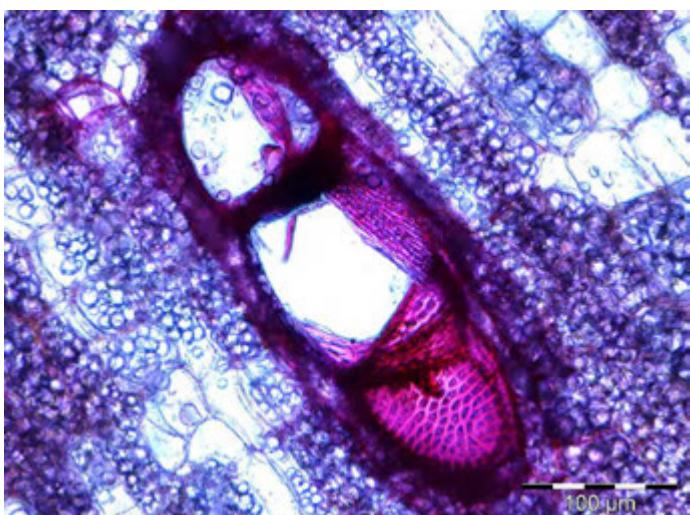
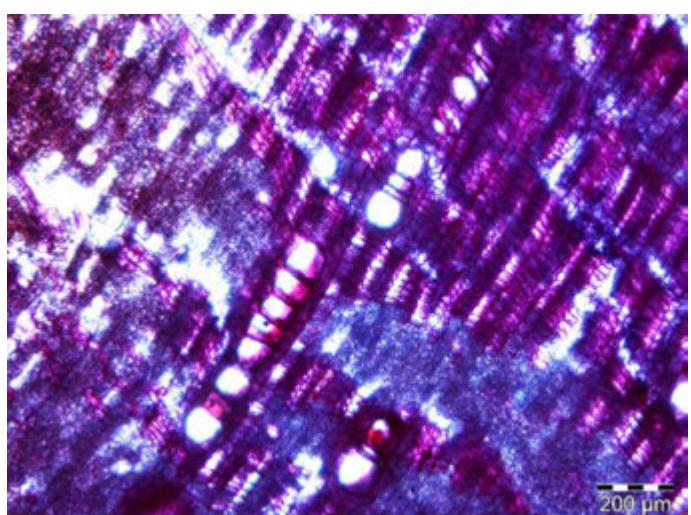
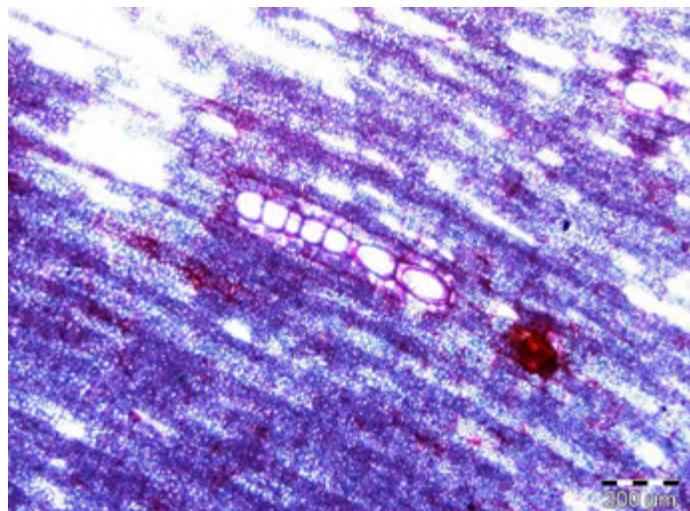
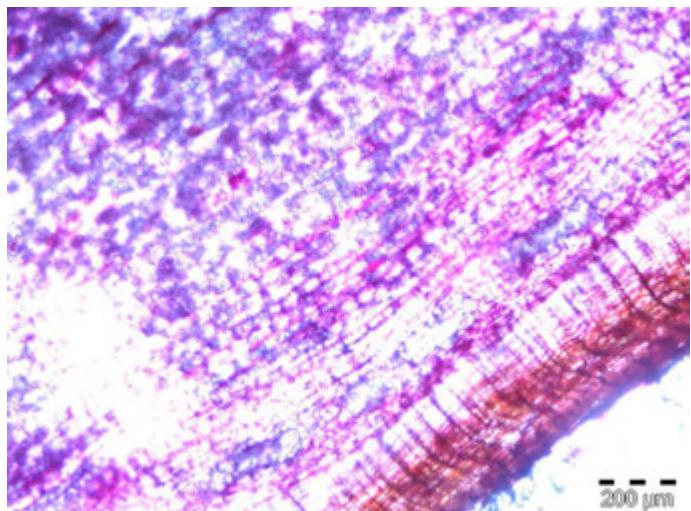
Ipomoea batatas
CONVULVULACEAE

Common Name: Sweet Potato
Sample Type: Stained



Manihot esculenta
EUPHORBIACEAE

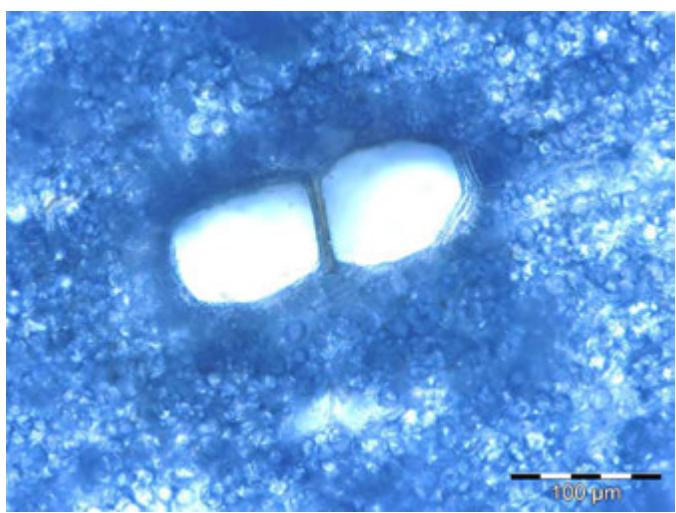
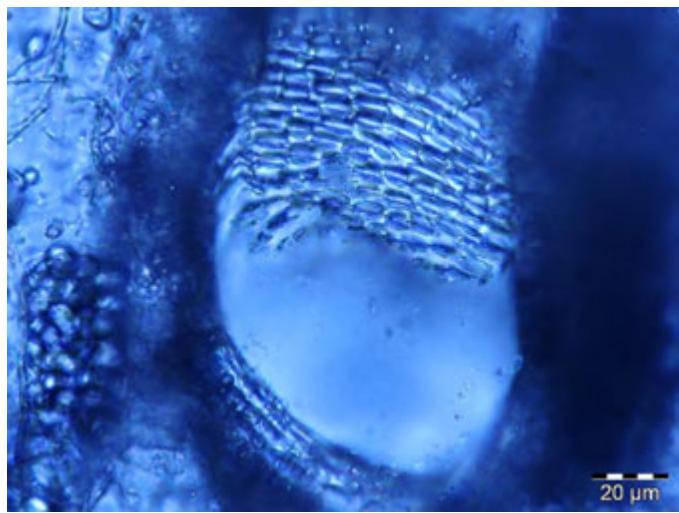
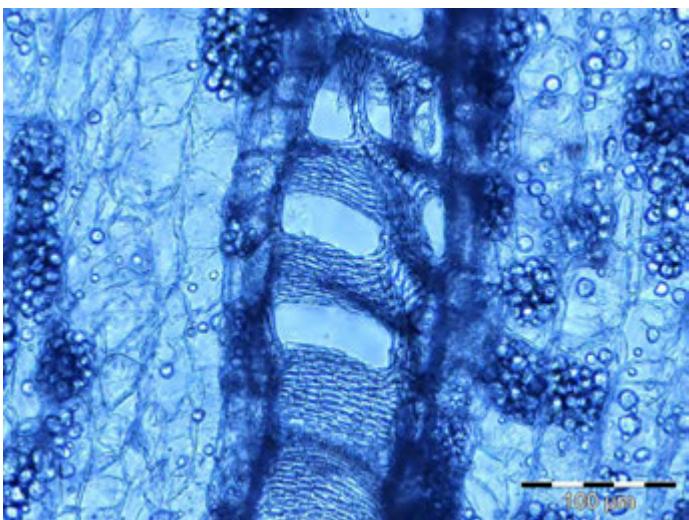
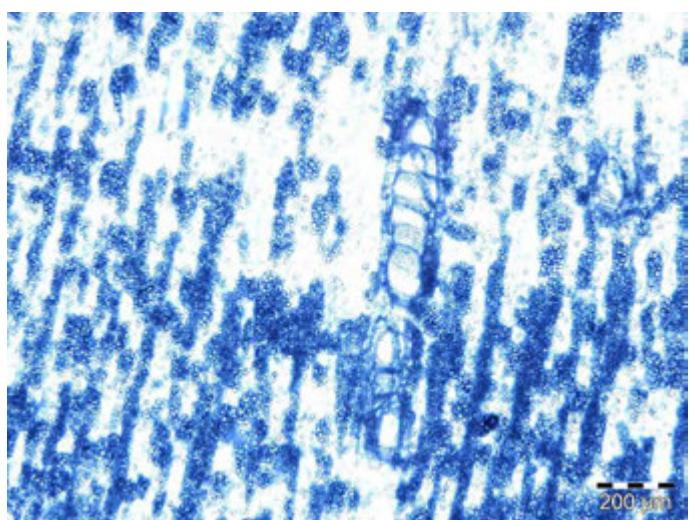
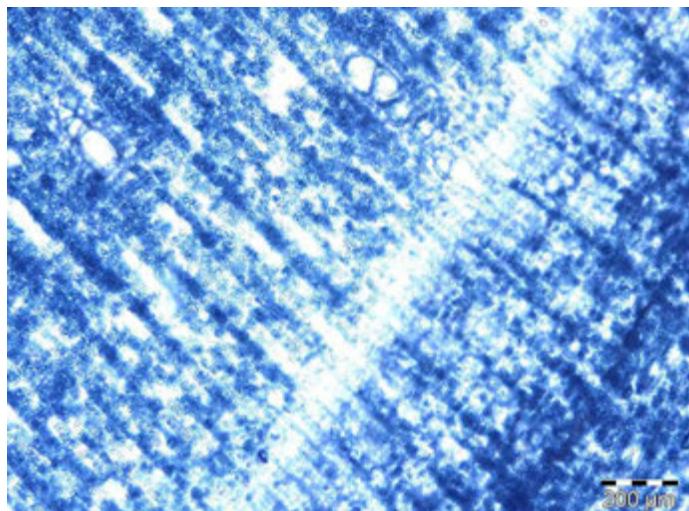
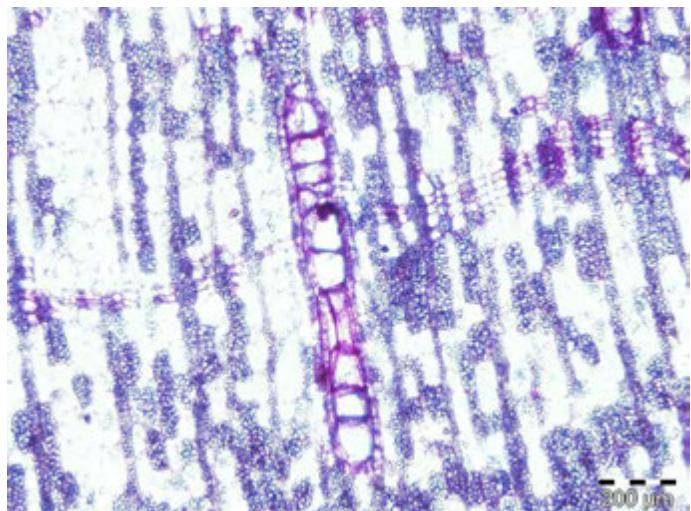
Common Name: Manioc
Sample Type: Stained



Manihot esculenta
EUPHORBIACEAE

Common Name: Manioc
Sample Type: Stained

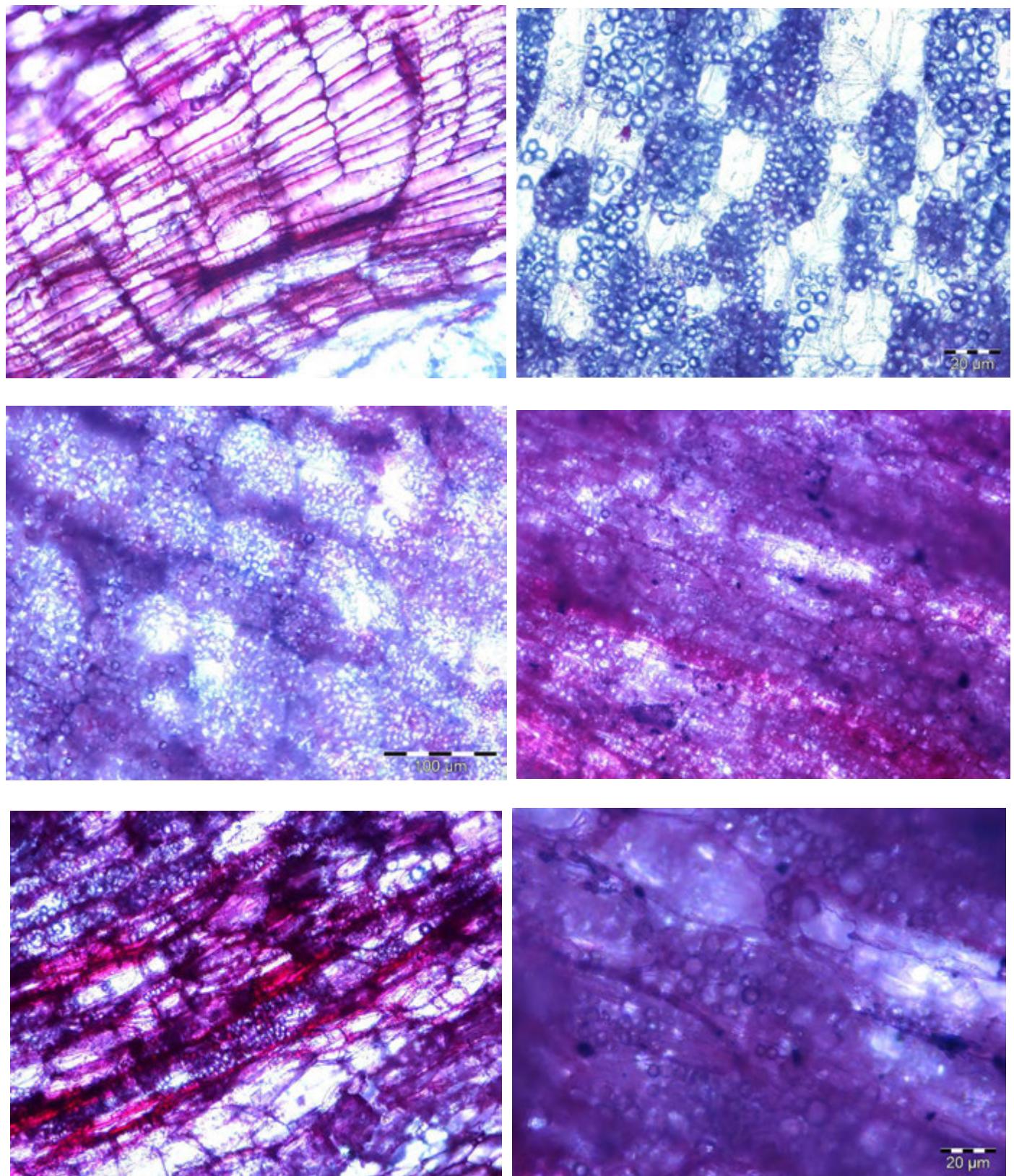
(Continued)



Manihot esculenta
EUPHORBIACEAE

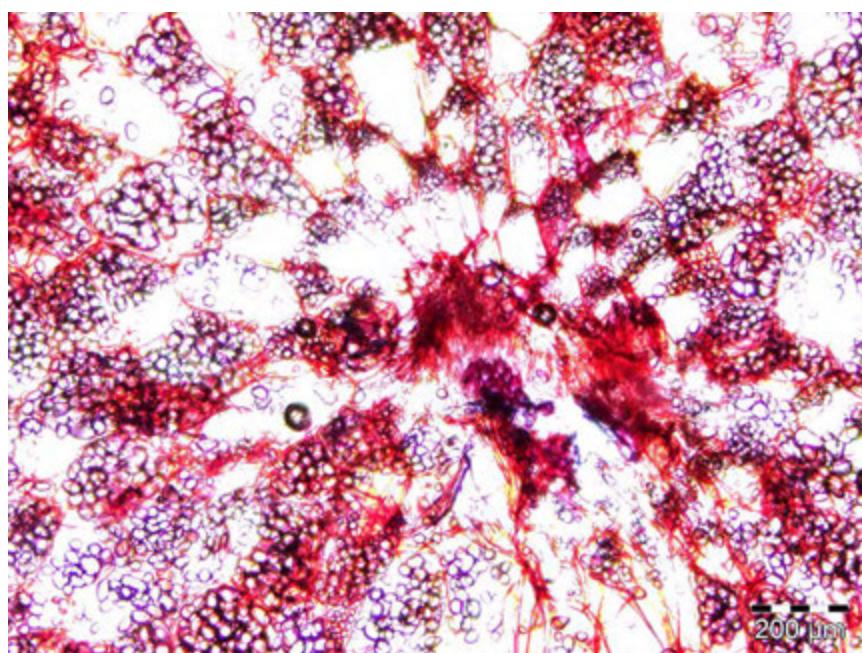
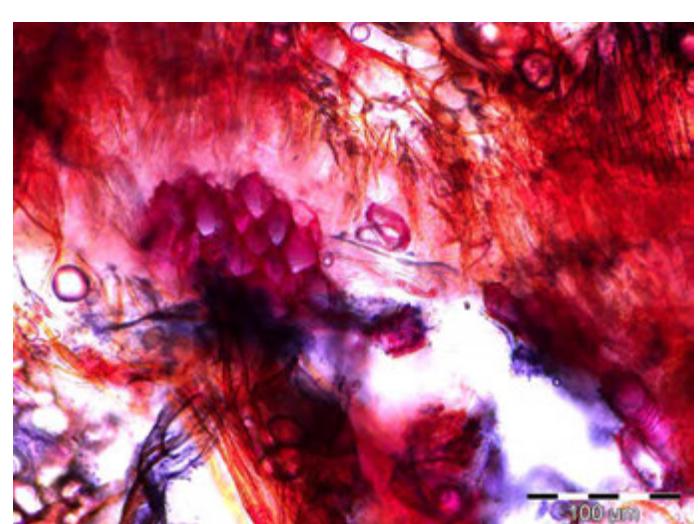
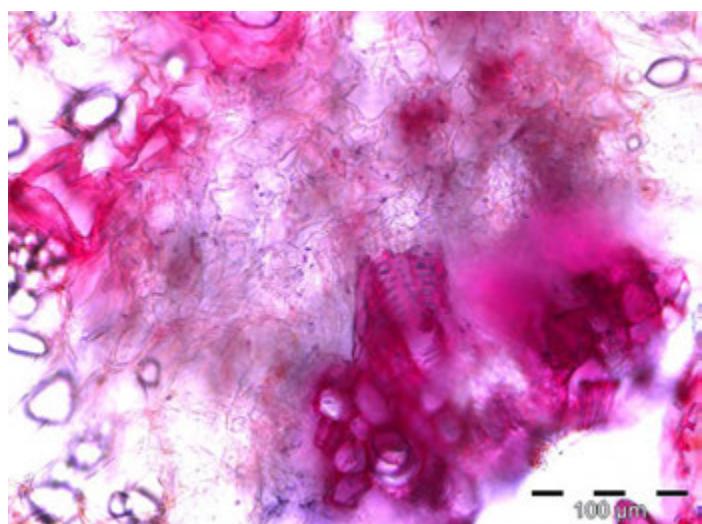
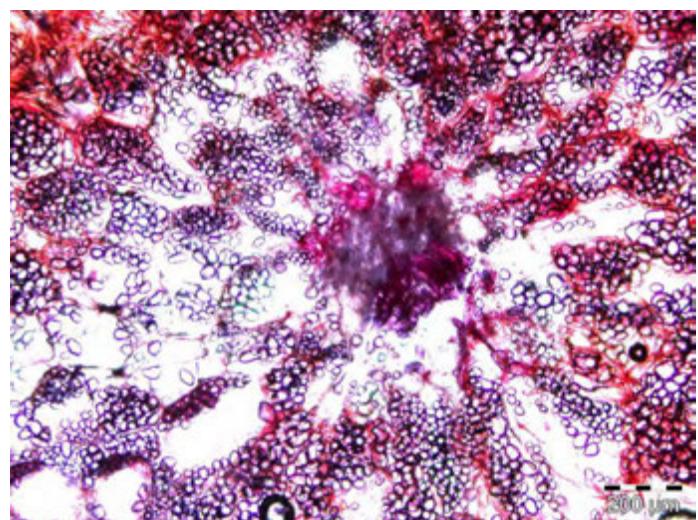
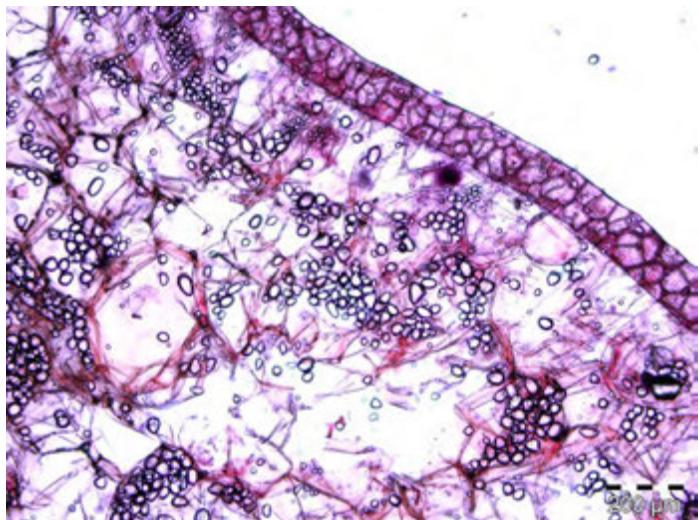
Common Name: Manioc
Sample Type: Stained

(Continued)



