

## Comparative Efficacy of Bait Traps against Giant African Snail, *Achatina fulica* attacking Vanilla

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Vanilla, *Vanilla planifolia* Andrews, is the only edible spicy orchid grown all over the world, which is commonly known as 'the orchid of commerce'. The increasing health awareness all around the world, preference for natural products, rapid rise in demand for processed foods with new natural flavours etc., are factors that contribute to the impending strong demand for vanilla especially in the United States and European markets. The Giant African Snail, *Achatina fulica* Bowdich is a voracious feeder of vanilla and consumes almost all

parts of vanilla. Hence, the present study was taken up to evaluate the bait traps.

A field trial was conducted at Valandayamaram near Coimbatore (T.N.) during September to October 2004, to find out the efficacy of different bait traps for trapping *A. fulica*, viz., metaldehyde 2.5% pellet-100 g/basin, fermented neera-400 ml/basin, jatropha oil cake (JOC) -200 g/basin, yeast (Baker's yeast) (8g)+sugar (16g)+water (400ml)-400ml/basin, cabbage+cauliflower leaf @1:1-500 g/basin, beer -400 ml/basin and water (control)-400

**Table 1.** Efficiency of bait traps in attracting *Achatina fulica*.

Treatments (Qty./basin)	Snails trapped */basin					Mean*	% increased trapping over check
	Days after placement of baits (DAP)						
	1	3	5	7	9		
Metaldehyde 2.5% Pellet-100 g	9.00 (3.06) <sup>d</sup>	37.50 (6.15) <sup>c</sup>	44.50 (6.65) <sup>a</sup>	11.50 (3.45) <sup>b</sup>	5.00 (2.28) <sup>b</sup>	21.5	20.3
Fermented neera-400 ml	34.00 (5.84) <sup>b</sup>	53.50 (7.33) <sup>b</sup>	43.00 (6.56) <sup>a</sup>	20.00 (4.50) <sup>a</sup>	5.00 (2.31) <sup>a</sup>	31.1	50.8
JOC-200 g	0.25 (0.84) <sup>c</sup>	0.50 (0.97) <sup>d</sup>	0.25 (0.84) <sup>c</sup>	0.50 (0.97) <sup>d</sup>	0.50 (0.97) <sup>d</sup>	0.4	-0.3
Yeast (8 g) + sugar (16 g) + water (400 ml) - 400 ml	77.00 (8.78) <sup>a</sup>	95.25 (9.73) <sup>a</sup>	41.00 (6.42) <sup>a</sup>	6.50 (2.59) <sup>c</sup>	1.75 (1.47) <sup>c</sup>	44.3	72.8
Cabbage + cauliflower leaf @ 1:1-500 g	15.50 (3.98) <sup>c</sup>	30.25 (5.49) <sup>c</sup>	19.00 (4.39) <sup>b</sup>	2.00 (1.54) <sup>d</sup>	0.50 (0.97) <sup>d</sup>	13.45	21.4
Beer - 400 ml	43.00 (6.58) <sup>b</sup>	38.25 (6.19) <sup>c</sup>	31.50 (5.64) <sup>a</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>	22.5	36.5
Water (control) 400 ml	0.75 (1.09) <sup>c</sup>	0.50 (0.97) <sup>d</sup>	0.75 (1.09) <sup>c</sup>	0.50 (0.97) <sup>d</sup>	0.50 (0.97) <sup>d</sup>	0.6	

Means followed by a common letter are not significantly different at (P = 0.05) level by DMRT  
Figures in parentheses are square root transformed values.

\* Mean of four replications

ml/basin. The traps were kept just after the onset of north-east monsoon during September. The bait substances were placed inside the plastic basins having the rim dia. of 45cm. The basins were kept in separate plots of 48 m<sup>2</sup> by burying them in the ground up to the rim level in such a way to facilitate the access of the snails. The basins were covered with the polythene sheets during rain and at the time of sprinkler irrigation to avoid mixing of water with the bait substances. The number of snails collected in and around the basins was recorded at morning hrs between 6.30 and 6.45 a.m. on 1, 3, 5 and 7 days after placement of baits (DAP). The treatments were arranged in a R.B.D., replicated four times.

More number of adults and medium sized snails were largely trapped. The number of snails attracted to the different bait traps ranged from 0.25 to 77 snails/basin at 1DAP. The highest trapping was noticed in yeast +sugar trap (77/basin) followed by beer (43/basin) and fermented neera (34/basin). On 3DAP, yeast + sugar ranked first and trapped the maximum number of snails (95.25 / basin) followed by fermented neera ((53.50/basin), beer (38.25/basin), metaldehyde (37.5/basin) and cabbage+cauliflower leaf (30.25). There was no difference in attraction between jatropha cake (0.5/basin) and water (0.5/basin), which trapped the least.

Metaldehyde performed well on 5 DAP which trapped maximum snails, whereas, the efficiency of other baits were in the order of fermented neera>yeast + sugar >beer. Beer had completely lost its attractiveness after 5 Days of placement. In general, the trapping efficiency of almost all the baits was reduced from 7 day onwards but there was always a minimum collection. The performance was very low at 9 DAP (Table 1). On an average, yeast +sugar was excellent in trapping snails (72.83%) followed by fermented neera (50.83%, beer (36.58%), metaldehyde (20.3%) and cabbage + cauliflower (21.42%) over the control. These findings were in agreement with the results of Mehendale and Bhagwat (2004) for cabbage and cauliflower and Gupta *et al.* (1976) for metaldehyde. Hence, it seems that, by placing traps during or just after the onset of monsoon, the snails can be more efficiently managed by trapping before their mating and egg laying which will favour the population reduction in the vanillary.

#### References

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## Guava Fruit Fly (*Bactrocera diversa*) : A New Pest of Tomato in Dehradun, Uttarakhand

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This communication records *Bactrocera diversa* Coquillett as a new pest of tomato with some of the preliminary observations. This pest is known as guava fruit fly, it also attacks banana, citrus, jamun, mango, melon, papaya etc. The

tomato has been reported as a host of this pest under the name of *Dacus diversus*. Now a days, it is being observed a new threat to tomato, which will become a limiting factor for the production of tomato in Jaunsar region of Dehradun.