

Golden Apple Snails

What are Golden Apple Snails?

The golden apple snail [*Pomacea canaliculata* Lamarck] was introduced into Asia during the 1980's from South America as a potential food for people. Unfortunately, the golden apple snail has become a major pest of rice having spread to the Philippines, Cambodia, Thailand, and Vietnam.

Why Control Golden Apple Snails?

The golden apple snail eats young and emerging rice plants and can completely destroy a crop during crop establishment.

Critical Times for Golden Apple Snail Control

The critical time to control golden apple snail is during the first 10 days for the transplanted crops and the first 21 days for direct wet-seeded crops. After this, the crop growth is typically greater than the rate of snail damage.

How to Manage Golden Apple Snails?

Biological control

- Red ants feed on the snail eggs while ducks (and sometimes rats) will eat young snails. Ducks can be put into fields during final land preparation or after crop establishment when plants are big enough (e.g., 30-35 DAT) snails can be harvested, cooked and eaten.

Cultural control

- **Handpicking:** Handpick snails and crush egg masses. This is best done in the morning and afternoon when snails are most active. Place bamboo stakes to attract adults for egg laying.
- **Use attractants:** Place leaves of plants that attract snails to make hand picking easier (possible plants include: banana [*Musa paradisiaca* L.], and papaya [*Carica papaya* L.]
- **Water control:** Snails are active in standing water and thus, good land leveling and field drainage can help reduce damage. Also small canals (or canalettes) (e.g., 15-25 cm wide and 5 cm deep) can be constructed, after the final land preparation. Construct canalettes at 10-15 m intervals or around edges of rice paddies by pulling a sack containing a heavy object. These canalettes facilitate drainage and act as focal points for snails making manual collection or killing easier. Where water control is good, drain and flash flood the field until the crop is at tillering (e.g., first 15 days for transplanted and first 21 days for direct seeded fields).

- **Use of toxic plants:** Place the toxic plants (e.g., leaves of *Monochoria vaginalis*, tobacco leaves [*Nicotiana tabacum* L], and calamansi leaves [*Citrus microcarpa* Bunge]) in strips across the field or in canalettes.
- **Preventing field entry:** Place a wire or woven bamboo screen on the main irrigation water inlet and outlet to prevent the entry. However benefit from such action is quite limited as most snails bury themselves and "hibernate" in the field as the soil dries.
- **Transplanting:** Plant healthy vigorous seedlings that tiller well. Sometimes transplanting can be delayed (e.g., 25-30 versus 12-15 day-old seedlings), or multiple seedlings per hill can be planted.

Chemical control

- Sometimes chemical control may be needed if other practices fail. Check locally available products that have low toxicity to humans and the environment. Consider applying products just to low spots and canalettes rather than to the whole field. *Always ensure safe application.*



Golden Apple Snail: Photo from: S. Ghesquiere (2000), <http://www.applesnail.net>



Golden Apple Snail laying eggs

For more information:

Visit <http://www.knowledgebank.irri.org>.

To diagnose problems in the field visit <http://www.knowledgebank.irri.org/ricedoctor>.

Developed with input from KL Heong, R Joshi (DA-PhilRice), and M Bell.