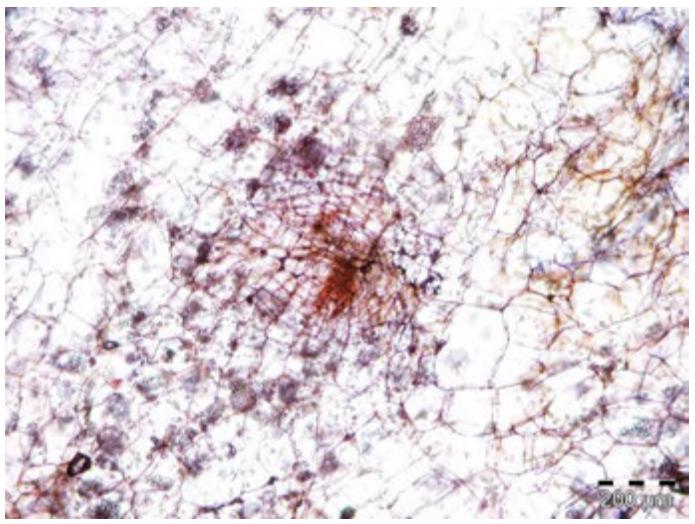
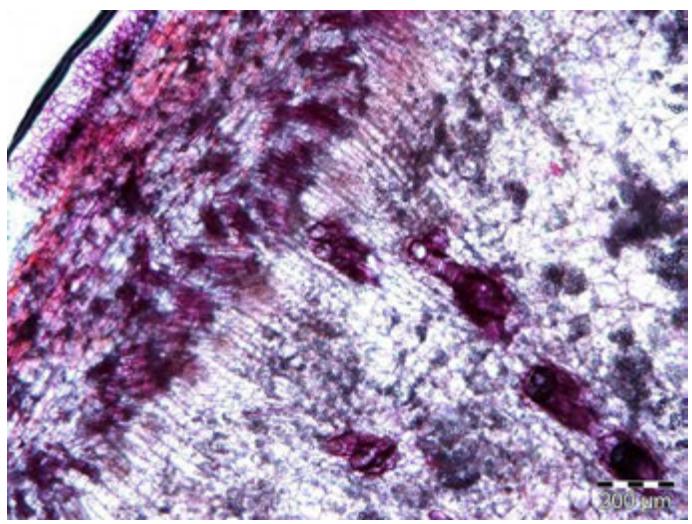
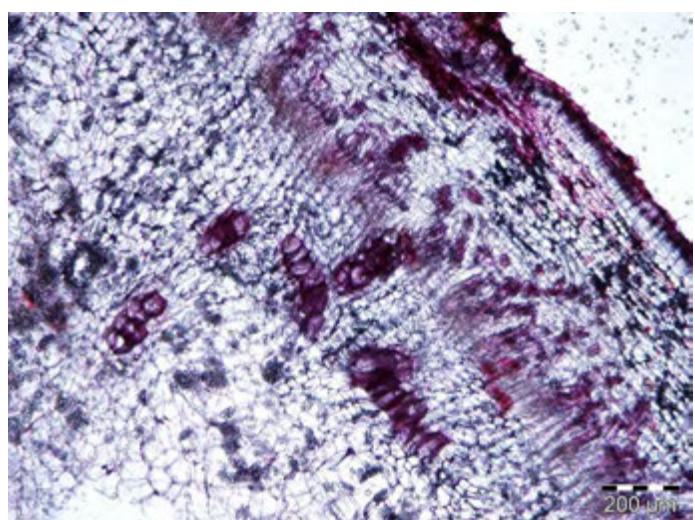
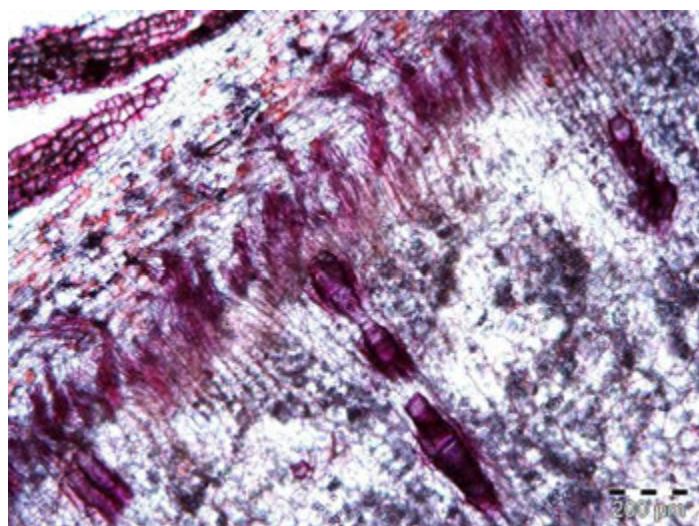
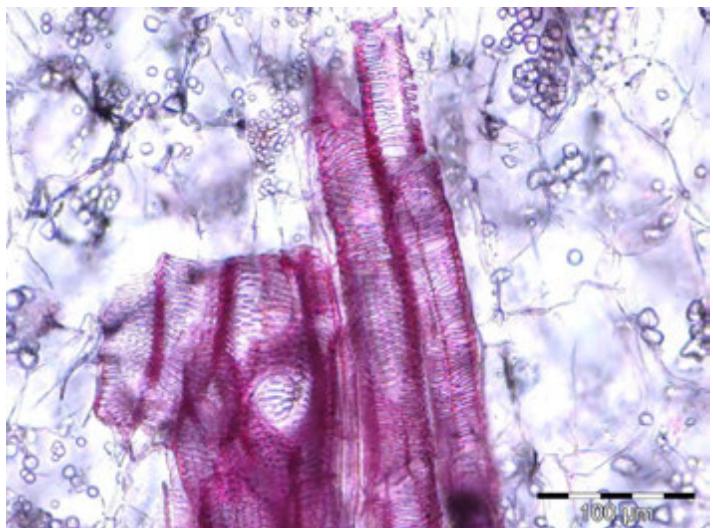
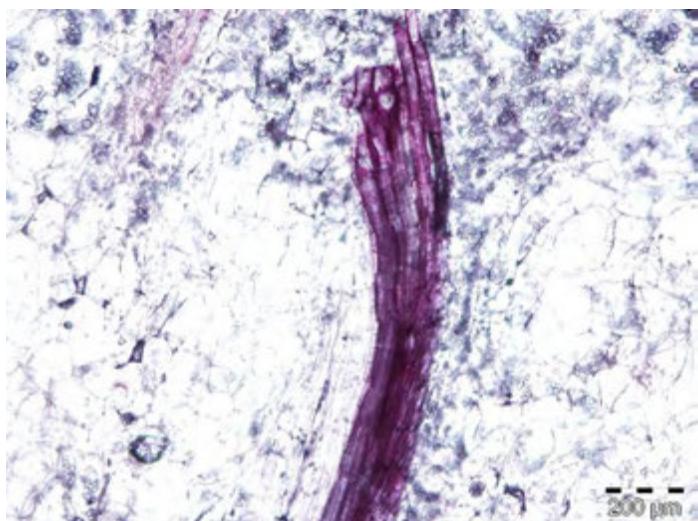
Oxalis *tuberosa*
OXALIDACEAE

Common Name: Oca
Sample Type: Stained



Pachyrhizus erosus
FABACEAE

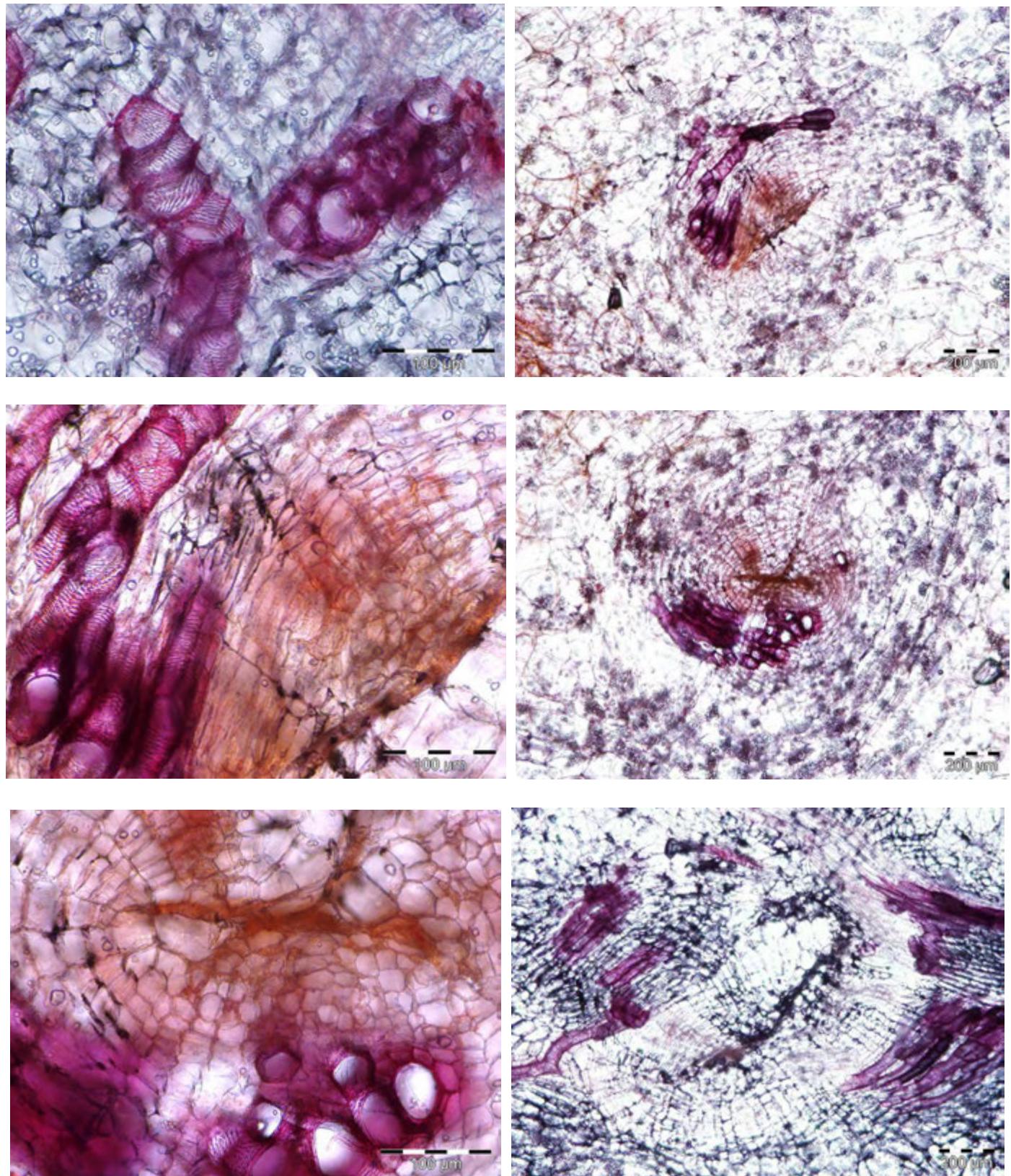
Common Name: Jicama
Sample Type: Stained



Pachyrhizus erosus
FABACEAE

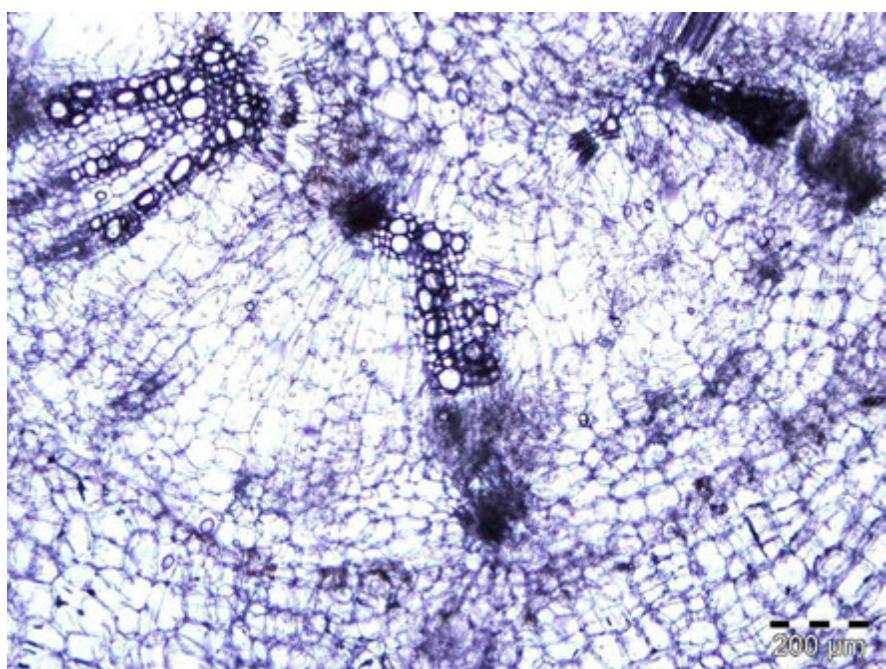
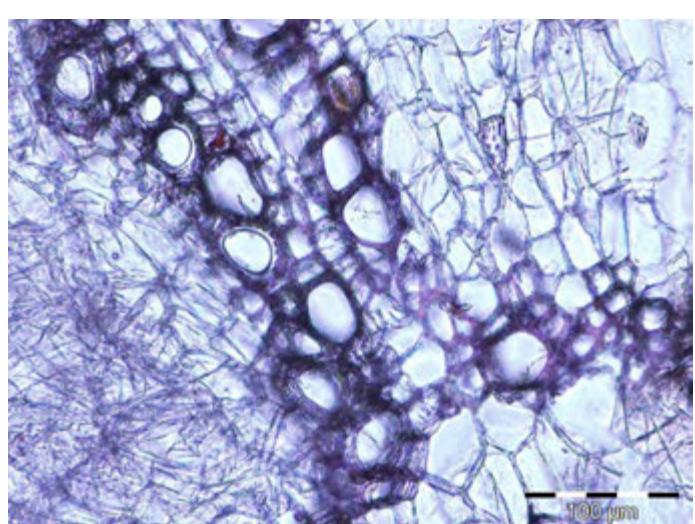
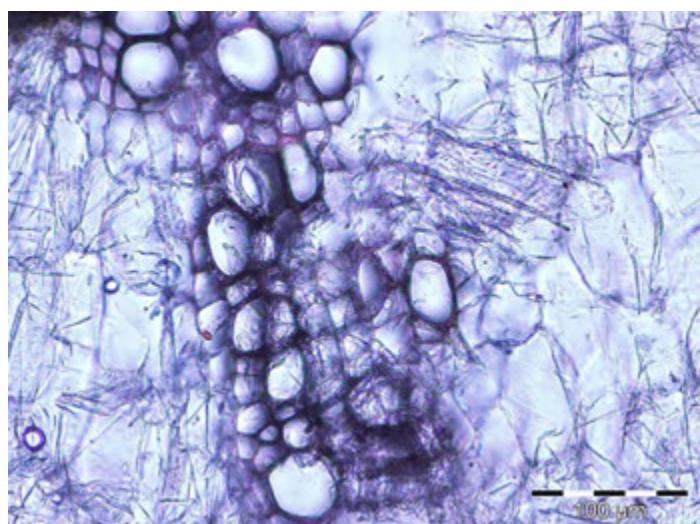
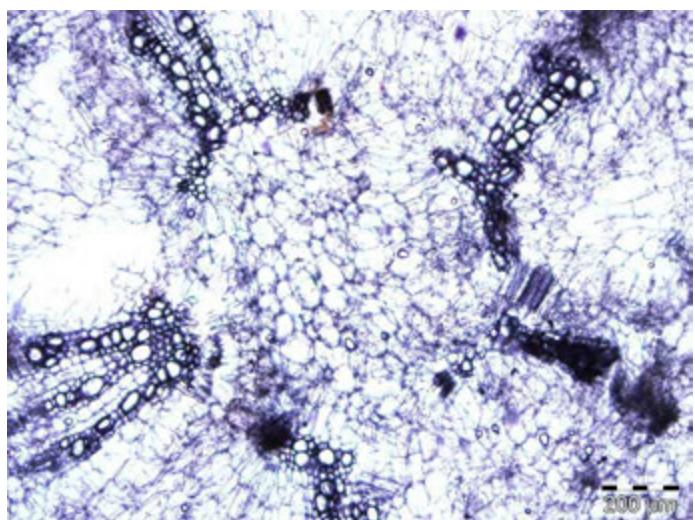
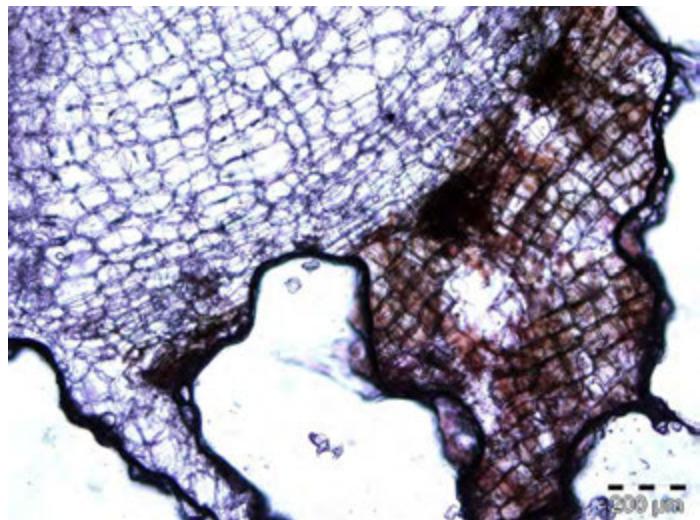
Common Name: Jicama
Sample Type: Stained

(Continued)



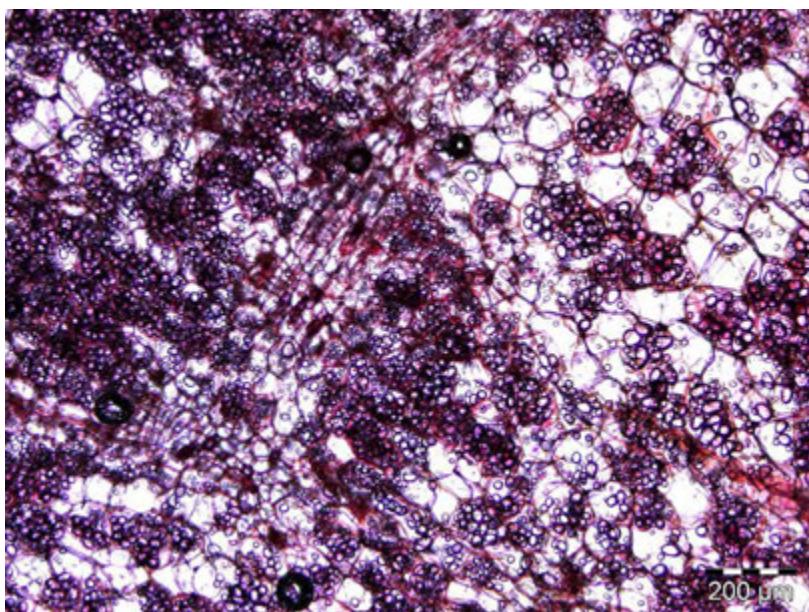
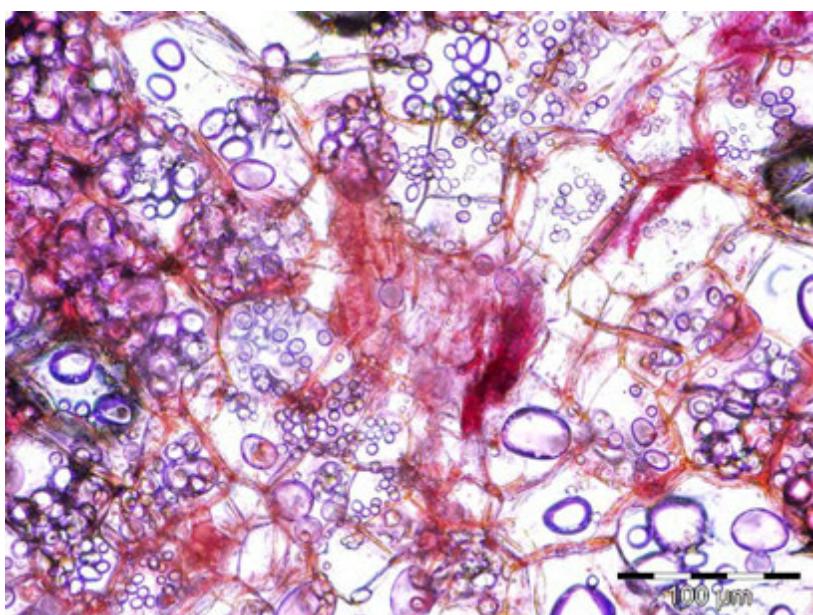
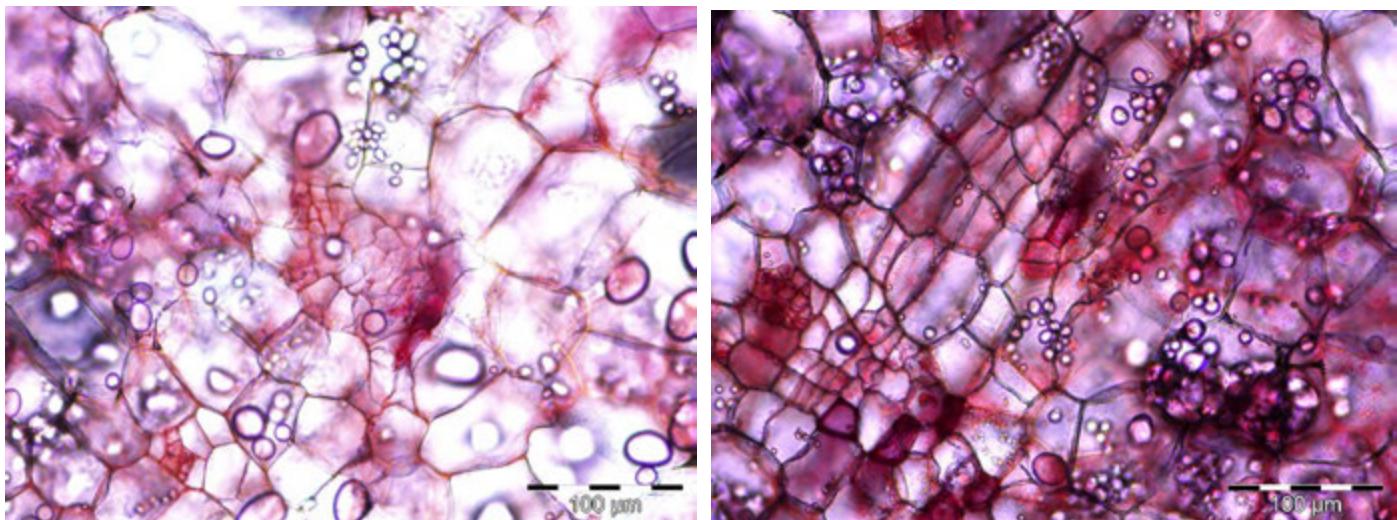
Smallanthus sonchifolius
ASTERACEAE

Common Name: Yacon
Sample Type: Stained



Solanum
SOLANACEAE

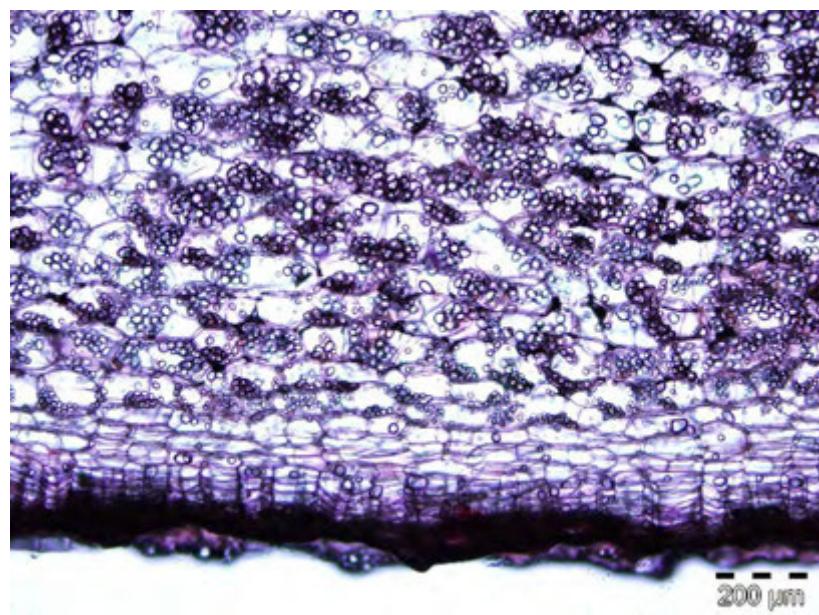
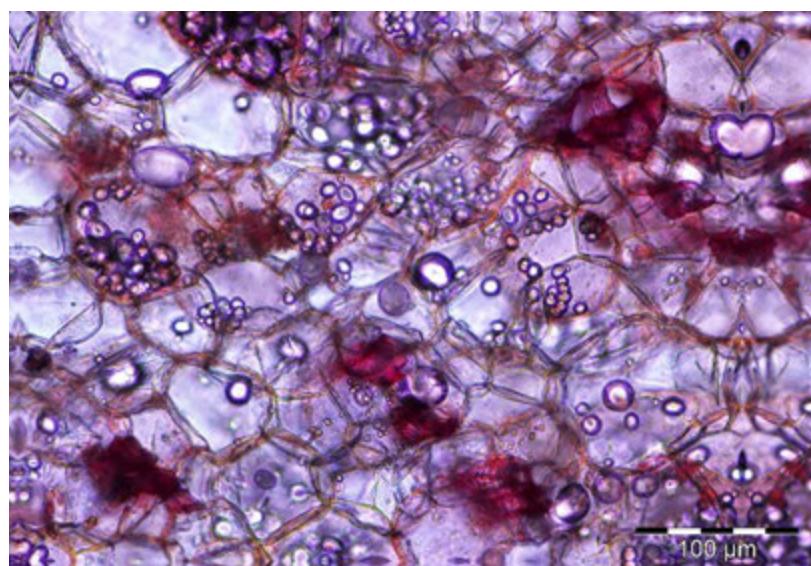
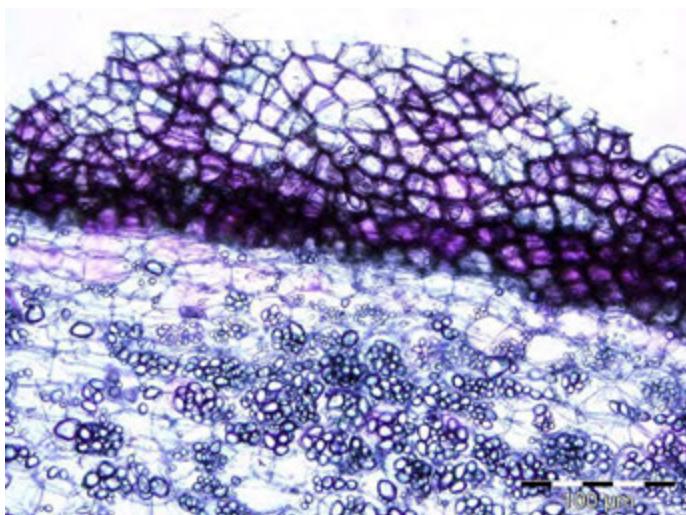
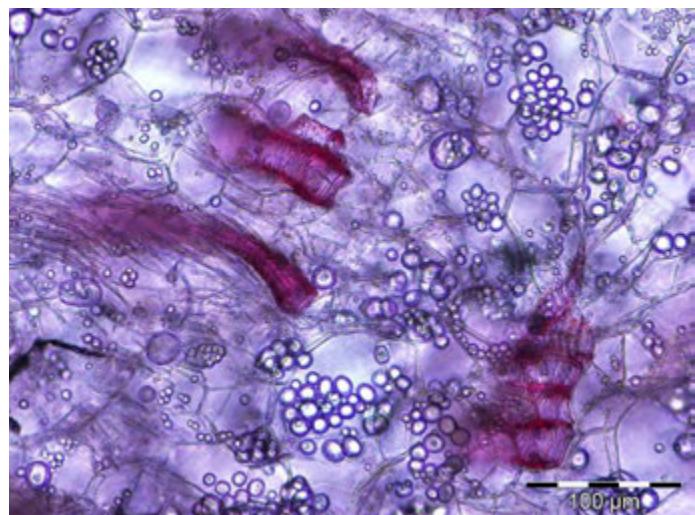
Common Name: Papa
Sample Type: Stained



