

Organic Pesticide Journal

Revised 2013-05-19



1st January 2013, spraying with Agri-Trap, a physical pest and disease control product

Population on one leaf on the lower part is about a 100 aphids

Reactions after Spraying: Aphids turn from green to yellow and then from yellow to black and that is the color the die with. The product has a slow effect.

We used a new spray bottle and mixed 1.2 ml of the pest control product into 400ml of water and mixed thoroughly.

Day	Observations			
	Tunnel 1 (Infested, no pest control product)	Tunnel 2 (Infested, applied pest control product)	Tunnel 3 (Not infested, no pest control product)	Tunnel 4 (Not infested, no pest control product)
11.02.13	2 Heavily infested, 2 lightly infested. All plants health with pale green leaves and a few holes. Heads are forming in a few.	2 Heavily infested, 2 lightly infested. All plants health with pale green leaves and a few holes. Heads are forming in a few	All with no visible aphids or eggs. Strong growth of leaves and roots, pale green color and small heads beginning to form.	All with no visible aphids or eggs. Strong growth of leaves and roots, pale green color and small heads beginning to form.
13.02.3 – First pest control	Plant life looks same as 11.02.13	Thoroughly applied top and bottom of leaf, as	Plant life looks same as 11.02.13	Thoroughly applied top and bottom of leaf, as

product application		well as interior leaves. Plant life looks same as 11.02.13		well as interior leaves. Plant life looks same as 11.02.13
18.02.13 – no application, just observations – Where does the aphid infestation come from? How are they travelling between plants and how fast do their numbers multiply?	Plants continue to have pest populations grow. Looks to be heavily infested on two cabbages and low infestation on another two. White mildew is on and around many of the aphids.	The heavily infested plants show signs of aphid death; where in the middle of the plant black (dead) aphids are abundant amongst live green ones and live white ones. Some leaves are wilting. There was a lady bug on one plant	Plants look very healthy. No signs of aphid infestation exist on the plants. Leaves and stems are exactly as they were when we started the experiment.	There is low infestation of aphids on two of the plants. No other life exists around them and the leaves are green and healthy.
20.02.13 – In tunnel 2 we removed all the infested cabbage in the planting bags and threw them in the compost. We cleaned up and replanted with spinach and hot peppers.	The cabbages are yellowing at the stems and some have brown, curling leaves. All are heavily infested and were the heads are forming; hundreds of aphids are living and laying eggs.	The cabbages are a healthy green but many have holes (most likely from insect damage). One cabbage is forming a tight head but is infested within this head. Many green and black (dead) aphids exist on every plant.	The cabbages have a healthy green color and are not infested at all. Some small heads are beginning to form. There is no yellowing or browning of leaves.	The cabbages have a dark green appearance overall. Some are beginning to form small heads. Three are also lightly infested with aphids, especially in the small heads. There are some black and a few green aphids along with their eggs.
25.02.13 In Tunnel 2 we used soapy water to wash off the aphids. From last week as this has proven to be an efficient way of dealing with aphids so far. This tunnel has got only a few plastic	The leaves look poor with much browning on the edges and yellowing throughout. The small heads that exist are totally infested with aphids. White powder is present	Heads are beginning to form on most of the cabbages. There are hundreds of living, dead and white aphids on all the cabbages. One of the heads is browning heavily. Some ladybugs have	We found a small population of aphids today on three of the four cabbages. One leaf has a large amount of white powder on it. The heads are still very small. Leaves are still green.	The cabbages look healthy and green but the aphid population seems to be about the same with many living and dead aphids now. The heads are very healthy and full though some

