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🌐 Elutriator operation protocol

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ABSTRACT

Operation of The OSU Soybean Pathology and Nematology elutriator

OPEN  ACCESS



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Protocol status: Working
We use this protocol and it's working

Created: Feb 27, 2024

Turning elutriator on

- 1 Turn on the water supply by turning the red valve on the wall counterclockwise. Open the flow for both hoses by turning the small yellow handles parallel to the hoses.
- 2 Turn on the air compressor, located outside the greenhouse door behind the metal gate
- 3 Open the red air valve, located where the air hose meets the elutriator, to the vertical (open) position
- 4 Turn on the "power" toggle on the elutriator to the on position
- 5 Pull the "dump" button out so that the collection cones move to the upright position
 - 5.1 If the air compressor hasn't been running long enough, there may not be enough pressure to raise the cones. Wait a few minutes, and then try again.
 - 5.2 Once cones are moved to the upright position, the shower heads will rinse out the elutriator cones and collection cones

Preparing the elutriator to run samples

- 6 Ensure that the sieves are on top of the collection funnels
 - 6.1 For SCN: place a 20 sieve at an angle facing the elutriator cones on top of a 60 sieve
 - 6.2 For vermiform: place a 20 sieve at an angle facing the elutriator cones on top of a 60 sieve. Place a 100 sieve on top of a 400 sieve, and place on the shaker racks. Ensure vermiform hoses are all going into their corresponding sieves

Running samples

- 7 Ensure to press START before dumping samples, or samples will be lost
 - 7.1 Set elutriator to 5:00 minutes for SCN, or 8:00 minutes for vermiform
- 8 After pressing start, wash samples into elutriator cones
- 9 Ensure that streams of water are caught entirely by the sieves

- 10 After cycle completes, collect samples from sieves
 - 10.1 For SCN: Thoroughly wash 20 and 60 sieves until water runs clear. Wash sample from 60 sieve into a labeled 50 mL tube.
 - 10.2 For vermiform: Thoroughly wash 20 and 60 sieves until water runs clear. Wash 20 and 60 mesh sieves into labeled Baermann funnels. Thoroughly wash 100 and 400 sieves until water runs clear. Wash 100 and 400 sieves into labeled 50 mL tube.
- 11 Clean sieves with high-pressure water to ensure that no sample remains in them
- 12 Push the DUMP button in, and wash cones with spray nozzle. Once cones are clean, pull DUMP button out to reset cones.
- 13 Repeat steps 6-12

Turning elutriator off

- 14 Wash the elutriator tub with the spray nozzle to clean it

- 15
- Turn the water off by turning the yellow handles on the hoses perpendicular, and the red valve on the wall clockwise
- 16
- Turn the red air valve to the horizontal (OFF) position. Turn off the air compressor.
- 17
- Toggle elutriator power switch to OFF
- 18
- Press DUMP button in

Cleaning soil trap

STEP CASE

Cleaning the soil traps under the elutriator 4 steps

These steps may be necessary if the soil traps under the elutriator are clogged, causing the water buckets to overflow

- 19
- Remove excess water with a siphon
- 20
- Use shovel to scoop sediment from traps into autoclave safe containers
- 21
- Autoclave for 1 hour at 121C, 15psi

22 When cool, dispose of in the compost pile outside of the greenhouse