Solanum
SOLANACEAE

Common Name: Papa
Sample Type: Stained

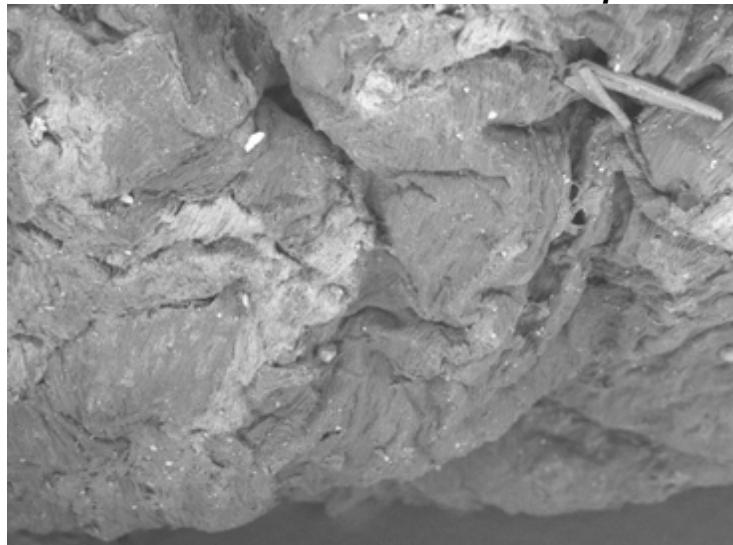
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Diagnostic Feature Comparisons: Exterior Surfaces

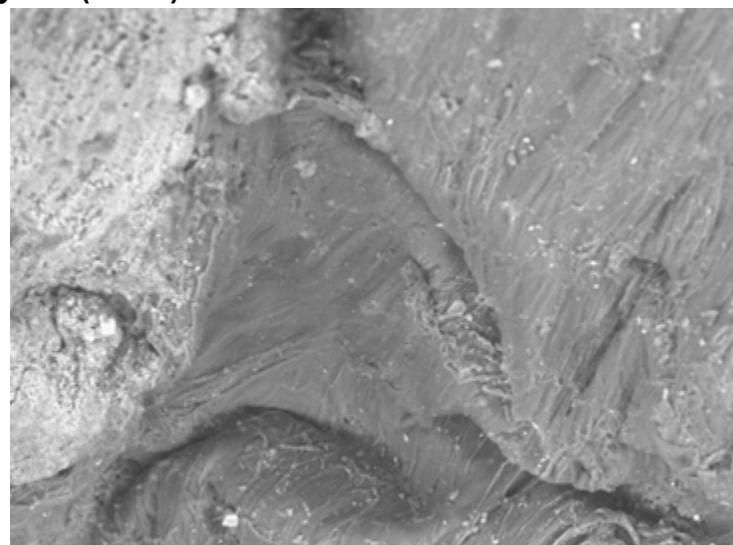
Exterior Surface Texture – Charred at 250° (100x and 500x)

Lepidium meyenii (Maca)



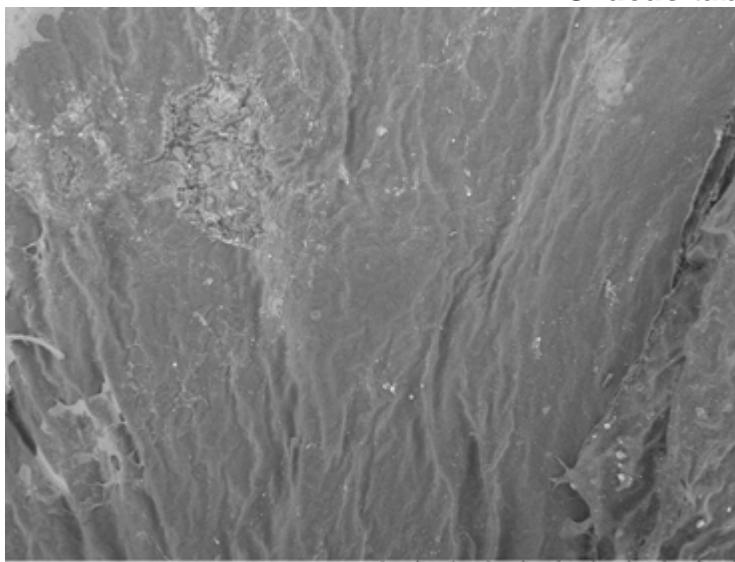
5006-04P11151

2016/12/06 13:41 L x100 1 mm



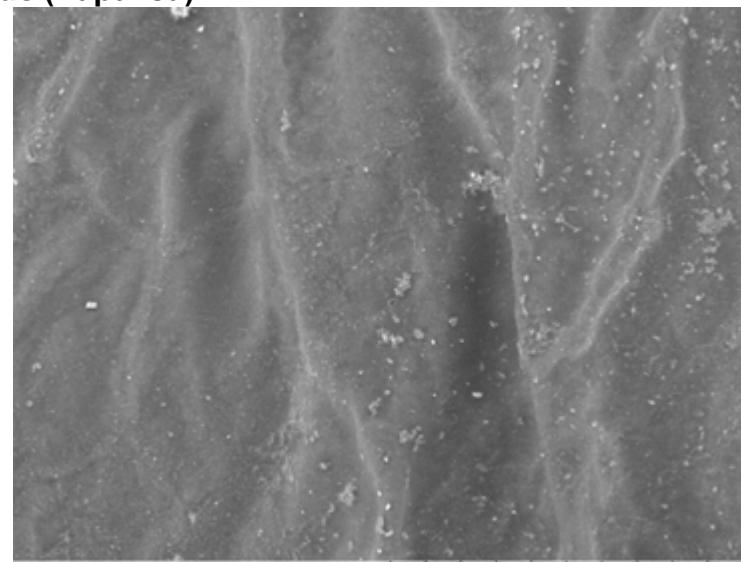
5006-04P11153 2016/12/06 13:43 L x500 200 um

Ullucus tuberosus (Papalisa)



5006-04P11185

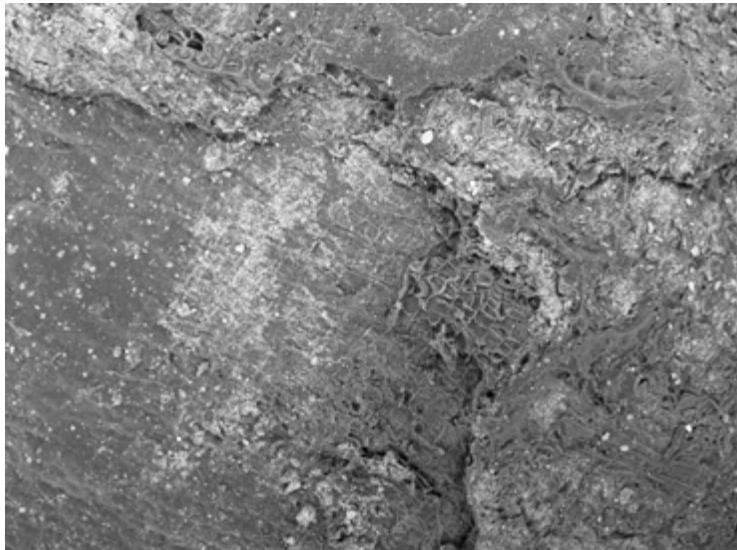
2016/12/06 15:04 L x100 1 mm



5006-04P11187 2016/12/06 15:06 L x500 200 um

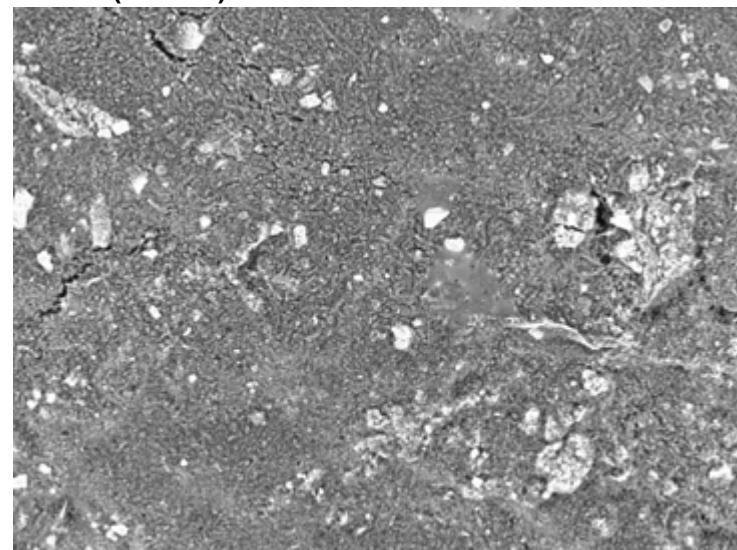
Exterior Surface Texture – Charred at 250° (100x and 500x)

Smallanthus sonchifolius (Yacon)



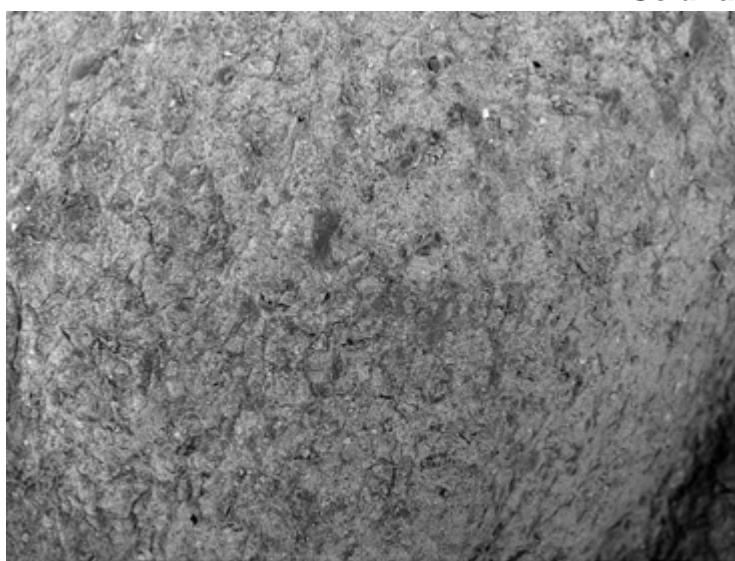
5006-04P11167

2016/12/06 14:22 L x100 1 mm



5006-04P11169 2016/12/06 14:25 L x500 200 μm

Solanum (Potato)



5006-04P11172

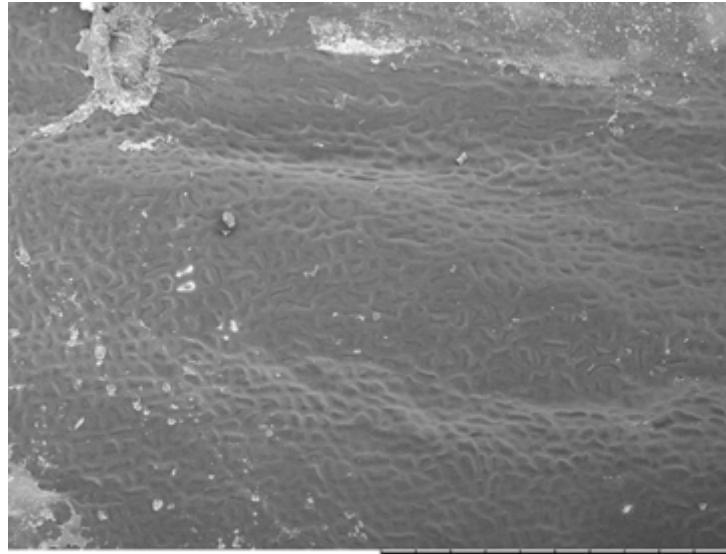
2016/12/06 14:36 L x100 1 mm



5006-04P11175 2016/12/06 14:39 L x500 200 μm

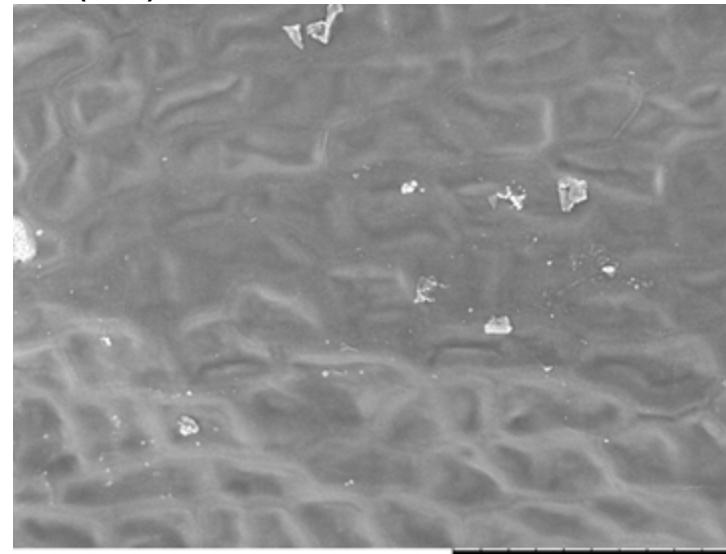
Exterior Surface Texture – Charred at 250° (100x and 500x)

Oxalis tuberosa (Oca)



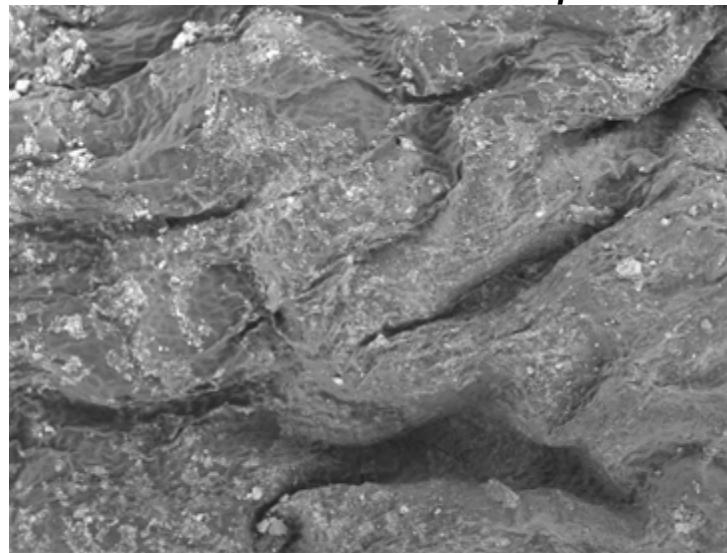
5006-04P11156

2016/12/06 13:54 L x100 1 mm



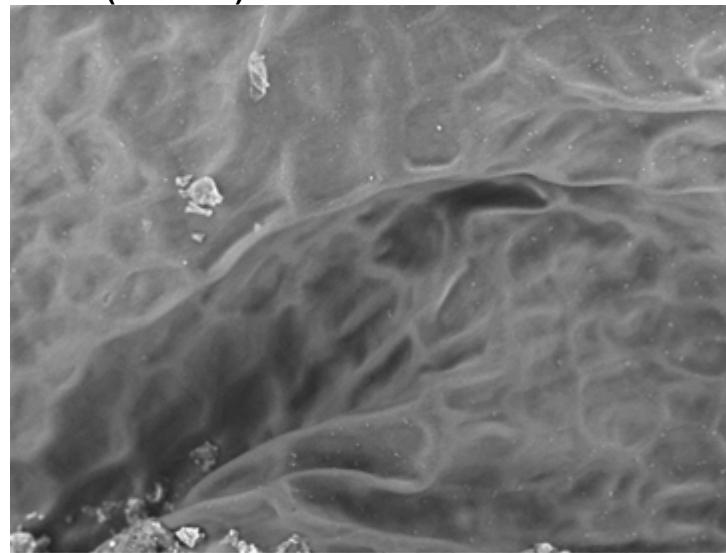
5006-04P11159 2016/12/06 13:58 L x400 200 μm

Tropaeolum tuberosum (Mashua)



5006-04P11179

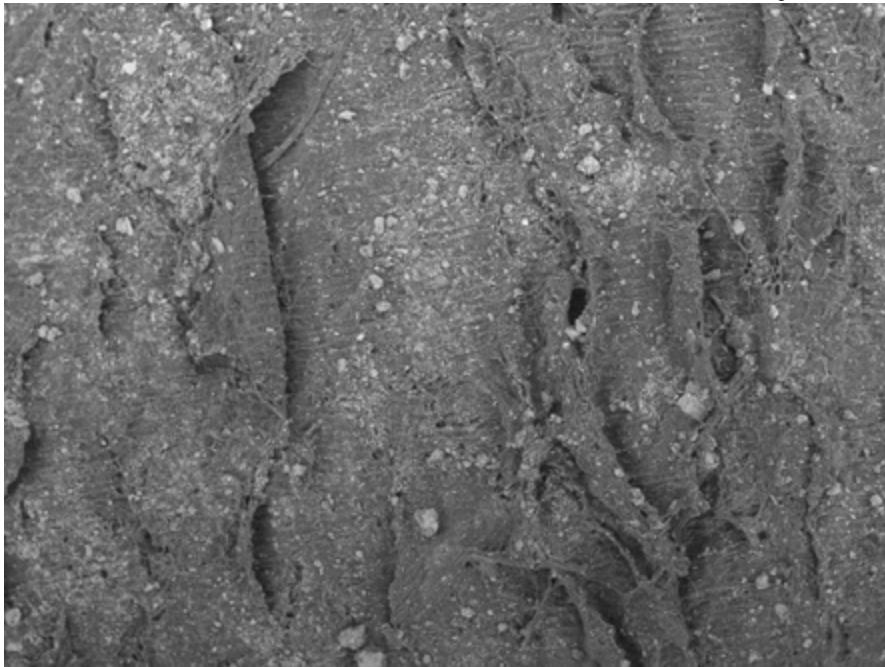
2016/12/06 14:49 L x100 1 mm



5006-04P11181 2016/12/06 14:52 L x500 200 μm

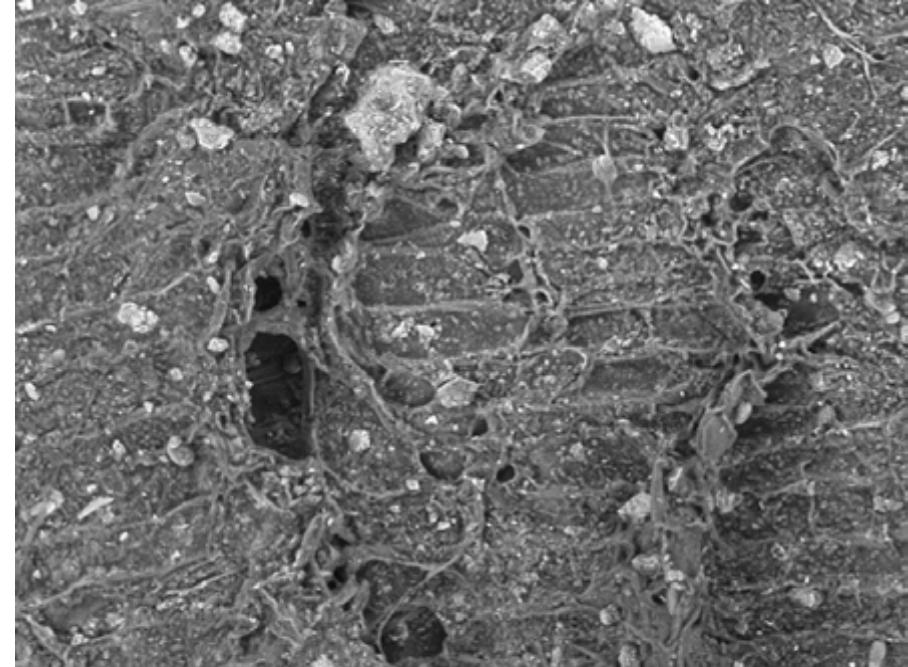
Exterior Surface Texture – Charred at 250° (100x and 500x)

Pachyrhizus erosus (Jicama)



5006-04P11161

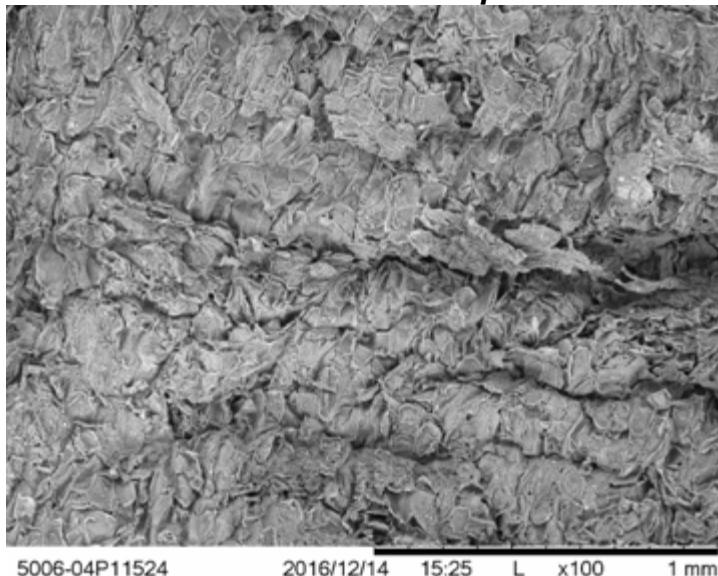
2016/12/06 14:08 L x100 1 mm



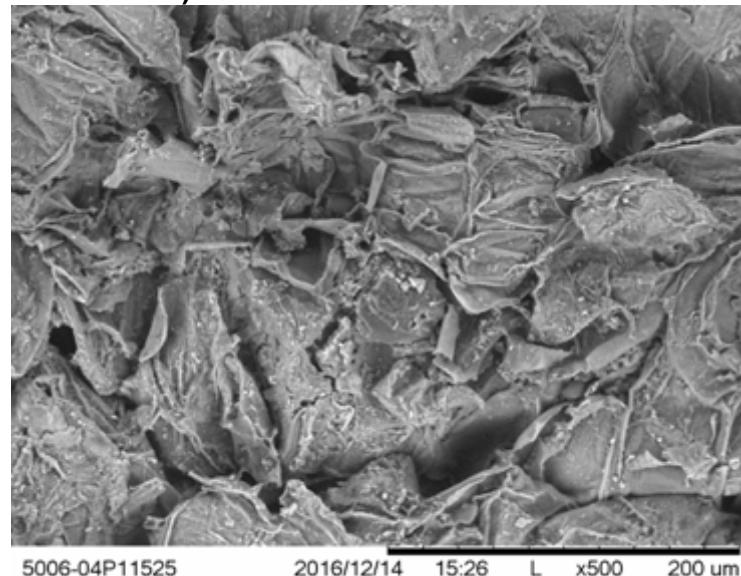
5006-04P11164 2016/12/06 14:12 L x500 200 μm

