Reproductive Sterility as a Tool for Prevention and Control of Invasive Aquatics

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USDA currently allows only *P. brigesii* to be sold and shipped in the US

Pomacea brigesii

Will leave aquatic plants intact

Produced in Florida

Some established populations recorded in USGS database

Asolene spixi

Will eat aquatic plants

No longer in trade

No established populations recorded in USGS database

Can reproductively sterile *P. brigesii* and *A. spixi* be produced as new ornamental snail products?

Pomacea brigesii

Sterile *P. brigesii* could be sold without any requirement for USDA approval.

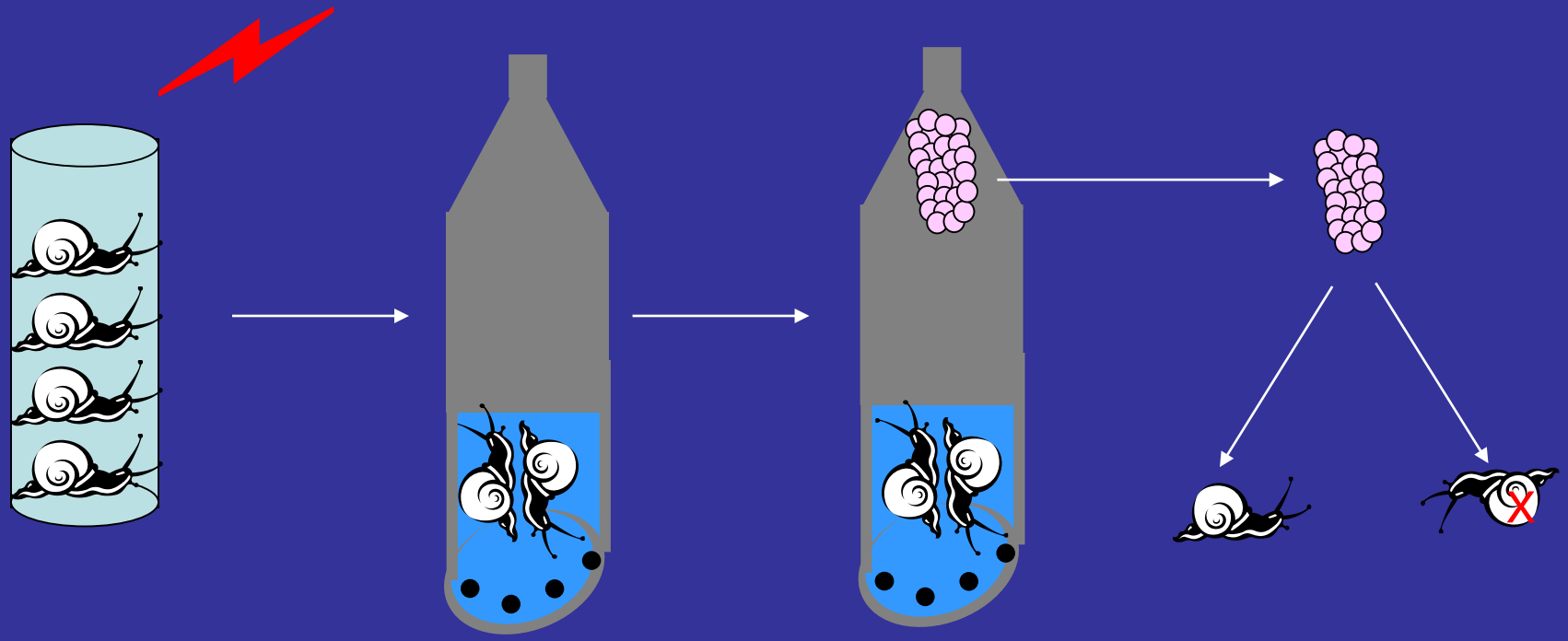
Is there a potential market for sterile *P. brigesii?*

Asolene spixi

Sterile *A. spixi* cannot be sold without USDA approval.

Is there a potential market for sterile *A. spixi?*

What dose of radiation (x-rays) will render snails reproductively sterile?



Irradiate snails

Mate irradiated snail to wildtype

Collect eggs

Determine if eggs hatch into snails that survive

Computerized process control

Facility process area

Products on conveyor passing under electron beam

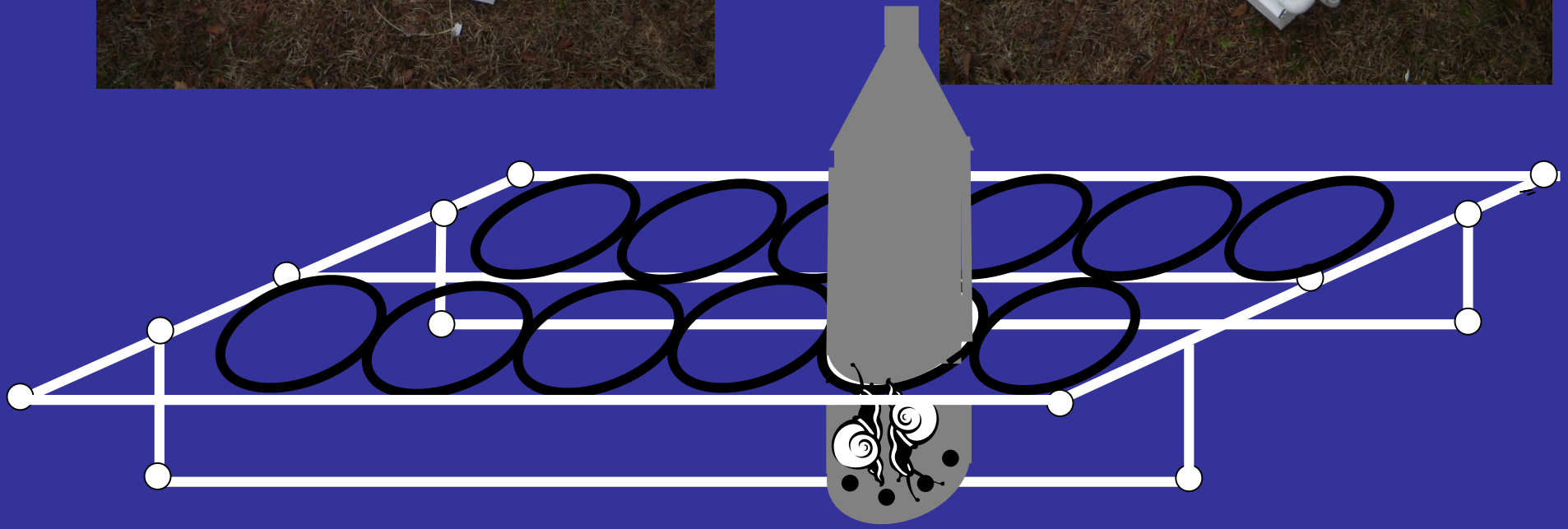
Irradiation of snails is done In a similar way to the irradiation of insects (like fruit flies).

Snail Irradiations take place at the Florida Department of Agriculture and Consumer services FAST Facility in Gainesville, FL.

Snails must be sexed in order to set up mating pairs

The sex of snails can be determined by inspection

Snail Mating Chambers



Rawlins Tropical Fish Farm

Art Rawlins will oversee the snail mating chambers and monitor snail fertility assessments.

- **Snail mating chambers have been built.**
- ***P. brigesii* will be irradiated shortly and matings will be set up soon afterwards at Rawlins Tropical Fish Farm**
- **Data on sterility/fertility will be produced once snails start mating**
- ***A. spixi* dose determination studies will be set up once *P. brigeseii* matings are underway**