LABORATORY TESTS AGAINST PHARAOH ANTS AND CARPENTER ANTS USING THE GOURMET ANT BAIT GEL

FINAL REPORT

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OBJECTIVE: To test the efficacy of Gourmet Ant Bait Gel in laboratory tests against the Pharaoh ant, *Monomorium pharaonis* and the Florida carpenter ant, *Camponotus floridanus*

METHODS:

Gourmet Ant Bait Gels and Ant Cafes were provided by Innovative Pest Control Products, Boca Raton, Florida. The tests were conducted for 30 days from February 2, 2006 to March 4, 2006 using worker ants collected from laboratory colonies of the Pharaoh ant, *Monomorium pharaonis* and the Florida carpenter ant, *Camponotus floridanus*. Worker ants were counted and collected from the colonies using an aspirator and then transferred into the test chambers. The test chambers were plastic containers approximately 15 cm wide, 30 cm long and 8 cm deep coated with Fluon to prevent the escape of the worker ants. A test tube containing cotton saturated with water and a small nesting area was provided in all test chambers. The ants were allowed to orient for 24 hrs before introducing the Gourmet Ant Bait Gel which was placed inside of an Ant Cafe to retard evaporation and desiccation. Each species was exposed to a Choice test (Gel bait inside of Ant Cafe + water tube + regular diet) and a No Choice test (Gel bait inside of Ant Cafe + water tube). The regular diet consisted of dead crickets and a test tube containing a 30% sucrose solution. The treatments consisted of placing one Ant Cafe containing 2 thin lines of the Gourmet Ant Bait Gel in each test chamber. The Ant Cafes with the Bait Gel remained in each test chamber throughout the test period. The controls did not receive an Ant Cafe. There were 5 replications (4 treatments plus a control) for each species. Each replication was set up with 40 Pharaoh ant workers or 20 carpenter ant workers per test chamber. Observations on the number of dead workers (mortality counts) were recorded at 1, 2, 4, 7, 14, 21, and 30 days after placing the Ant Cafes with Bait Gel in the test chambers.

RESULTS:

The results of the tests are shown in Tables1 and 2. In the Pharaoh ant No Choice tests (Table 1),100% mortality occurred in three treatment replications by day14 with the 4th replication reaching 100% mortality 21 days following application of the Gourmet Ant Bait Gel. The control had only 12.5% mortality. In the Choice test, all of the treatment replications reached 100% mortality by day 21. Although slightly slower for all the replications to reach 100% mortality, the Gourmet Ant Bait Gel in the Choice test was still able to kill all of the worker ants. The slower result is expected since there is competing food available in Choice tests but not available in No Choice tests. Control mortality in the Choice test was also 12.5%.

In the No Choice test with carpenter ants (Table 2), excellent mortality (100%) was obtained in all treatment replications with all of the ants dead by day 14. In one replication, 100% mortality was obtained very fast, within 4 days. There was 20% mortality in the control. In the Choice test, two of the replications reached100% mortality but the other two replications gave 90% and 95% mortality after 30 days. Control mortality was 15%. Again, whenever there is competing food available, ant baits generally work slower and therefore the remaining few live worker ants in these two replications might have died after additional days.

In summary, in laboratory No Choice tests, excellent results were obtained with the Gourmet Ant Bait Gel against both Pharaoh ant and carpenter ant workers. All workers died within 21 days following exposure to the Gourmet Ant Bait Gels obtained from Innovative Pest Control Products. In the Choice test conducted in the laboratory with Pharaoh ants, excellent results (100% mortality) were also obtained but at a slightly

slower speed. In the Choice test with carpenter ants, two replications produced 100% mortality while two replications gave 90% and 95% mortality. Thus, for the four replications in this test, the average mortality is 96.25% which is still very good.

Table 1: The number of dead Pharaoh Ant workers at indicated days after treatment (40 workers per replication).

Treatment								
No Choice	Day 1	Day 2	Day 4	Day 7	Day 14	Day 21	Day 30	Percent Mortality
Rep 1	4	4	24	8*	--------	--------	--------	100
Rep 2	7	2	2	13	16*	--------	--------	100
Rep 3	0	1	9	8	14	8*	--------	100
Rep 4	1	3	8	13	15*	--------	--------	100
Control	0	0	0	0	0	3	2	12.5
Choice								
Rep 1	1	1	3	3	24	8*	--------	100
Rep 2	0	0	1	10	23	6*	--------	100
Rep 3	1	0	0	6	33*	--------	--------	100
Rep 4	2	0	0	2	20	16*	--------	100
Control	1	0	2	0	0	0	2	12.5

* All ants dead.

Table 2: The number of dead Carpenter Ant workers at indicated days after treatment (20 workers per replication).

Treatment								
No Choice	Day 1	Day 2	Day 4	Day 7	Day 14	Day 21	Day 30	Percent Mortality
Rep 1	6	5	7	0	2*	---------	--------	100
Rep 2	3	3	11	2	1*	---------	--------	100
Rep 3	2	3	12	1	2*	---------	--------	100
Rep 4	3	11	6*	---------	--------	---------	--------	100
Control	0	1	1	1	1	0	0	20
Choice								
Rep 1	2	6	7	5*	---------	---------	---------	100
Rep 2	4	1	1	0	3	4	5	90
Rep 3	4	3	6	1	2	2	2*	100
Rep 4	2	5	4	0	2	6	0	95
Control	0	1	0	1	1	0	0	15

* All ants dead.