Exterior Surface Texture – Fresh Samples (100x and 500x)

Ipomoea batatas (Sweet Potato)

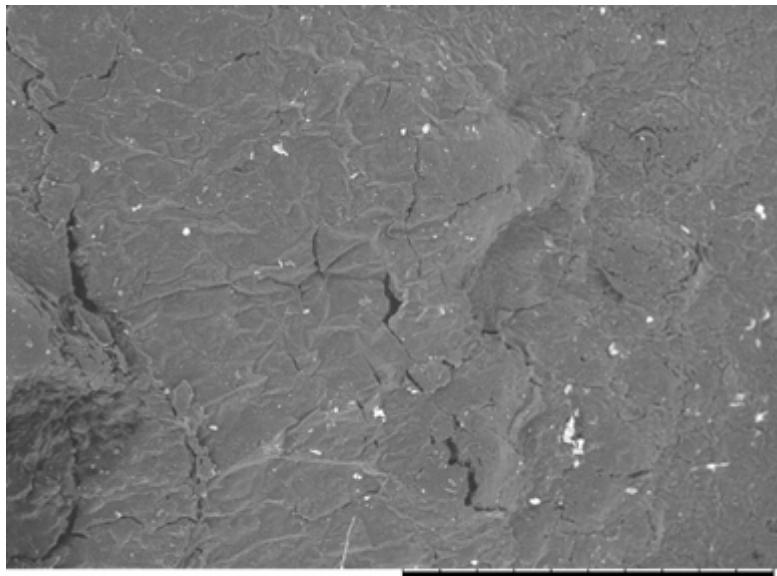


5006-04P11524 2016/12/14 15:25 L x100 1 mm

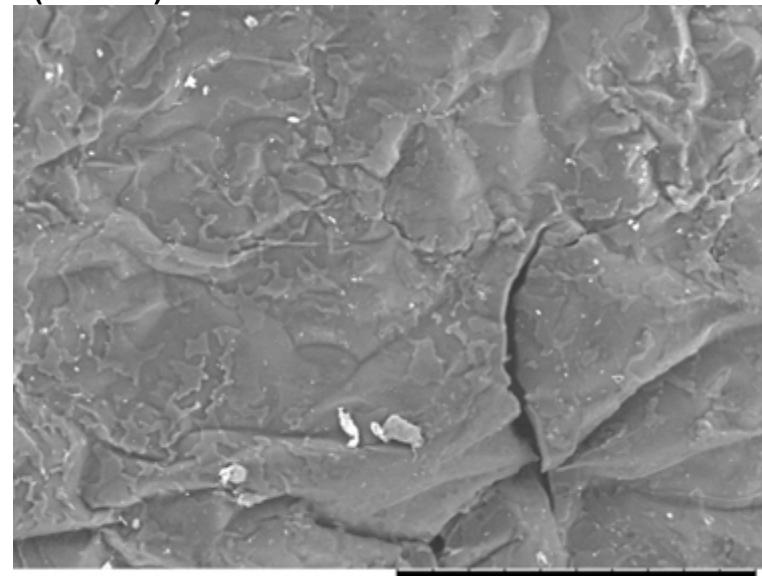


5006-04P11525 2016/12/14 15:26 L x500 200 um

Manihot esculenta (Manioc)



5006-04P11460 2016/12/14 11:36 L x100 1 mm



5006-04P11463 2016/12/14 11:39 L x500 200 um

Diagnostic Feature Comparisons:

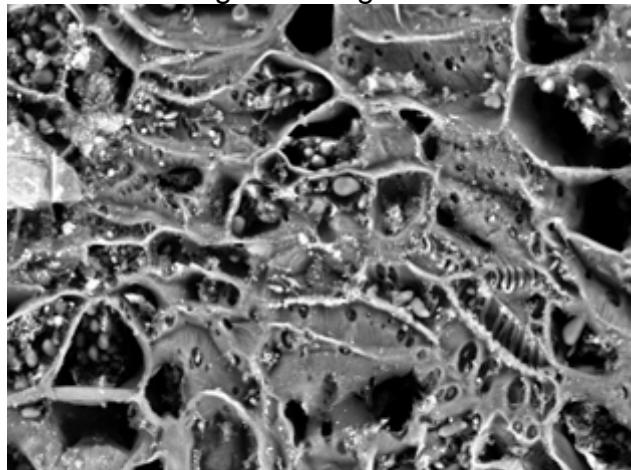
Xylem Wall
Pitting

Xylem Wall Pitting

Fresh Specimen

1000x

Tangential Edge

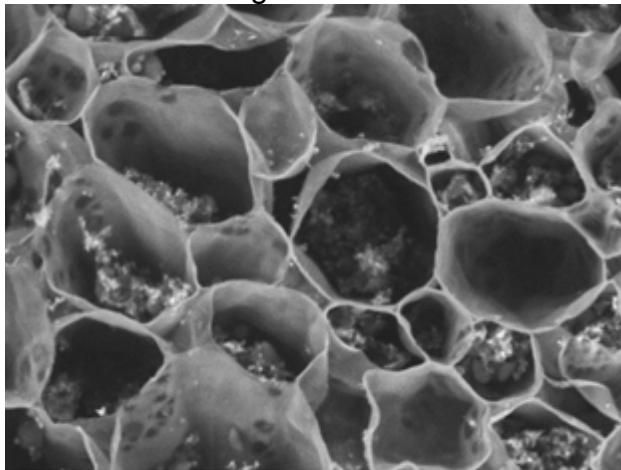


5006-04P11132

2016/12/06 12:43 L x1.0k 100 um

Lepidium meyenii (Maca)

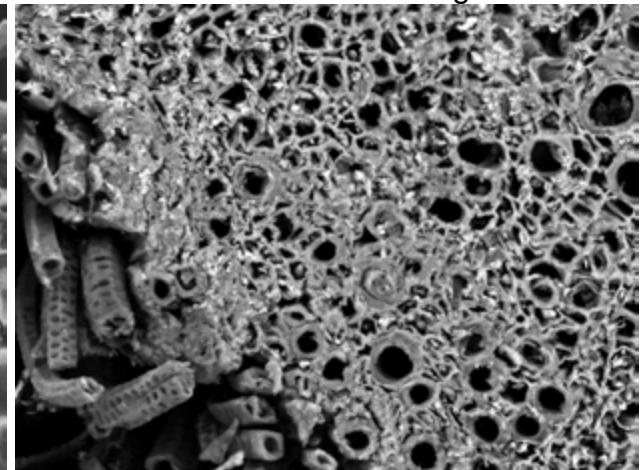
Tangential Center



5006-04P10075

2016/10/14 12:29 L x1.0k 100 um

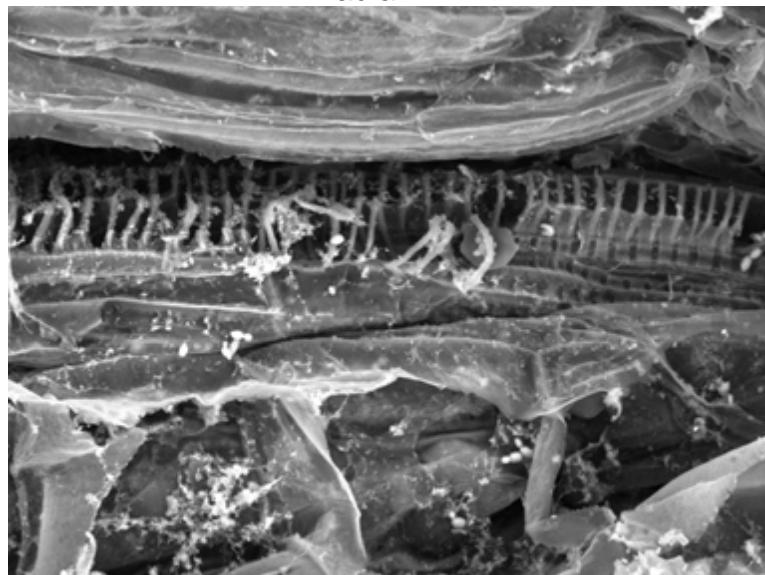
Transverse Edge



5006-04P11121

2016/12/06 12:19 L x1.0k 100 um

Radial

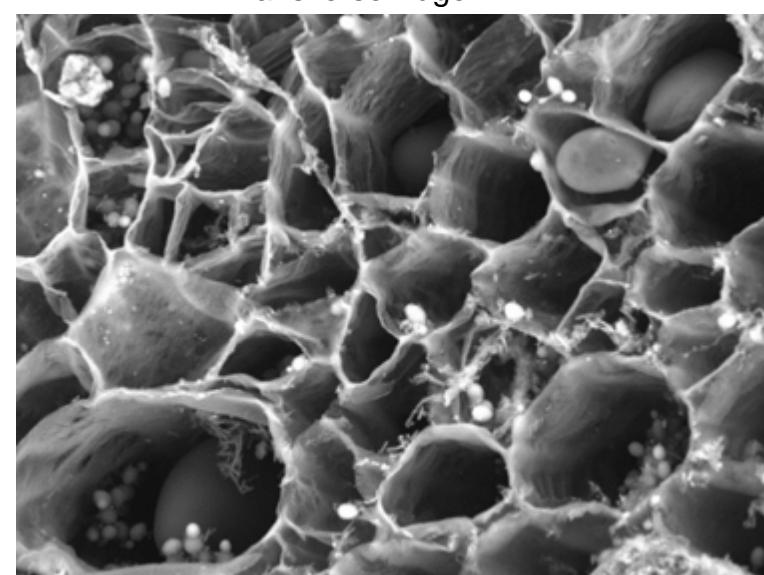


5006-04P11143

2016/12/06 13:21 L x1.0k 100 um

Oxalis tuberosa (Oca)

Transverse Edge



5006-04P11135

2016/12/06 12:59 L x1.5k 50 um

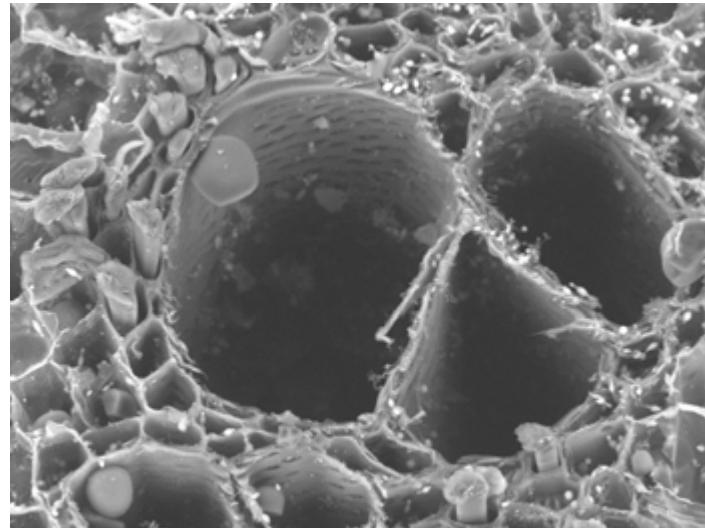
Xylem Wall Pitting

Fresh Specimen

1000x

Pachyrhizus erosus (Jicama)

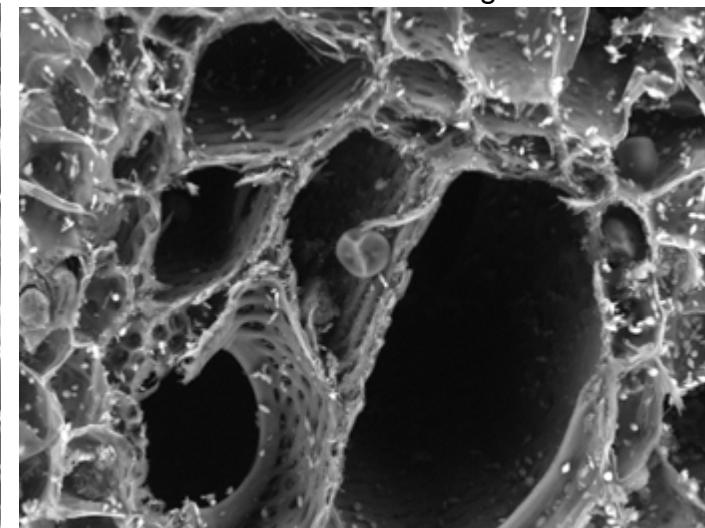
Transverse Center



5006-04P10782

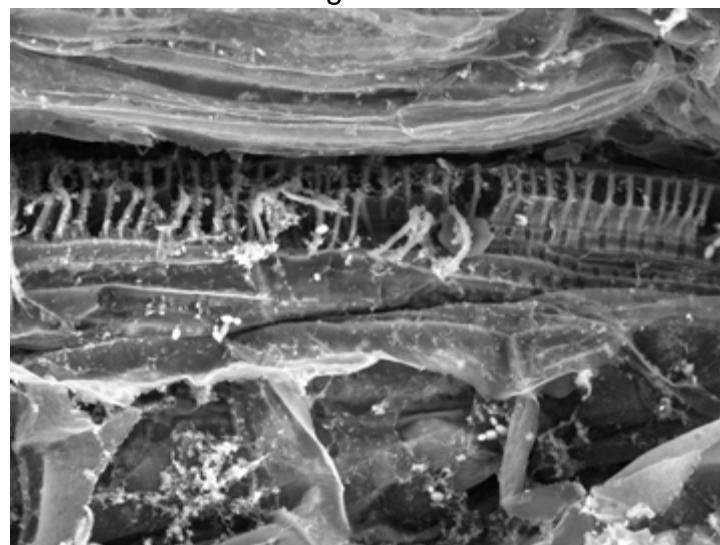
2016/11/30 14:28 L x1.0k 100 µm

Transverse Edge



5006-04P10797 2016/11/30 14:57 L x1.0k 100 µm

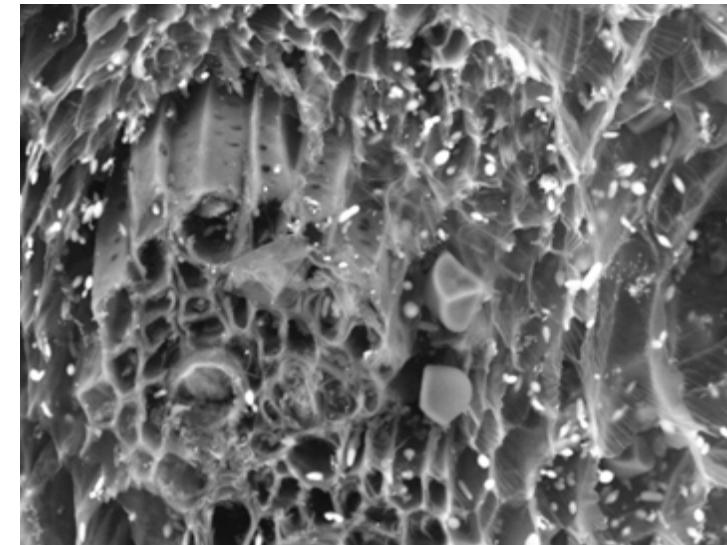
Tangential Center



5006-04P11143

2016/12/06 13:21 L x1.0k 100 µm

Radial



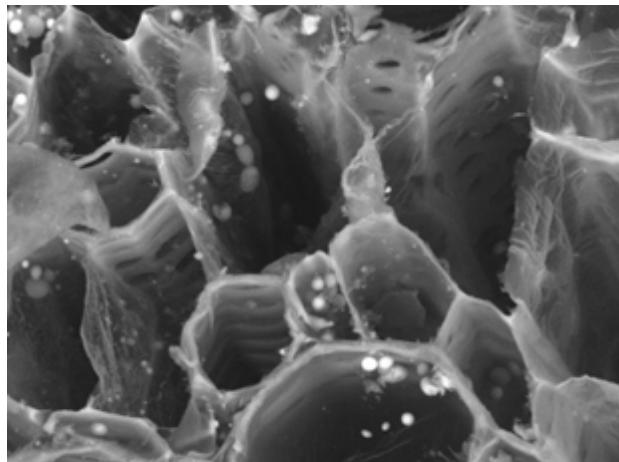
5006-04P10813 2016/11/30 15:41 L x1.5k 50 µm

Xylem Wall Pitting

Fresh Specimen

1000x – 2000x

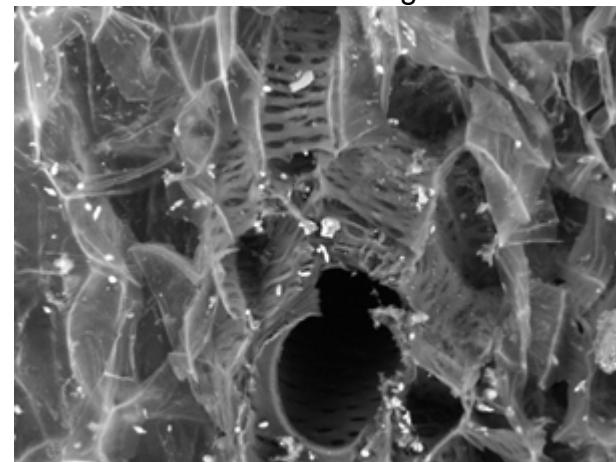
Transverse Center



5006-04P10821 2016/11/30 16:01 L x2.0k 30 um

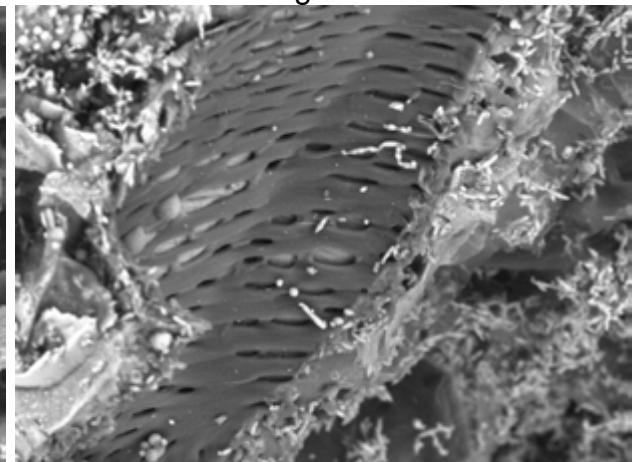
Smallanthus sonchifolius (Yacon)

Transverde Edge



5006-04P10832 2016/11/30 16:27 L x1.0k 100 um

Tangential Center

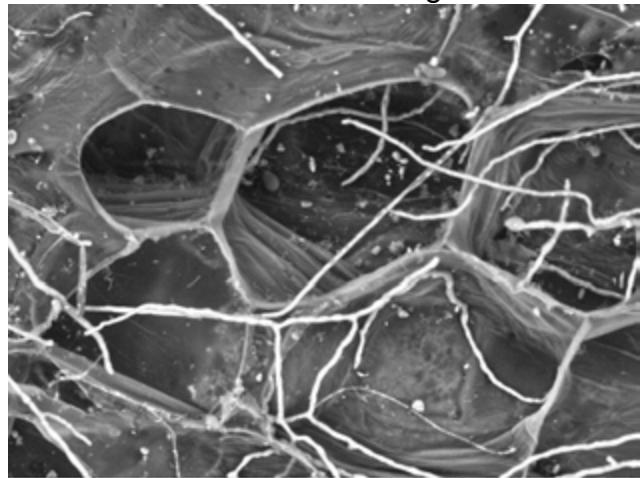


5006-04P10840 2016/11/30 16:53 L x1.2k 50 um

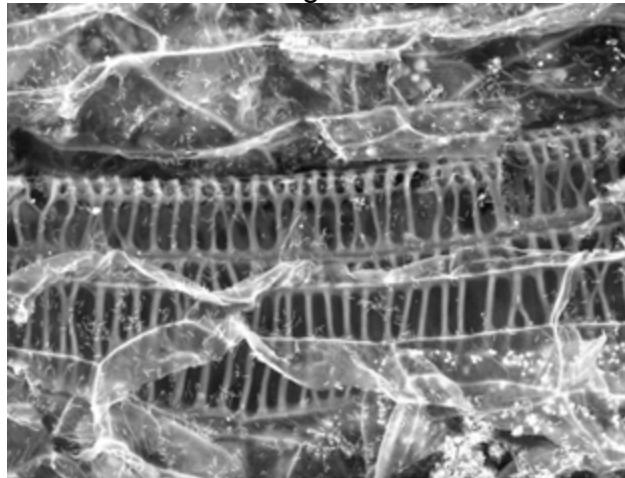
Transverse Edge

Solanum (Potato)

Tangential Center

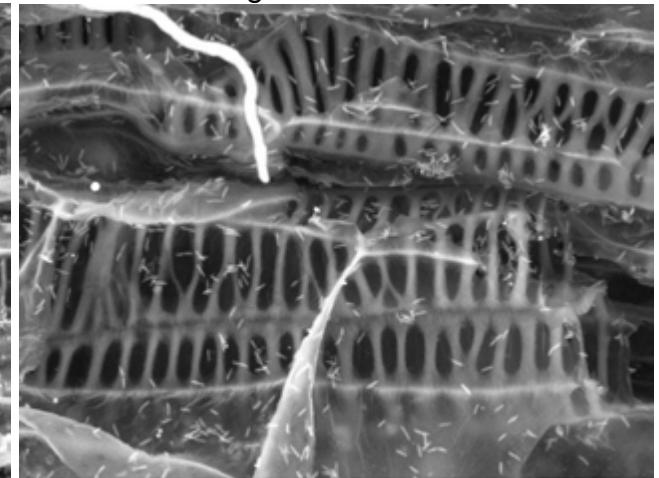


5006-04P10888 2016/12/02 11:52 L x800 100 um



5006-04P10892 2016/12/02 12:05 L x1.0k 100 um

Tangential Center



5006-04P10895 2016/12/02 12:10 L x2.0k 30 um

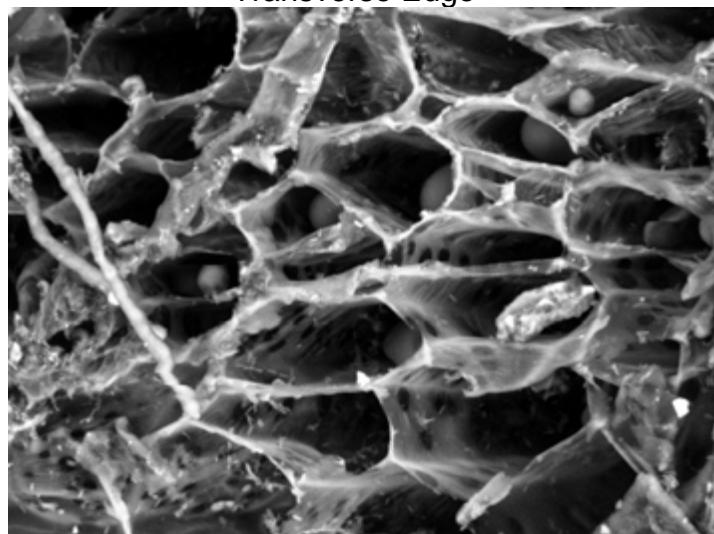
Xylem Wall Pitting

Fresh Specimen

1000x – 1500x

Tropaeolum tuberosum (Mashua)