bags left on row A that we hope will fight off the aphids and survive for a good harvest	on many of the leaves as well.	been on these cabbages.		have aphids in them.
27.02.13	The cabbage plants continue to decline in health. Their color is pale and yellow, with much browning of the leaves and heads. The population of aphids is very high on all plants and much powdery mildew is observed on the leaves and soil.	The cabbages are continuing to brown on the leaves and heads. There are many dead (black) aphids but just as many live aphids. The plants are still growing but the holes and color are continuing to worsen.	The cabbages look healthy but thin; there are few heads enlarging on these plants. The small aphid populations are growing slowly at this point. We believe that spraying at this level of infestation in the future would prove most useful.	The cabbages are developing slowly with heads beginning to enlarge on two of the plants. There are small growing populations with many eggs on one of the plants. We have found very few dead (black) aphids on the leaves and ground.
	The cabbage plants continue to decline in health. Their color is pale and yellow, with much browning of the leaves and heads. The population of aphids is very high on all plants and much powdery mildew is observed on the leaves and soil.	The cabbages are continuing to brown on the leaves and heads. There are many dead (black) aphids but just as many live aphids. The plants are still growing but the holes and color are continuing to worsen.	Cabbage looks healthy with green leaves but no head forming properly. The population of aphids has increased a little bit	The cabbages are developing slowly with heads beginning to enlarge on two of the plants. There are small growing populations with many eggs on one of the plants. We have found very few dead (black) aphids on the leaves and ground.
	The leaves are brown and covered with a white powder. The population of aphids increased. There was spraying today.	The heads of the cabbages are forming and the white powder has diminished. There are couples of brown leaves and new born aphids.	The leaves are looking green and healthy. The aphids are just beginning to develop. This could have been a better time to use the spraying medicine.	There is a new population on almost all the leaves, although the heads are forming the chance of the cabbage to fight off the pests are slim. There was spraying today

11-03-13	The cabbage has developed a white powder that seems to be getting worse day after day. The leaves are browning and falling off after a while. The cabbages aren't forming any head at all.	The one cabbage in the planting bag is covered with a white powder that also seems to envelop the aphids. The roots are also covered by this powder. There is a new pollution on all most all the leaves all though there are many of them that are also dead especially on the heads of the cabbage. One cabbage has got a head forming.	The cabbage has developed a white powder that seems to be getting worse day after day. The leaves are browning and falling off after a while. The cabbages aren't forming any head at all.	The one cabbage in the planting bag is covered with a white powder that also seems to envelop the aphids. The roots are also covered by this powder. There is a new pollution on all most all the leaves all though there are many of them that are also dead especially on the heads of the cabbage. One cabbage has got a head forming.
13-03-13 On this date all the left over cabbage were removed on this day since the infection kept on growing strong and strong.	There is no hope for this table as the cabbage leaves are falling of brownish. The infections has spread through most of the leaves and a white powdery is seen on the leaves and the stem of the cabbage	There was a spraying today. From the last spray there are many dead ones but still another population that's spreading on almost all leaves plus a white powdery that is seen on the leaves. The heads are forming and although the infection. One of the heads on this table has been completely eaten up by aphids and is left brownish	There is a white powder that is covering the aphids like an umbrella protecting them. This powder is also on the stem of the plant. The population seems to rapidly increase. At this stage spraying will not prevent anything at all	There was a spraying today, the aphids have increased in the leaves and a white powder is seen to. The leaves that weren't infected last week are now infected. The heads are forming despite the infection.

The first observation where the aphids infested the cabbage was that the Agri-Trap was successful in the beginning of the infection. It killed the insects but did not get rid of them completely.

The second observation was that this type of cultivar isn't suitable for our climate, or the seeds were not strong enough. For the 4 months that I grew the cabbage in the garden, they did not form a head, they

just kept on growing lots of leaves and when small heads started to form they became infected very quickly.

The third observation after I removed the cabbage was that the ground in the bags was whitish, with a powder that was left by the infection of the aphids.

No matter how much we tried the experiment of separating the planting bags from one tunnel to the other, nothing really improved the situation.

Conclusion: Jacob will still do a further reporting on this with more pictures and future solutions on the matter as part of his internship project. There are also pictures of Albert and myself spraying the Agri-Trap in the early stages of the cabbage. I believe that the Agri-Trap will be of value if it can be applied just after the beginning of infestation. Further experimentation of this product will prove the whether this is true.

Plants treated should be isolated from non-treated plants.

The sprayer should reach the reverse site of the leaves as well. (Reverse nozzle sprayer).

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