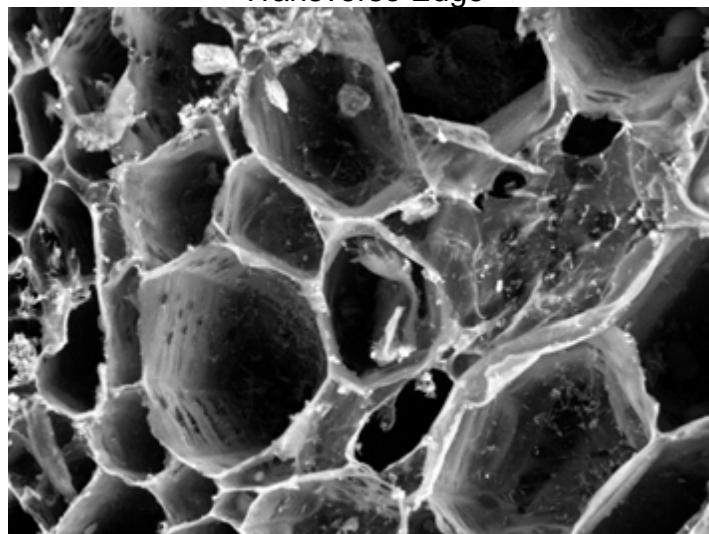
Transverse Edge



5006-04P10924

2016/12/02 14:52 L x1.5k 50 um

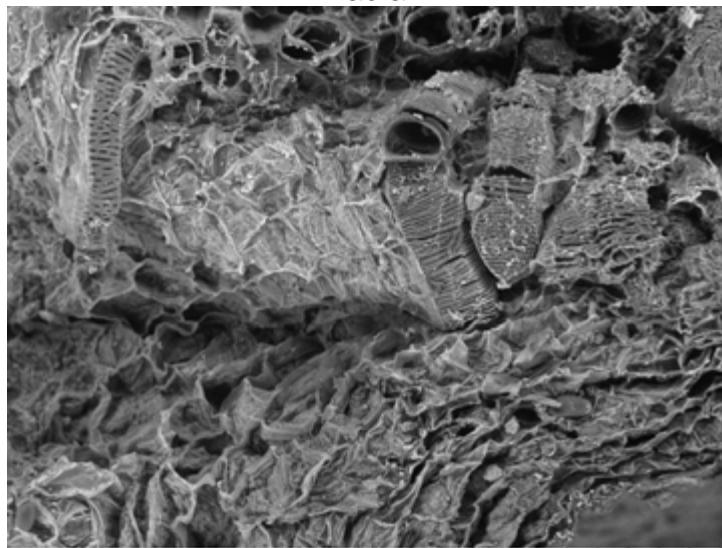
Transverse Edge



5006-04P10923

2016/12/02 14:50 L x1.0k 100 um

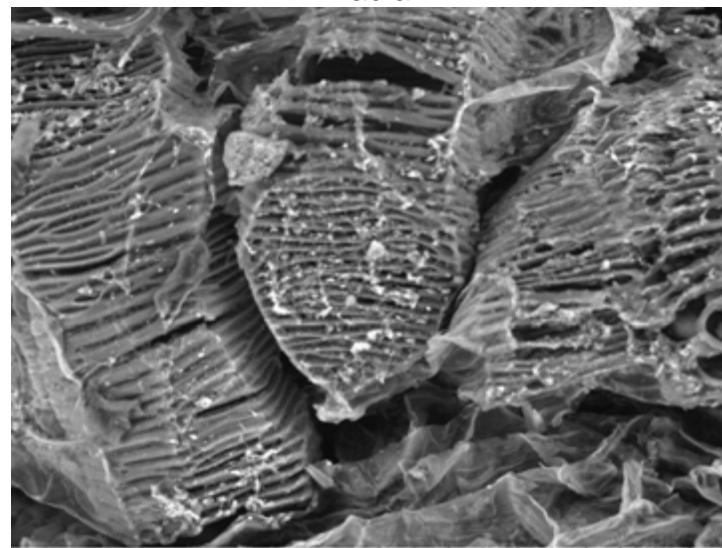
Radial



5006-04P10945

2016/12/02 15:50 L x300 300 um

Radial



5006-04P10944

2016/12/02 15:49 L x1.0k 100 um

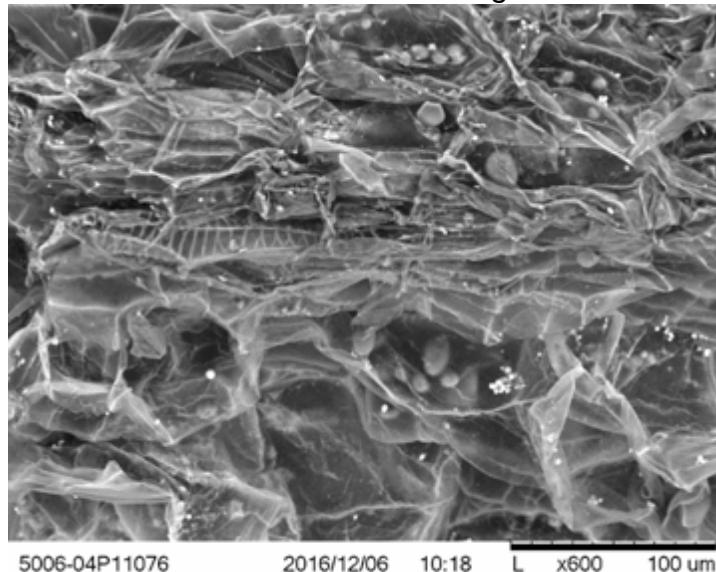
Xylem Wall Pitting

Fresh Specimen

1000x

Ullucus tuberosus (Papalisa)

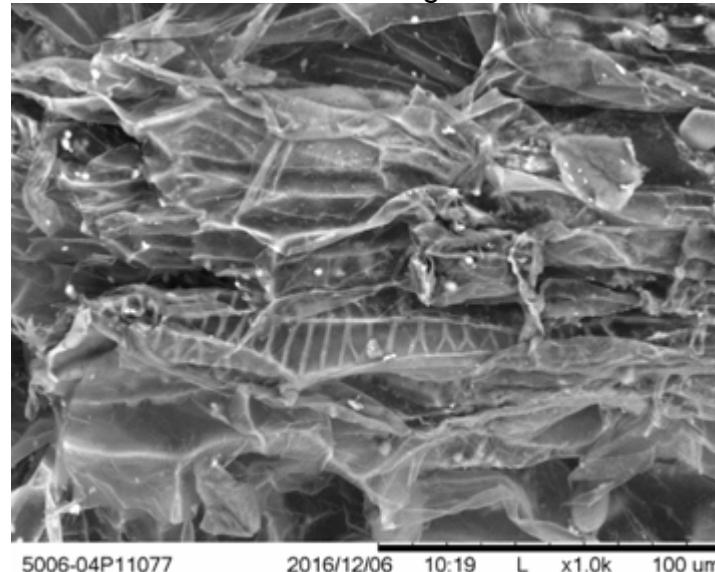
Transverse Edge



5006-04P11076

2016/12/06 10:18 L x600 100 um

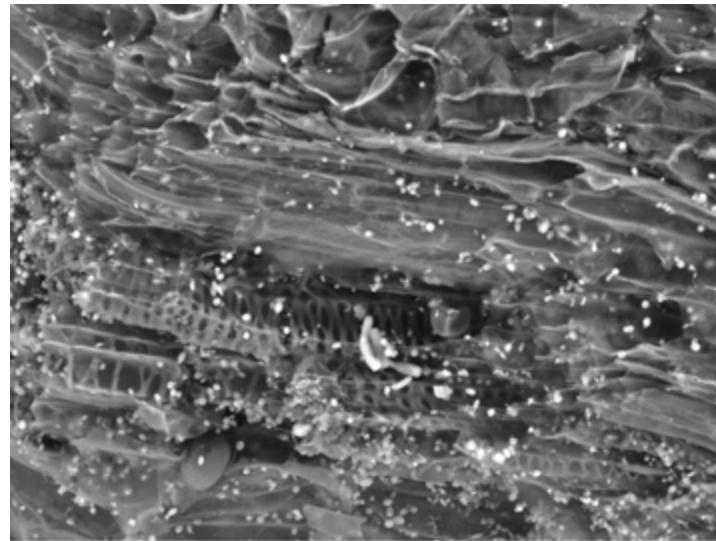
Transverse Edge



5006-04P11077

2016/12/06 10:19 L x1.0k 100 um

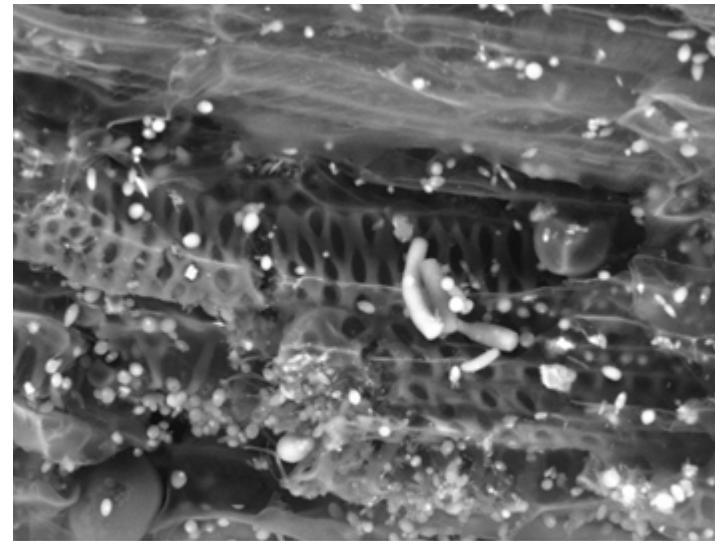
Radial



5006-04P11102

2016/12/06 11:35 L x800 100 um

Radial



5006-04P11103

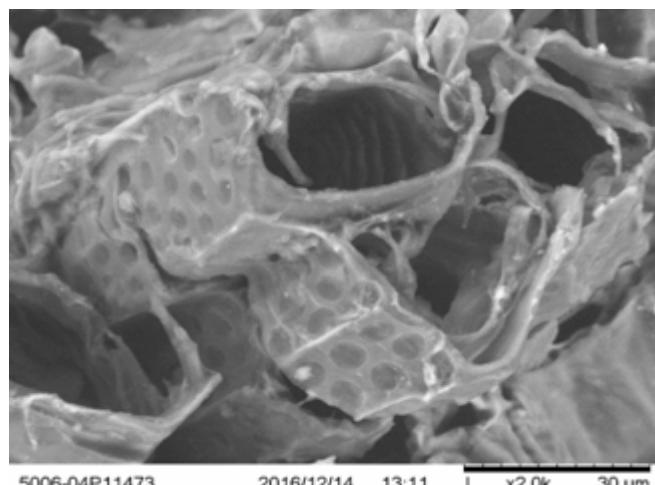
2016/12/06 11:37 L x1.5k 50 um

Xylem Wall Pitting

Fresh Specimen

1000x – 2000x

Transverse Center

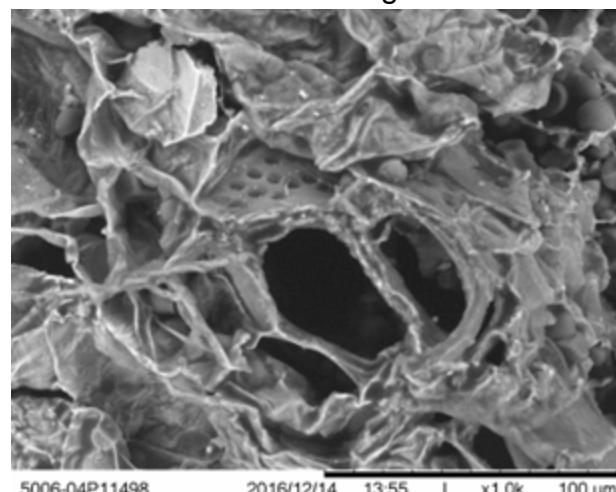


5006-04P11473

2016/12/14 13:11 L x2.0k 30 um

Ipomoea batatas (Sweet Potato)

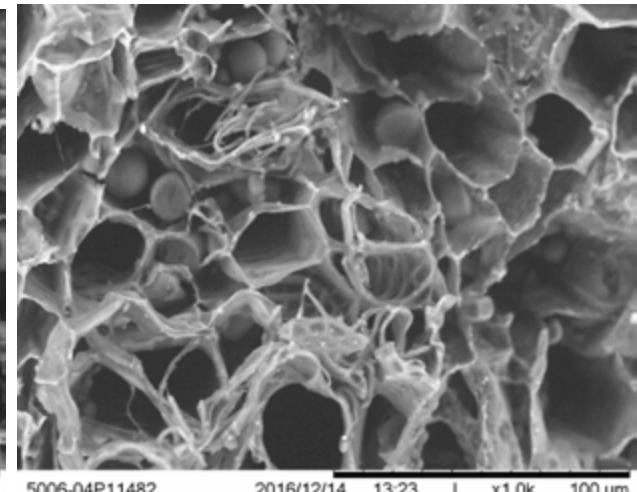
Transverde Edge



5006-04P11498

2016/12/14 13:55 L x1.0k 100 um

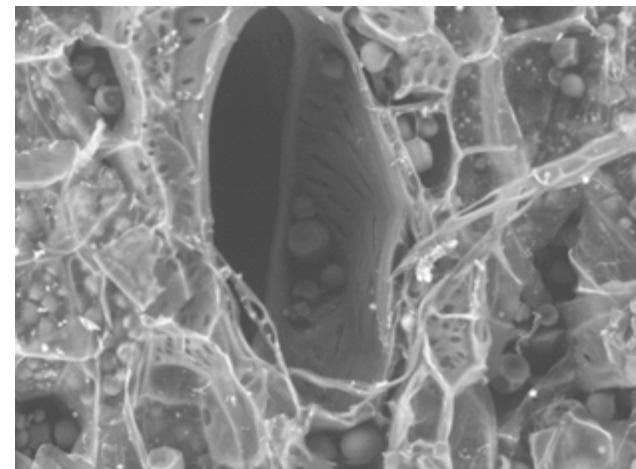
Tansverse Center



5006-04P11482

2016/12/14 13:23 L x1.0k 100 um

Transverse Center

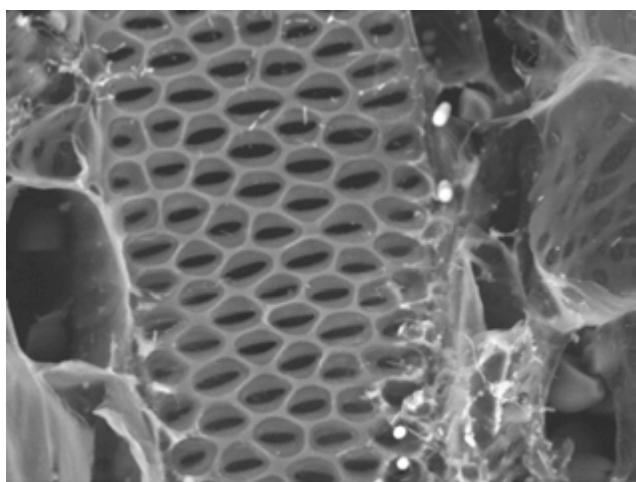


5006-04P11424

2016/12/14 10:22 L x1.0k 100 um

Manihot esculenta (Manioc)

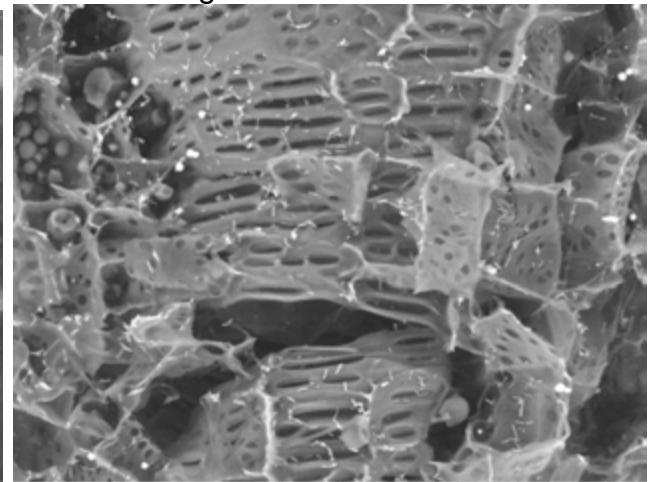
Radial



5006-04P11455

2016/12/14 11:23 L x2.0k 30 um

Tangential Center



5006-04P11442

2016/12/14 11:02 L x1.0k 100 um

Diagnostic Feature Comparisons:

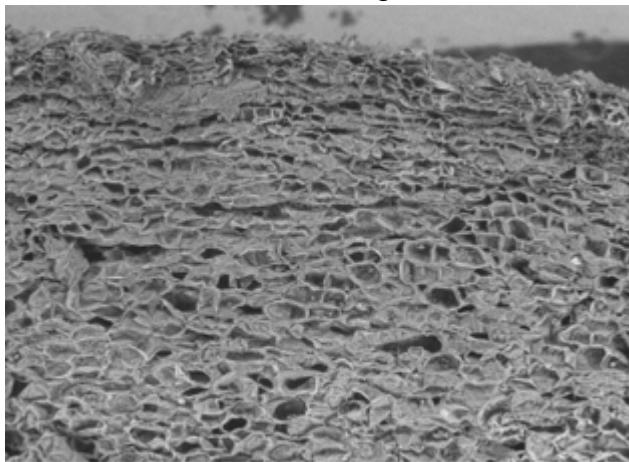
Periderm
Thickness

Periderm Thickness

Fresh Specimen

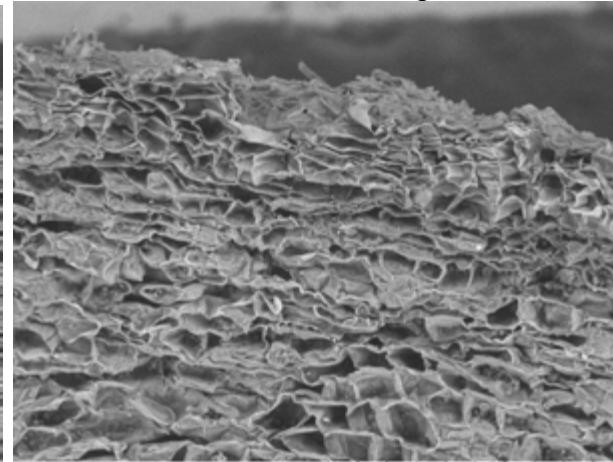
Ipomoea batatas (Sweet Potato)

Transverse Edge



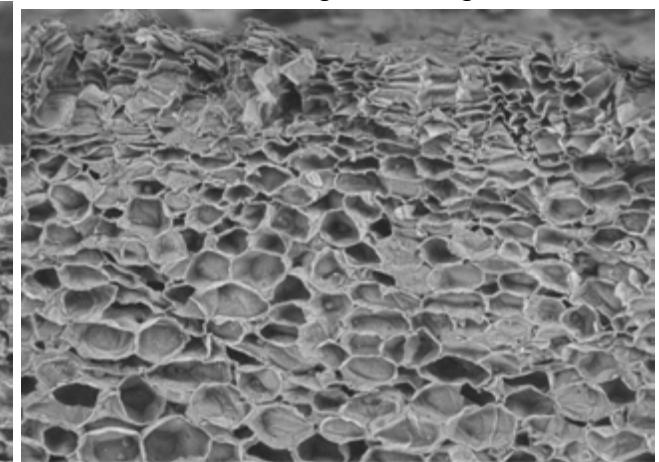
5006-04P11486 2016/12/14 13:37 L x100 1 mm

Transverse Edge



5006-04P11487 2016/12/14 13:38 L x200 500 um

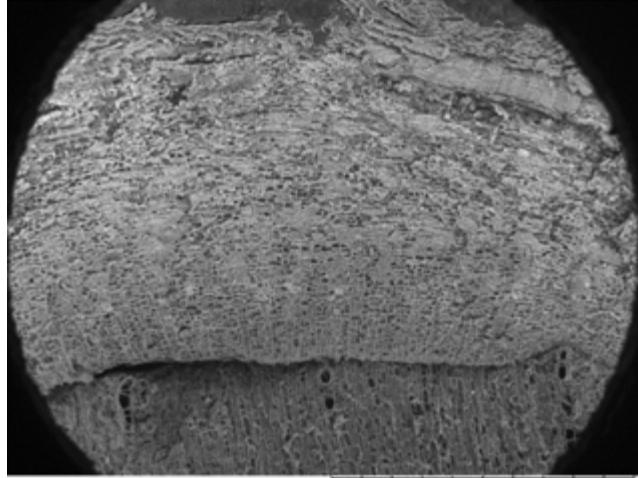
Tangential Edge



5006-04P11510 2016/12/14 14:32 L x200 500 um

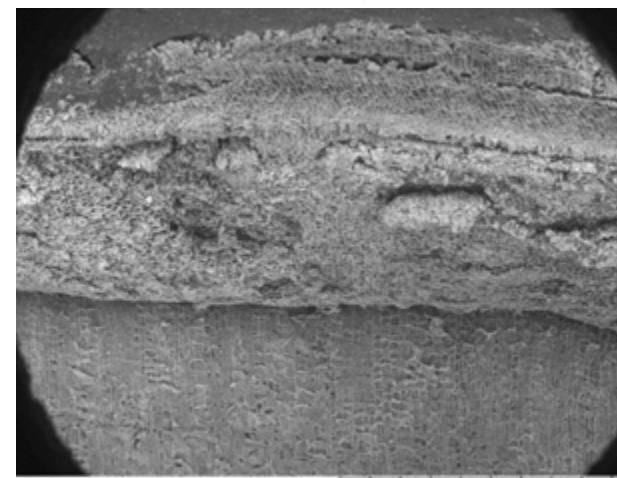
Manihot esculenta (Manioc)

Transverse Edge



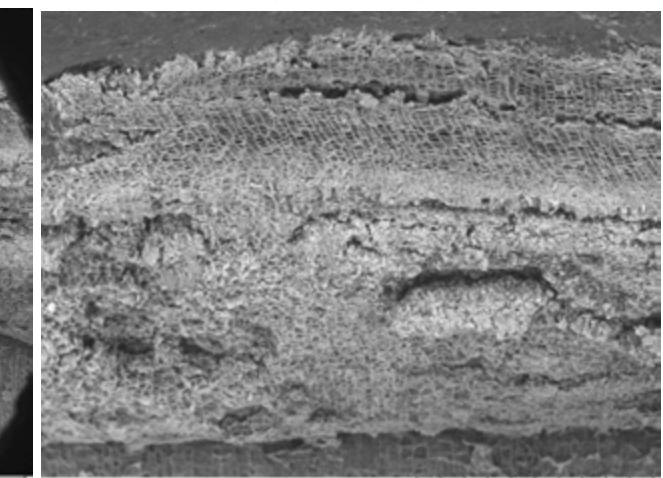
5006-04P11403 2016/12/14 09:45 L x50 2 mm

Tangential Edge



5006-04P11425 2016/12/14 10:32 L x50 2 mm

Tangential Edge

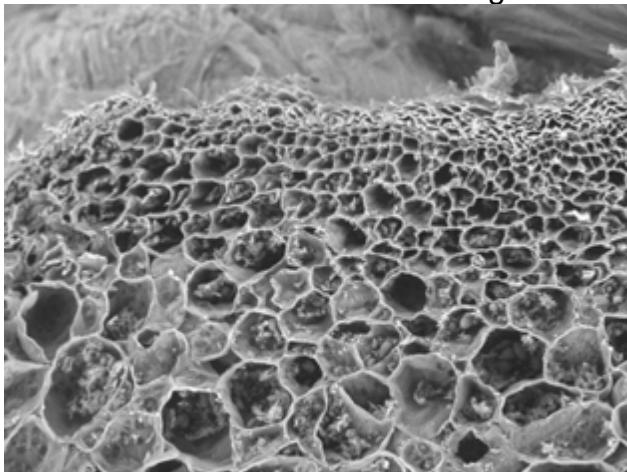


5006-04P11426 2016/12/14 10:34 L x80 1 mm

Periderm Thickness

Fresh Specimen

Transverse Edge

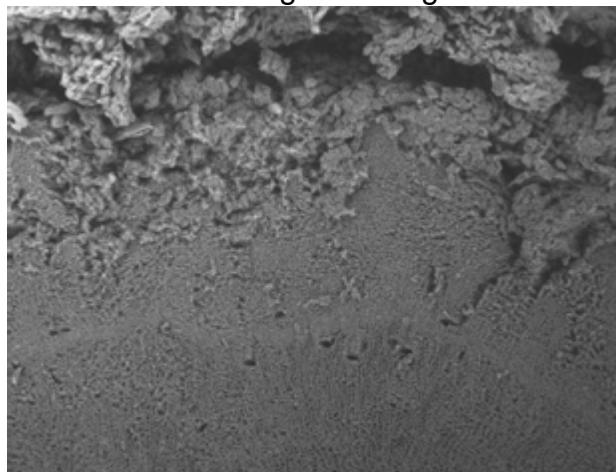


5006-04P11107 2016/12/06 11:53 L x500 200 um

2016/12/06 11:53 L x500 200 um

***Lepidium meyenii* (Maca)**

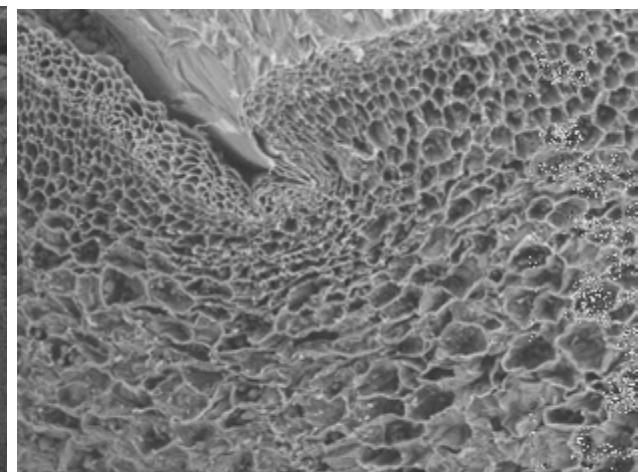
Tangential Edge



mm t 00tx L Error 150meters

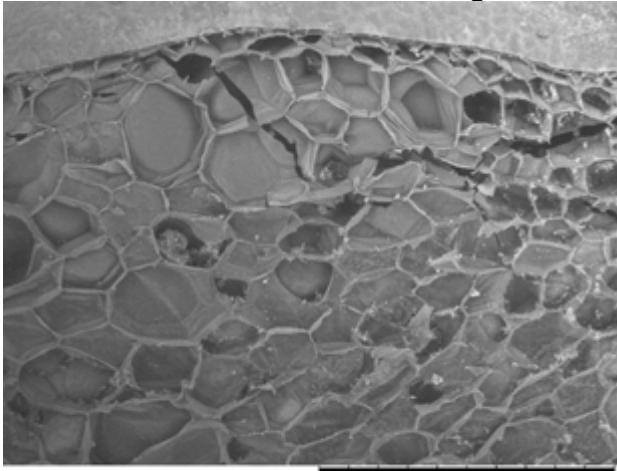
48001940-2002

Radial



5006-04P10103 2016/10/21 10:59 L x400 200 μm

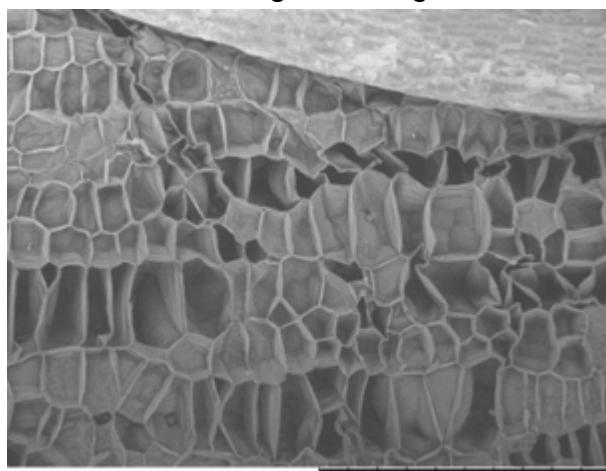
Transverse Edge



5006-04P10115 2016/10/21 11:49 L x100 1 mm

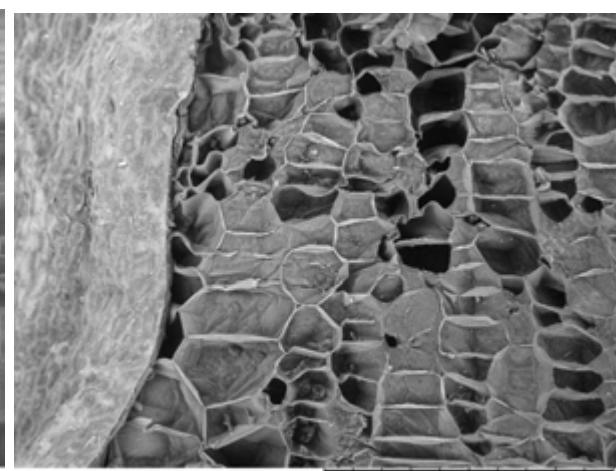
Oxalis tuberosa (Oca)

Tangential Edge



5006-04P10131 2016/10/21 12:32 L x100 1 mm

Radial



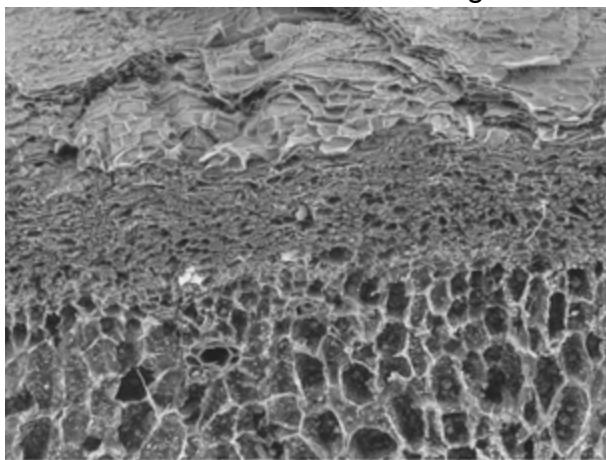
5006-04P10771 2016/11/30 13:58 L x100 1 mm

Periderm Thickness

Fresh Specimen

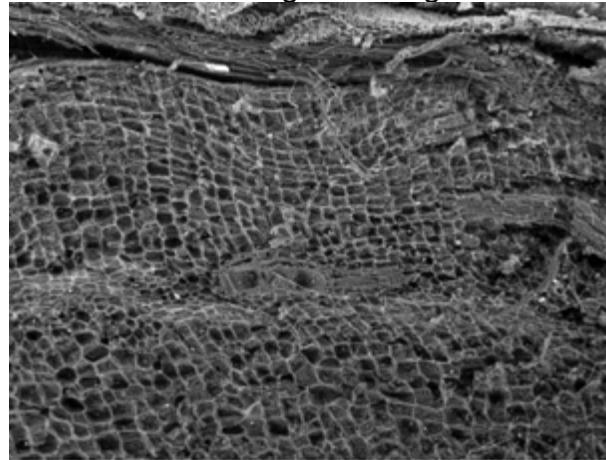
Pachyrhizus erosus (Jicama)

Transverse Edge



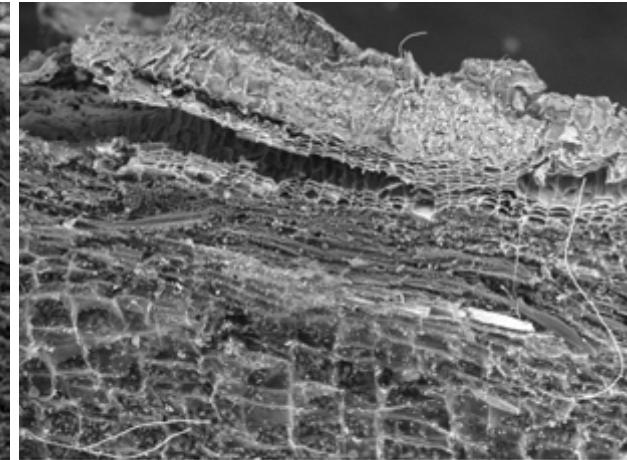
5006-04P10800 2016/11/30 15:01 L x200 500 um

Tangential Edge



5006-04P10804 2016/11/30 15:17 L x80 1 mm

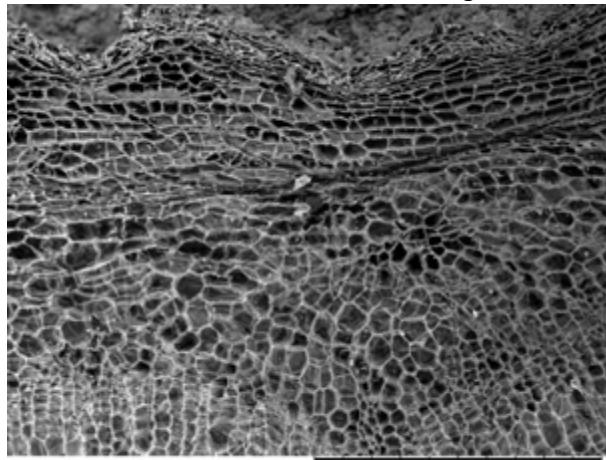
Radial



5006-04P10810 2016/11/30 15:34 L x200 500 um

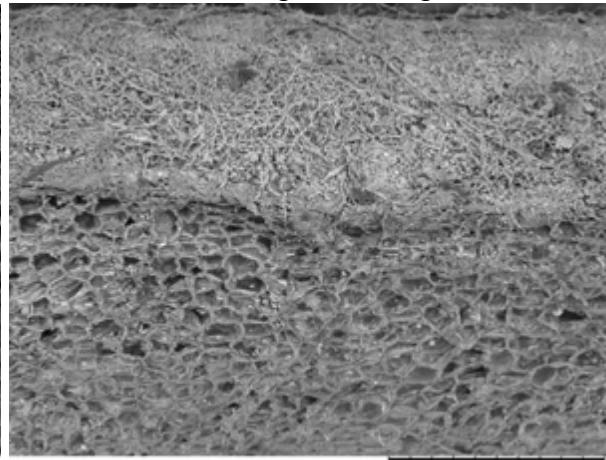
Smallanthus sonchifolius (Yacon)

Transverse Edge



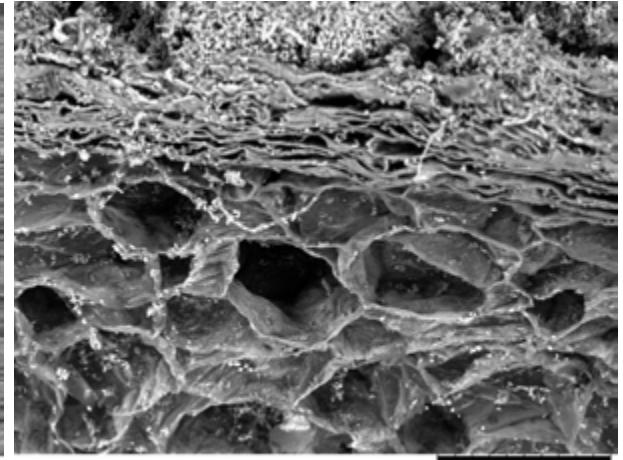
5006-04P10828 2016/11/30 16:21 L x100 1 mm

Tangential Edge



5006-04P10861 2016/12/02 10:29 L x150 500 um

Radial

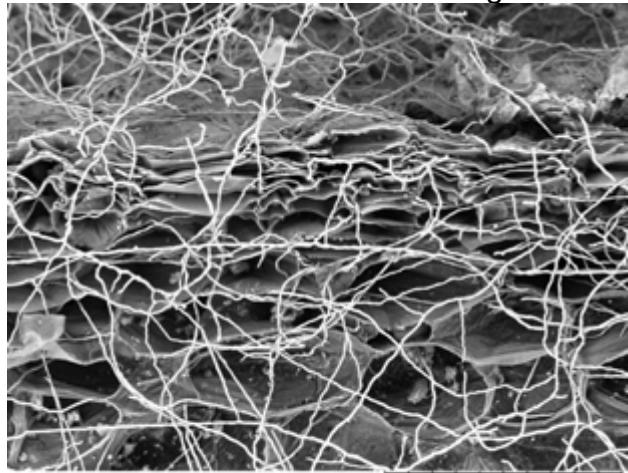


5006-04P10869 2016/12/02 10:50 L x600 100 um

Periderm Thickness

Fresh Specimen

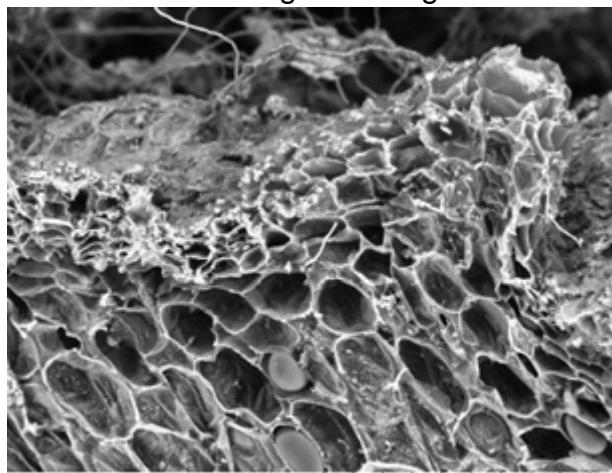
Transverse Edge



5006-04P10882 2016/12/02 11:32 L x400 200 µm

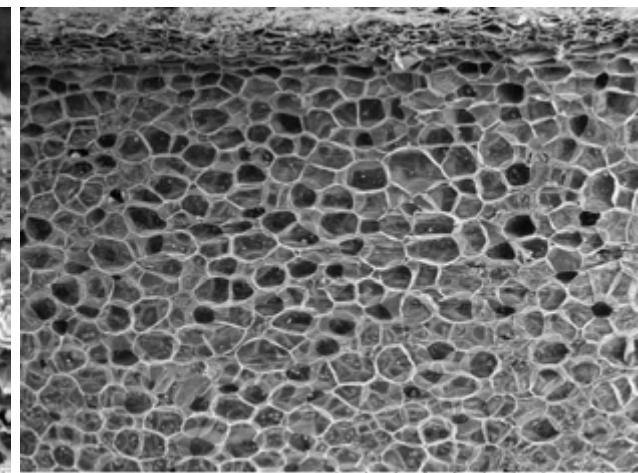
Solanum (Potato)

Tangential Edge



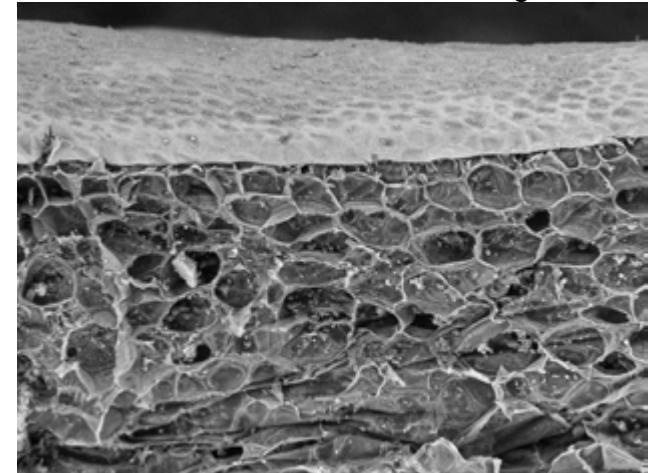
5006-04P10899 2016/12/02 12:22 L x500 200 µm

Radial



5006-04P10906 2016/12/02 12:43 L x100 1 mm

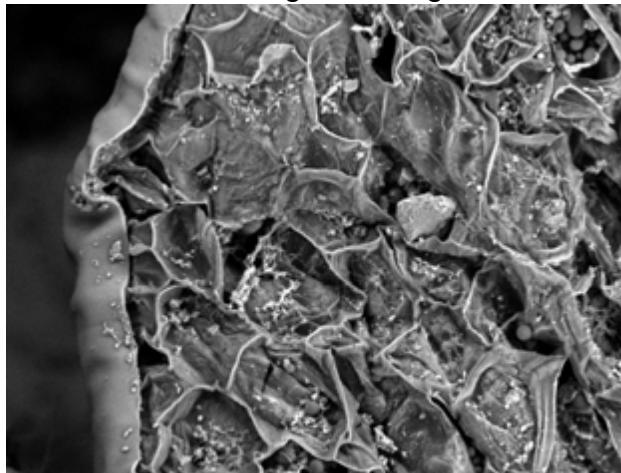
Transverse Edge



5006-04P10915 2016/12/02 14:37 L x200 500 µm

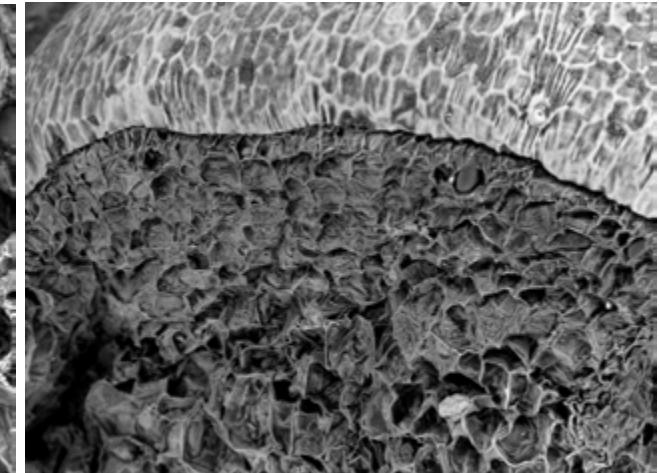
Tropaeolum tuberosum (Mashua)

Tangential Edge



5006-04P10935 2016/12/02 15:27 L x600 100 µm

Radial



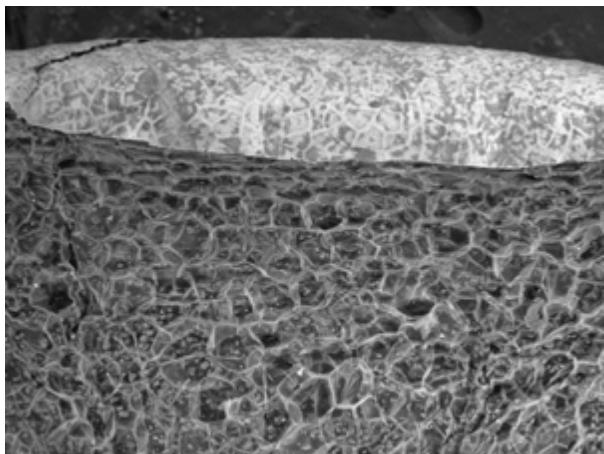
5006-04P10940 2016/12/02 15:42 L x200 500 µm

Periderm Thickness

Fresh Specimen

Ullucus tuberosus (Papalisa)

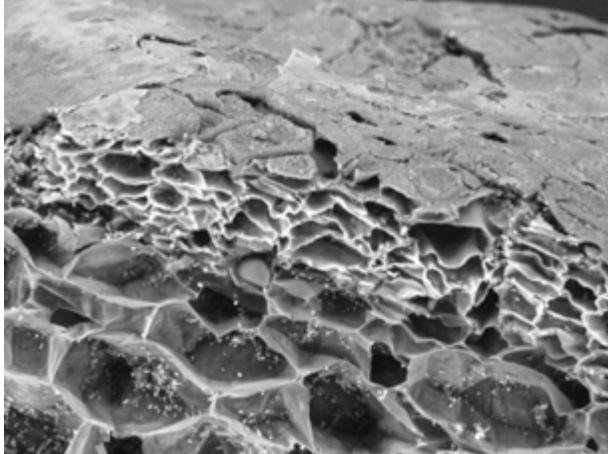
Transverse Edge



5006-04P11071

2016/12/06 10:10 L x100 1 mm

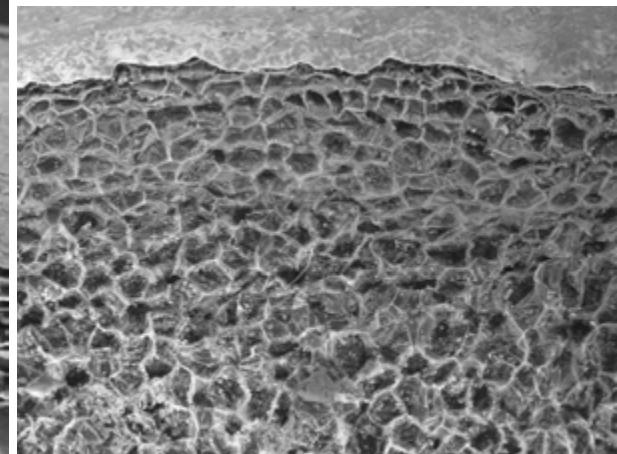
Tangential Edge



5006-04P11090

2016/12/06 11:05 L x400 200 um

Radial



5006-04P11098

2016/12/06 11:27 L x100 1 mm

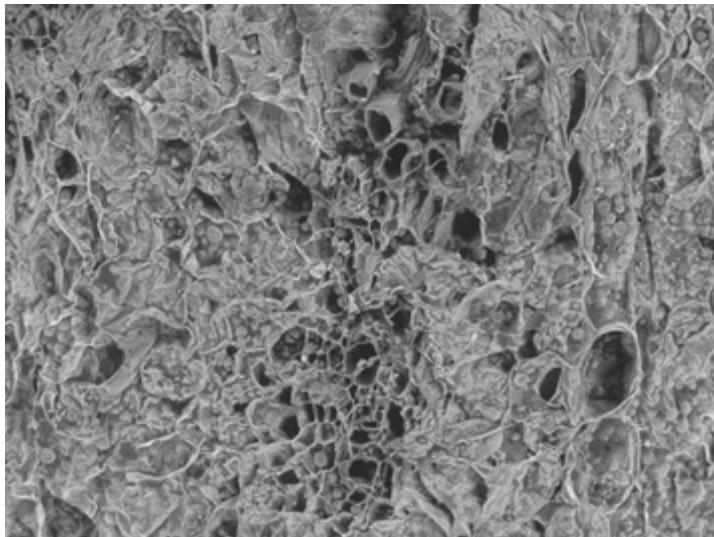
Diagnostic Feature Comparisons:

Xylem/Phloem
Arrangement

Xylem/Phloem Arrangement

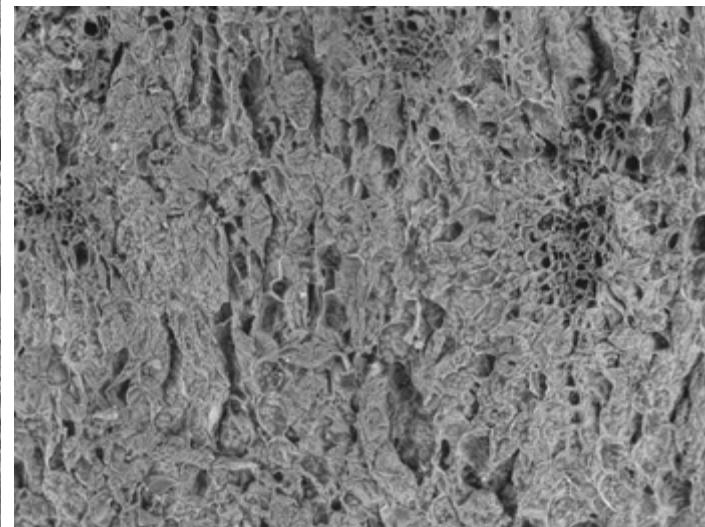
Fresh Specimen

Ipomoea batatas (Sweet Potato)
Transverse Edge



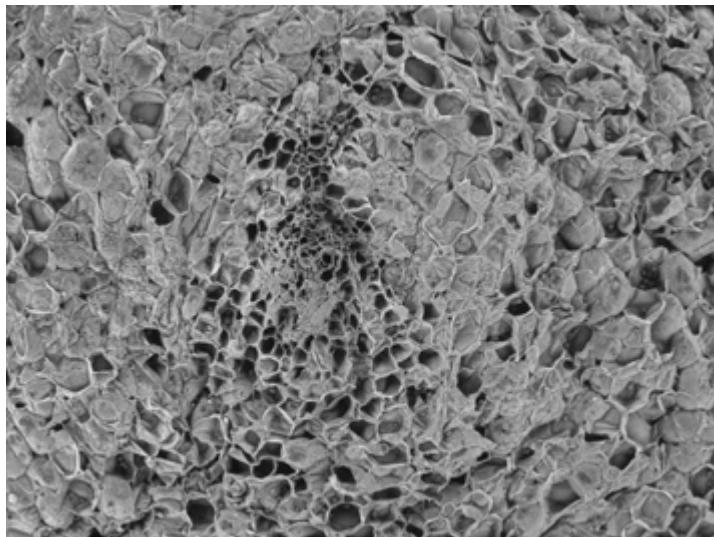
5006-04P11490

2016/12/14 13:42 L x200 500 um



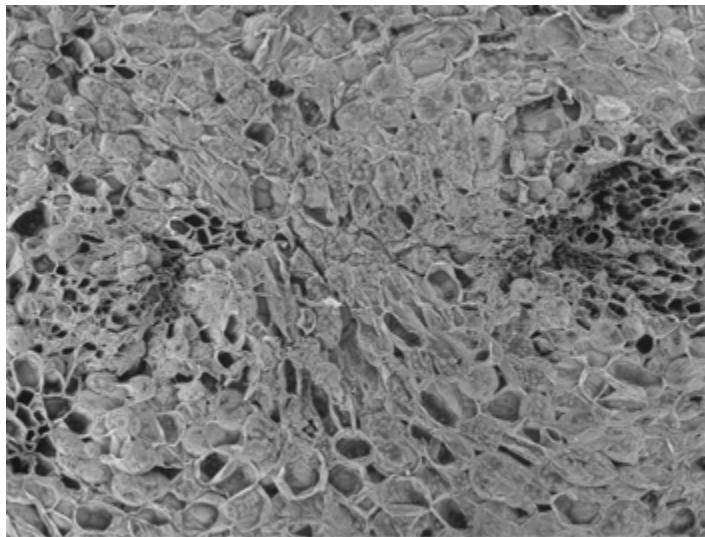
5006-04P11489 2016/12/14 13:41 L x100 1 mm

Transverse Center



5006-04P11476

2016/12/14 13:15 L x100 1 mm

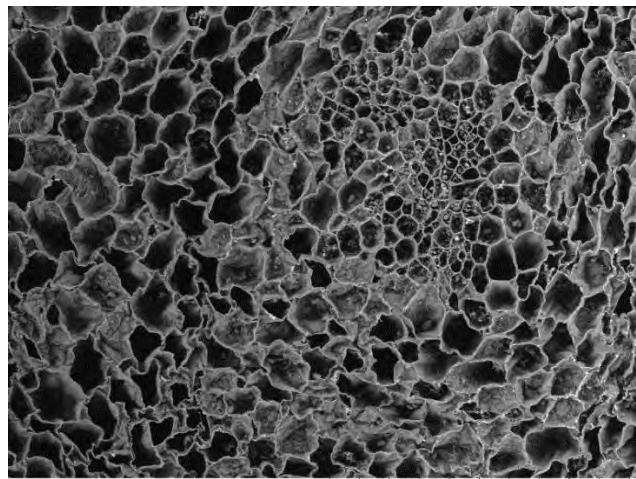


5006-04P11465 2016/12/14 13:00 L x100 1 mm

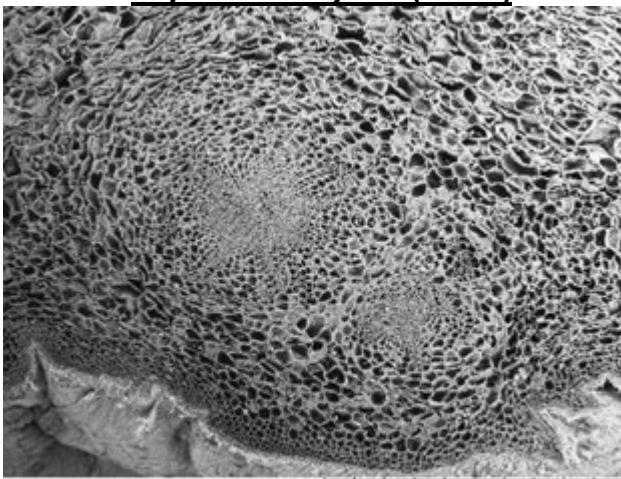
Xylem/Phloem Arrangement

Fresh Specimen

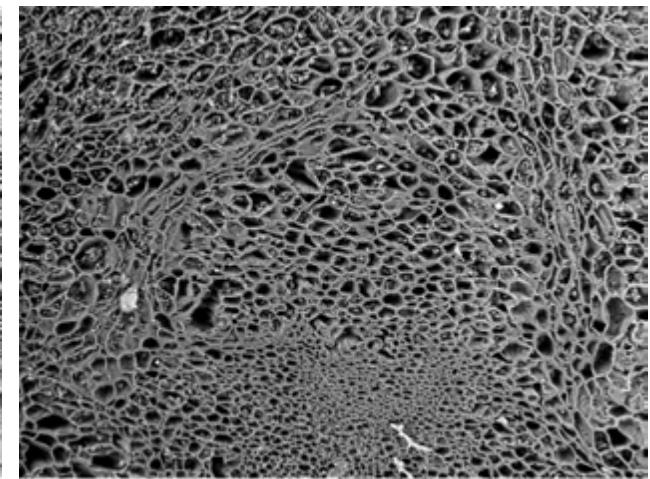
Lepidium meyenii (Maca)



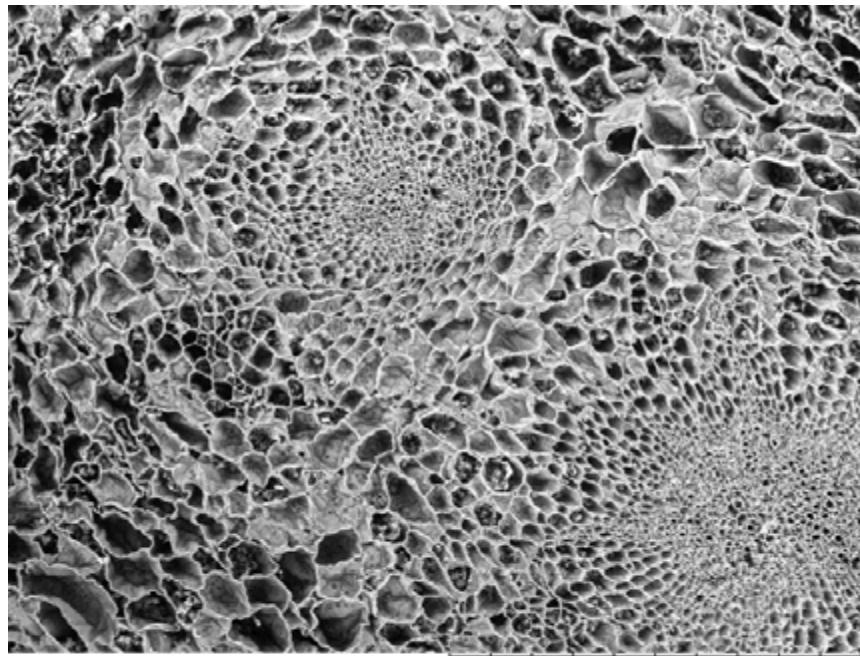
5006-04P10057 2016/10/14 11:33 L x200 500 um



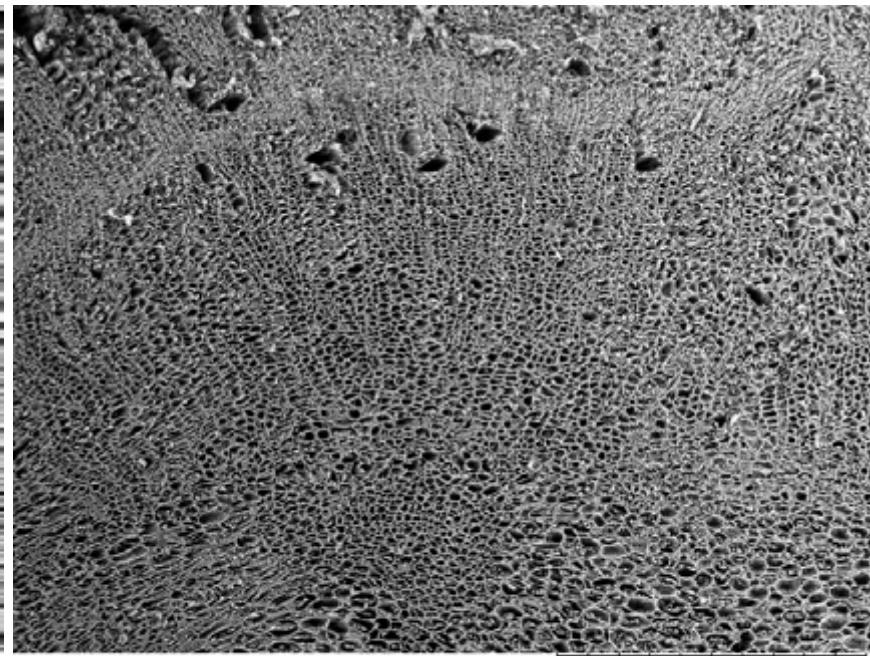
5006-04P10064 2016/10/14 11:58 L x100 1 mm



5006-04P11130 2016/12/06 12:41 L x200 500 um



5006-04P11110 2016/12/06 11:59 L x200 500 um



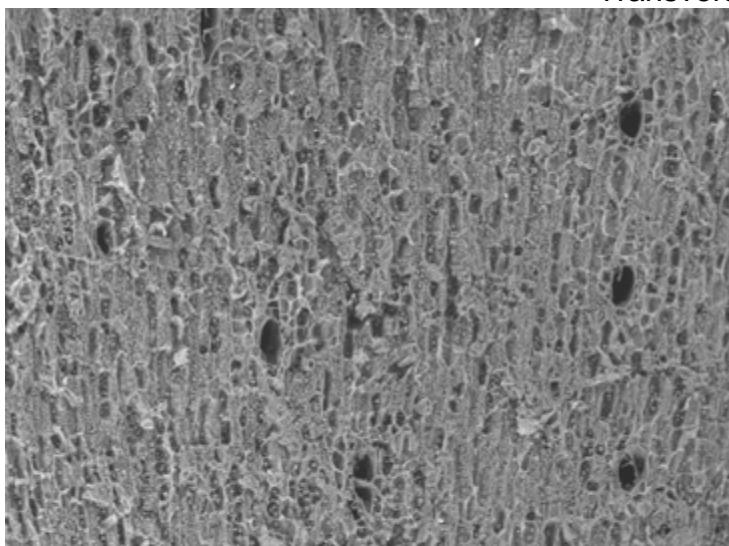
5006-04P11127 2016/12/06 12:36 L x150 500 um

Xylem/Phloem Arrangement

Fresh Specimen

Manihot esculenta (Manioc)

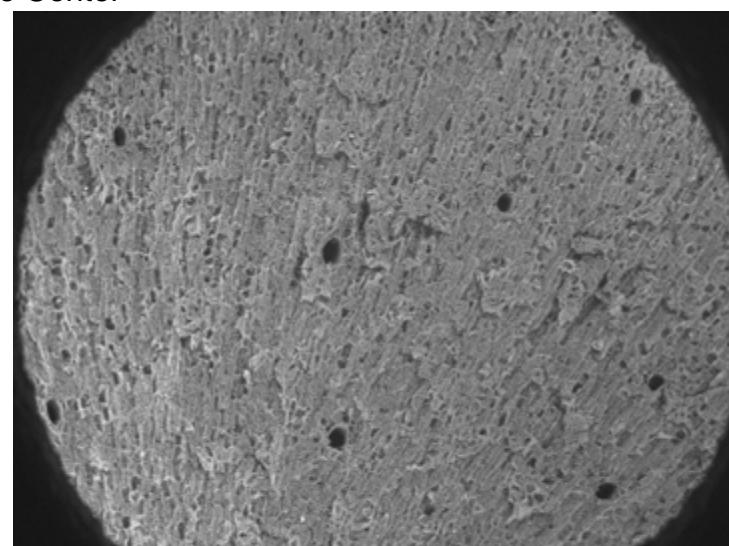
Transverse Center



5006-04P11419

2016/12/14 10:15 L x100

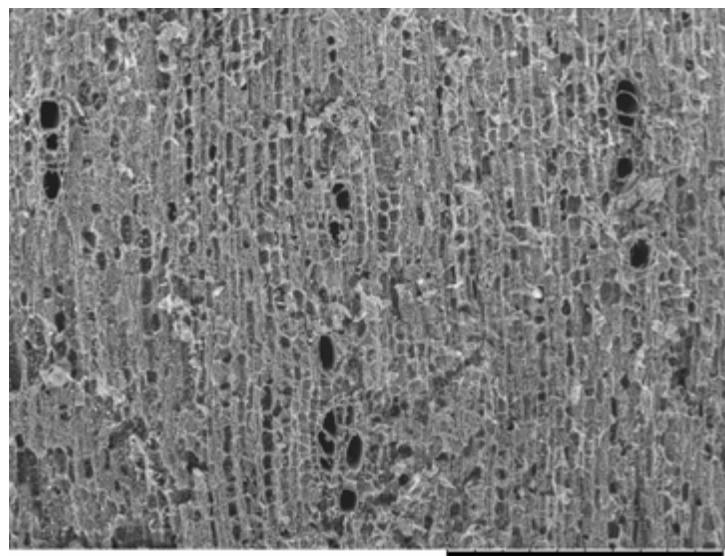
1 mm



5006-04P11417 2016/12/14 10:12 L x50

2 mm

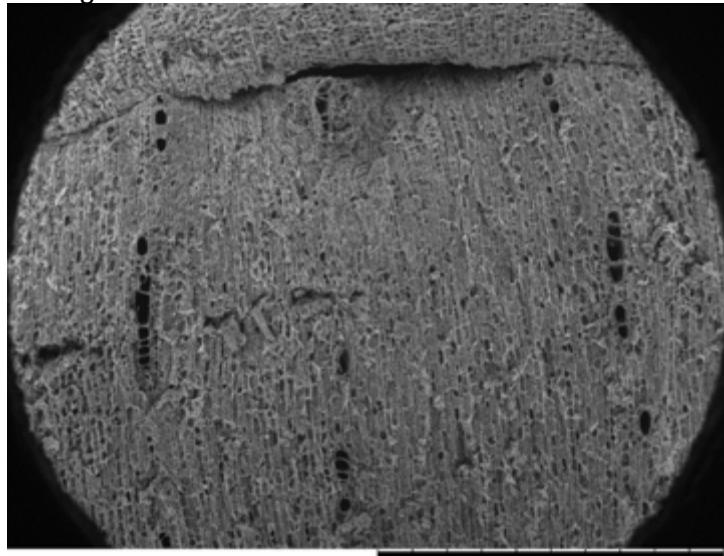
Transverse Edge



5006-04P11414

2016/12/14 10:01 L x80

1 mm



5006-04P11405

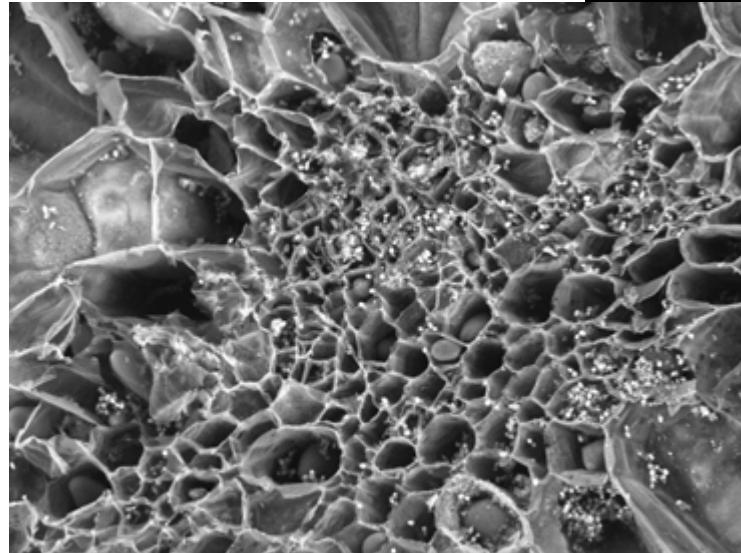
2016/12/14 09:47 L x50

2 mm

Xylem/Phloem Arrangement

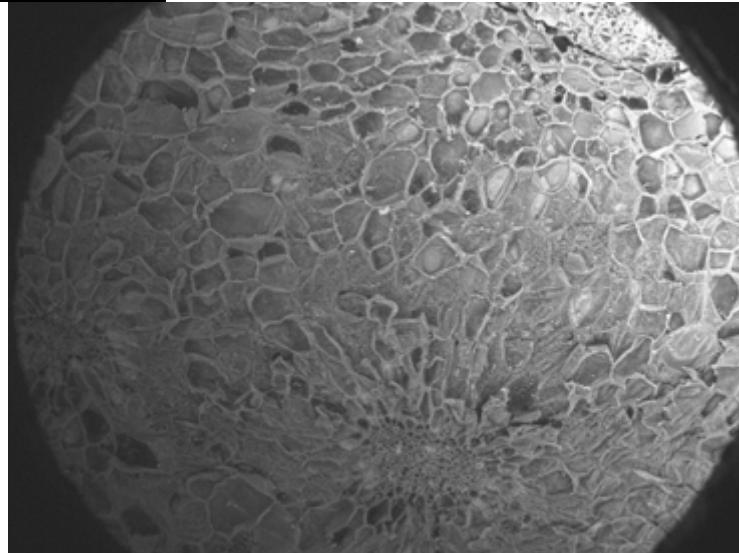
Fresh Specimen

Oxalis tuberosa (Oca)

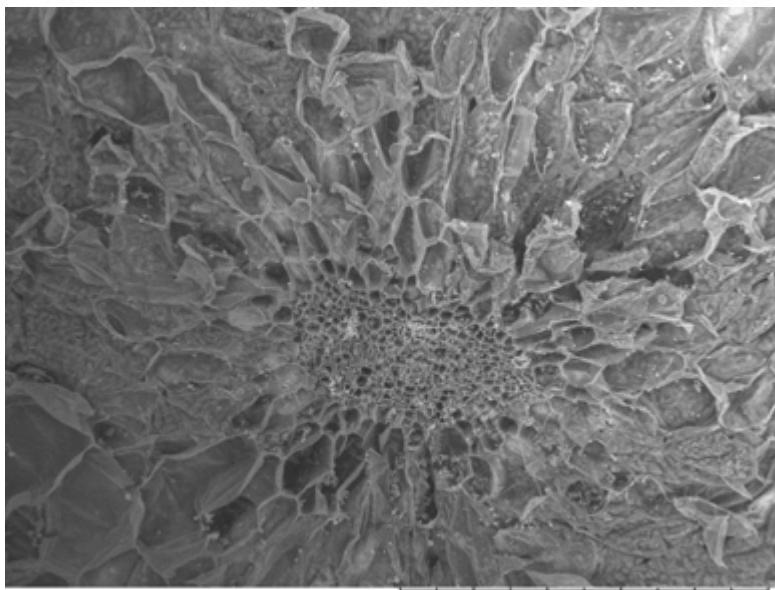


5006-04P11133

2016/12/06 12:55 L x500 200 μm

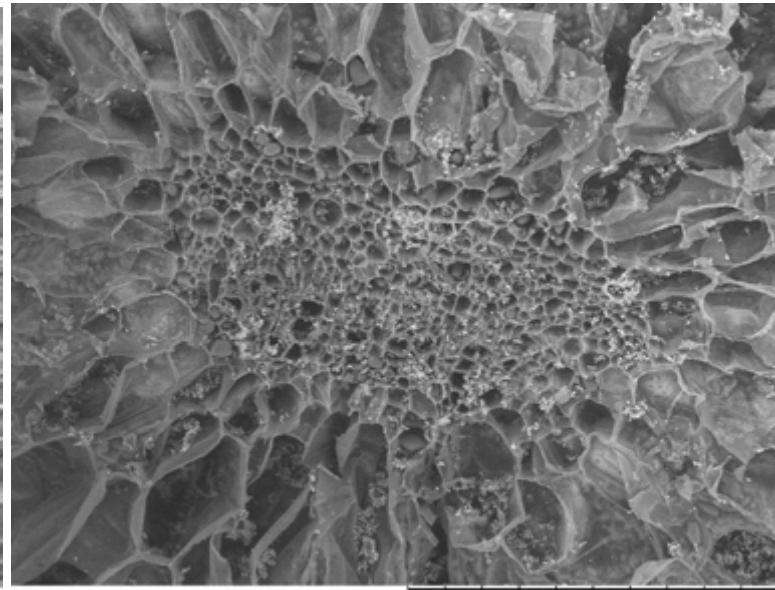


5006-04P10125 2016/10/21 12:05 L x50 2 mm



5006-04P10121

2016/10/21 12:00 L x100 1 mm



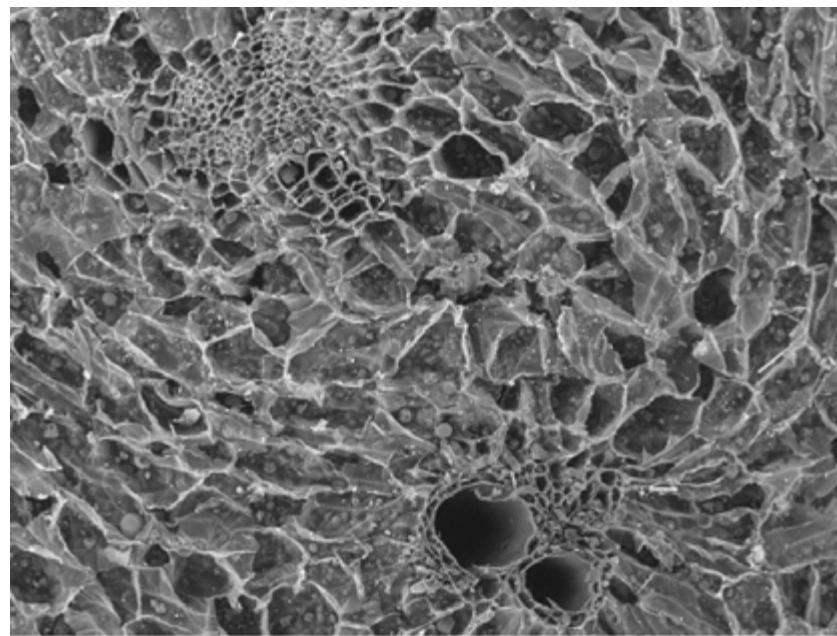
5006-04P10122

2016/10/21 12:01 L x200 500 μm

Xylem/Phloem Arrangement

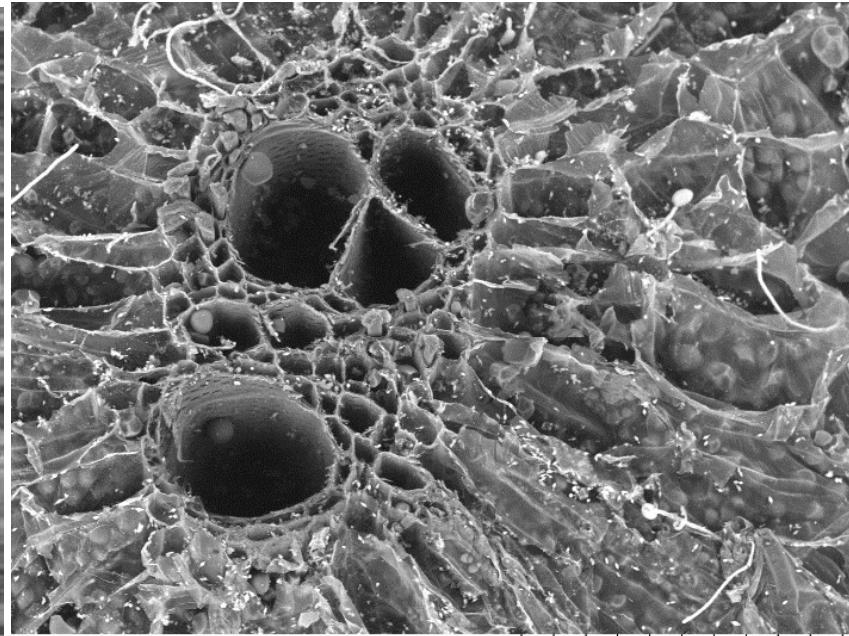
Fresh Specimen

Pachyrhizus erosus (Jicama)

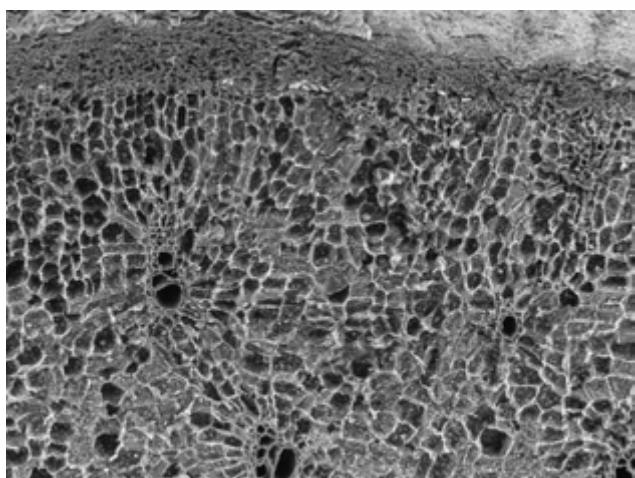


5006-04P10787

2016/11/30 14:35 L x200 500 um

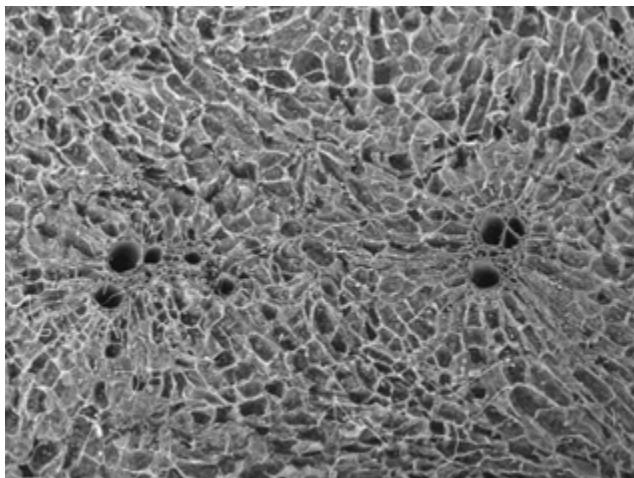


5006-04P10781 2016/11/30 14:25 L x400 200 um



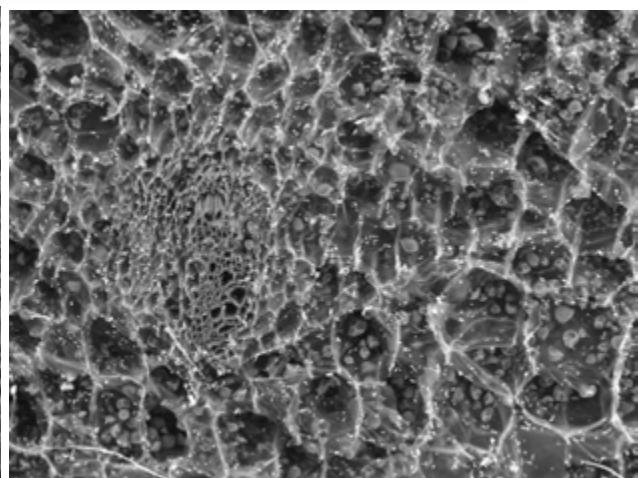
5006-04P10793

2016/11/30 14:50 L x100 1 mm



5006-04P10779

2016/11/30 14:23 L x100 1 mm



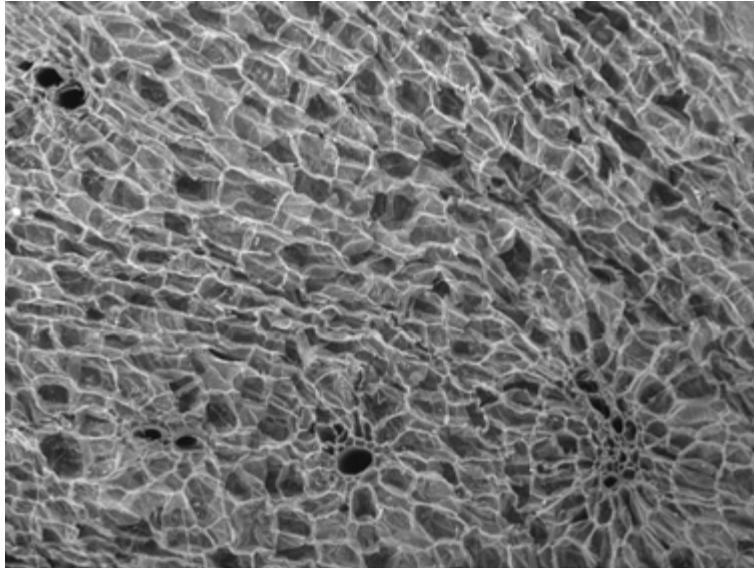
5006-04P10811

2016/11/30 15:37 L x300 300 um

Xylem/Phloem Arrangement

Fresh Specimen

Smallanthus sonchifolius (Yacon)



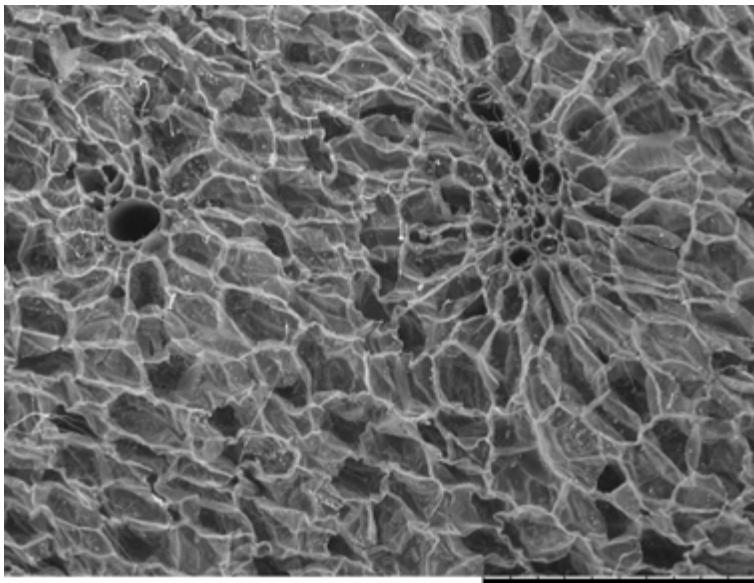
5006-04P10824

2016/11/30 16:07 L x100 1 mm



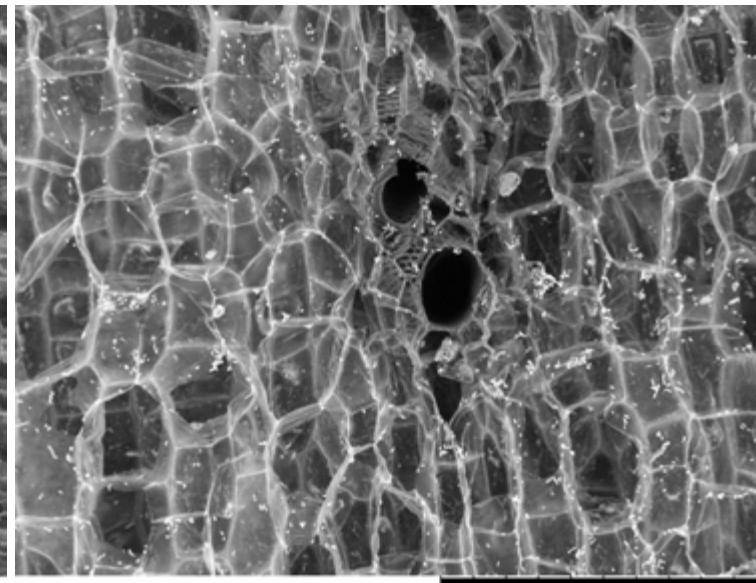
5006-04P10819

2016/11/30 15:59 L x400 200 um



5006-04P10817

2016/11/30 15:56 L x150 500 um



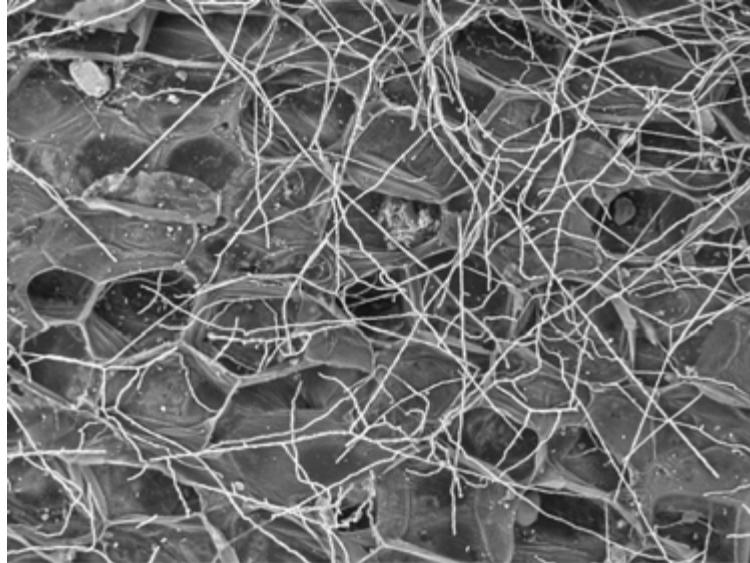
5006-04P10830

2016/11/30 16:24 L x300 300 um

Xylem/Phloem Arrangement

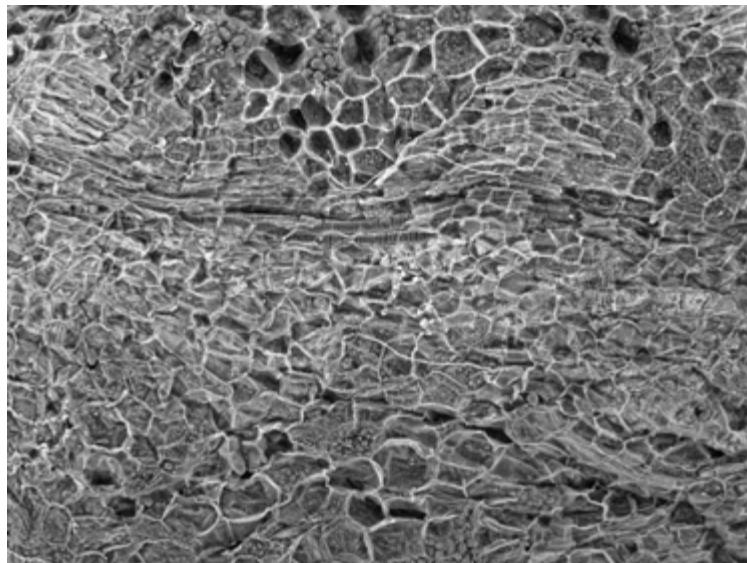
Fresh Specimen

Solanum (Potato)

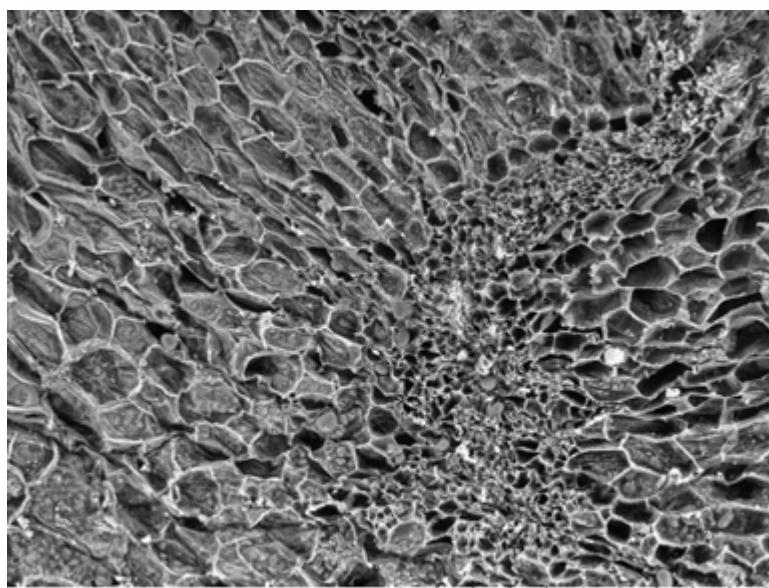


5006-04P10885

2016/12/02 11:43 L x300 300 um

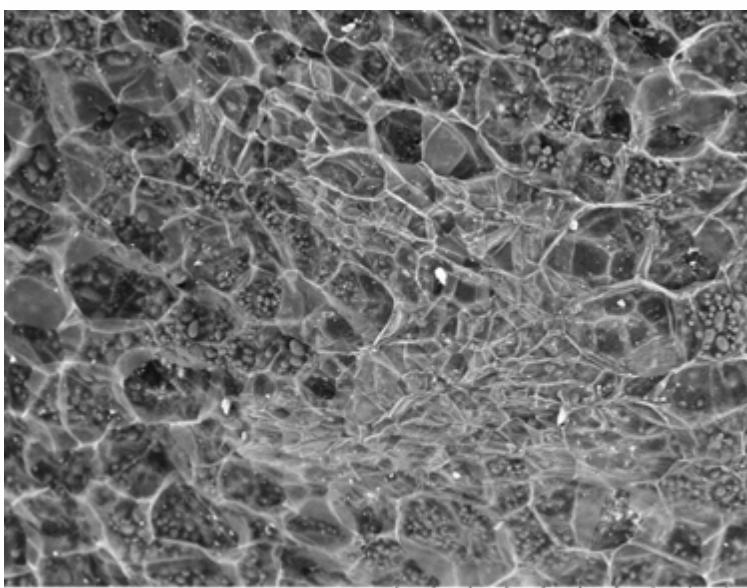


5006-04P10891 2016/12/02 12:03 L x120 500 um



5006-04P10900

2016/12/02 12:23 L x200 500 um

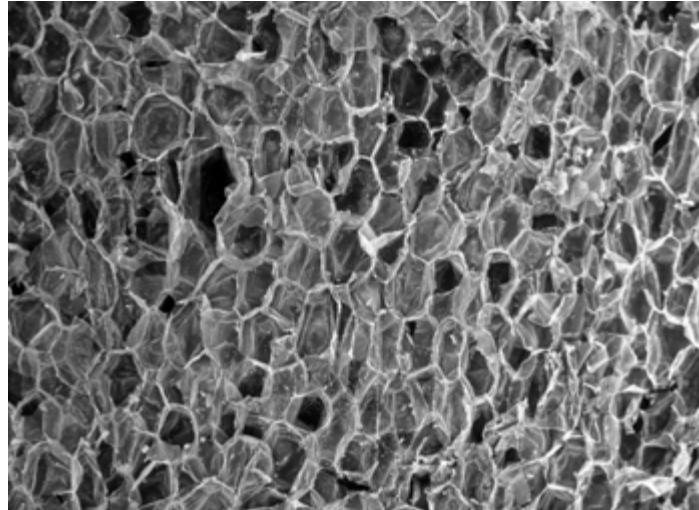


5006-04P10905 2016/12/02 12:41 L x200 500 um

Xylem/Phloem Arrangement

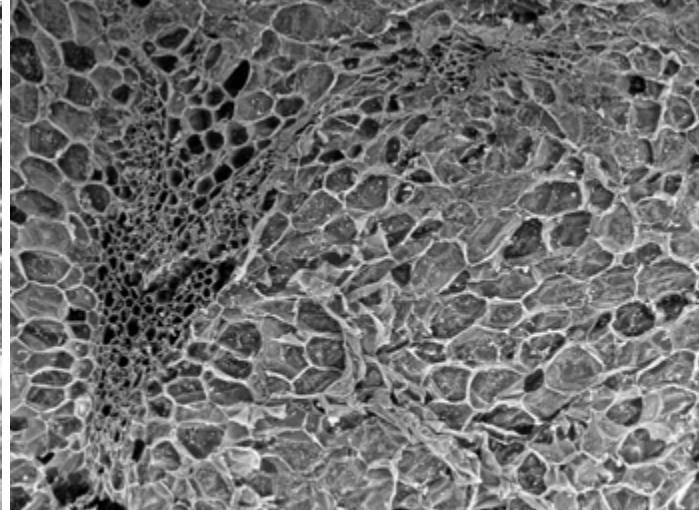
Fresh Specimen

Tropaeolum tuberosum (Mashua)



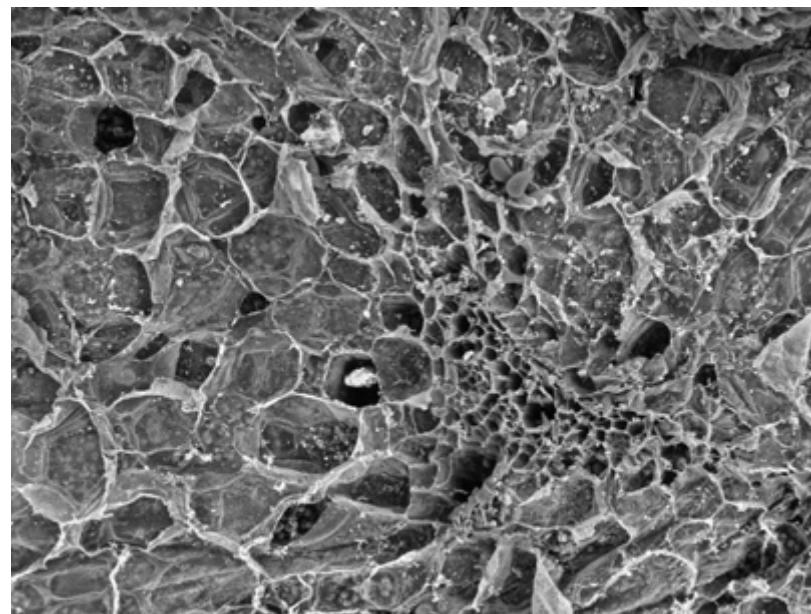
5006-04P10908

2016/12/02 14:15 L x100 1 mm



5006-04P10920

2016/12/02 14:46 L x100 1 mm



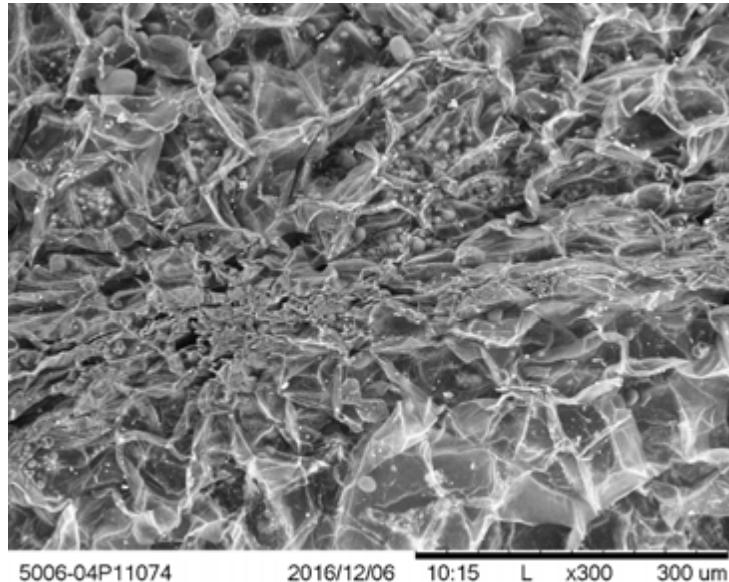
5006-04P10917

2016/12/02 14:41 L x200 500 um

Xylem/Phloem Arrangement

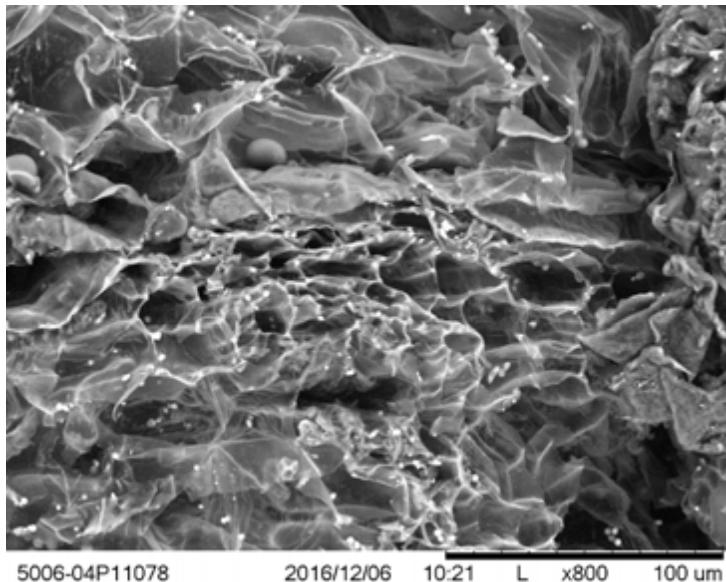
Fresh Specimen

Ullucus tuberosus (Papalisa)

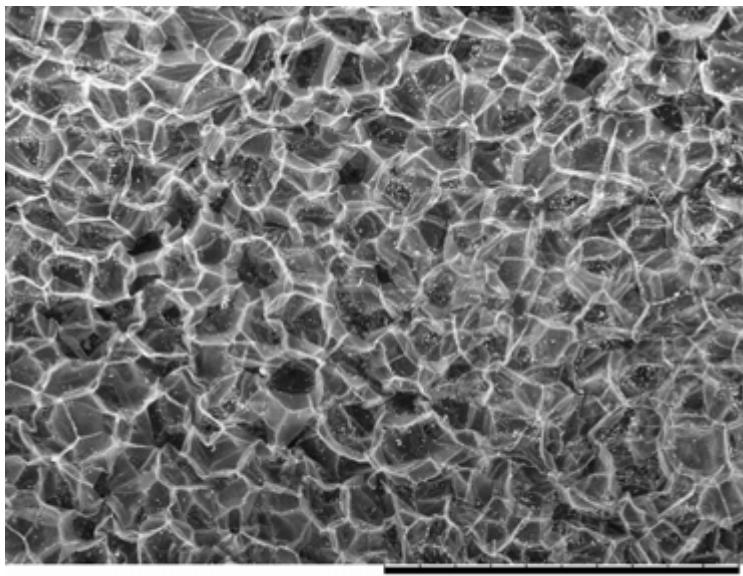


5006-04P11074

2016/12/06 10:15 L x300 300 um

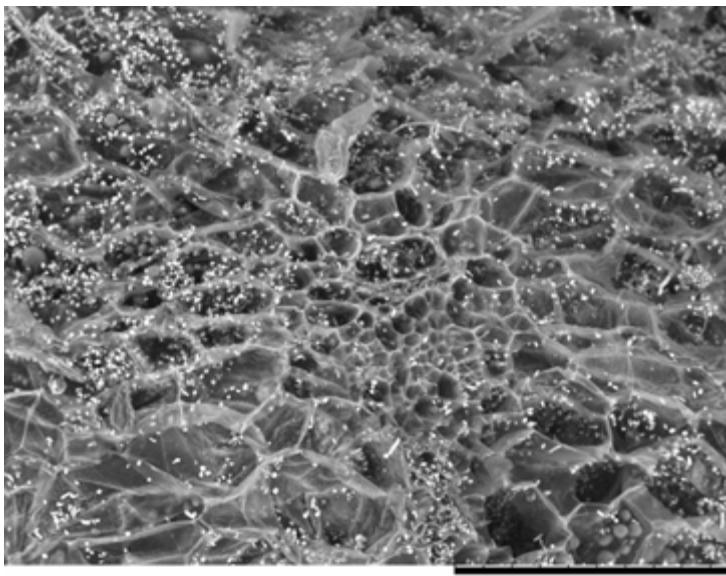


5006-04P11078 2016/12/06 10:21 L x800 100 um



5006-04P11083

2016/12/06 10:46 L x100 1 mm



5006-04P11091

2016/12/06 11:06 L x400 200 um