

QA AND ASK THE EXPERTS



Q. I just took a position as a pest management supervisor at a greenhouse. The pesticide storage room is a bit disorganized, but at least the purchase dates are written on the pesticide containers. My question concerns pesticide shelf life. Are there any general – or even specific – guidelines to use to determine if the products are still effective?

A. Pesticide room management is extremely important to maintain quality pest control and to prevent loss of expensive and valuable tools. It is always wise to purchase products in a container size that can be used within a season. Good management should include an in-out log recording the date on a log sheet and printing that on the containers. For products in cases, you should open and print the received date on each individual container. The log sheet should also include the batch or lot number. This log is valuable for tracking amounts used during the season, but most importantly, it should keep you on track to use up your inventory within a two year period.

Most companies perform a two year storage stability study on their products. This study is to confirm a minimum of two years of equal quality from date of purchase. This does not mean that two years is the maximum life of the product. Shelf life is dependent on formulation. When stored under proper ambient conditions the following should be a good rule of thumb:

Wettable powder, along with WDG and WP in WSP formulations should last much longer than two years. This is also true for granular products. How much longer than two years? This really depends on the manufacturer, but you should feel relatively comfortable using them well beyond two years. Some formulations can decompose under high temperature. Caution should be used if it is tightly compacted or does not mix well in water.

Water based formulations; some flowables (F) and soluble concentrates (SC) should again be good beyond two years, but caution should be used to confirm good control. It is best to trial before extensive use. Flowable formulations are known to settle and it is advised to shake well before using and trial.

The formulations most likely to cause issues are emulsifiable concentrates (EC). This formulation can tend to settle out and separate over time. Most of these formulations also have a statement suggesting to “shake well before use.” These should be used within the two year period guaranteed by the manufacturer. Addition of water should produce a milky appearance.

Biological products generally have a time period or shelf-life stated on the label that should be followed to the letter to guarantee the performance you expect.

The lot number or batch number is generally printed on the container, not the label. Many times this number will also indicate when it was produced, an important link to the shelf life. Keep in cool dry storage that can be locked. Avoid freezing and temperatures above 90 degrees F. Keep in original containers sealed tightly.

Q. I think that I have a shore fly and/or fungus gnat problem, but along with white larvae there are black colored lar-

vae. They both look like fast moving tiny threads. I cannot find anything about the black ones. Any help will be appreciated.

A. If you have a shore fly or fungus gnat problem there will be adults present along with larvae. Both insect groups can be trapped on yellow sticky traps and identified using numerous pictorial guides or by using a web search engine such as Google. The OHP.com web site has images of both fungus gnats and shore flies. You can also send or take the trap to your county or state Extension specialist or Farm Advisor.

Your description of the larvae was interesting. Fungus gnat larvae are translucent white with shiny black heads, and shore fly larvae – although darker – are not black. Further, shore fly larvae are found in wet areas containing algae. I suspect that what you are seeing might be nematodes. There are some nematodes that are harmless to plants and that are visible without using a microscope. These apparently feed on tiny organisms in the soil or potting mix. These nematodes seem to be more common in containers that are on soil greenhouse floors and not on benches.

Going back to the first paragraph, the best course of action would be to get these larvae – or nematodes – identified by a specialist at your state land grant university. By doing this you will know if there's an actual pest problem that needs attention or you can go fishing.

Q. When giving directions for applying pesticides as drenches, pesticide product labels are not consistent. Some say to mix a certain amount of product per 100 gallons of water and apply a specified drench volume per container. Others say to apply a certain amount of product per number of containers, without mentioning drench volume. Still others say to mix a certain amount in 100 gallons of water and apply a specified amount per square foot. This is confusing. Why can't labels be consistent?

A. Pesticide application directions can be confusing but more importantly they must be followed. Companies determine drench rates based on their research trials, which eventually appear on product labels when registered. All labels are based on performance (efficacy) which is based on the amount of material applied in a given surface area or cubic area. An old rule of thumb was to apply 1 fl oz of material per inch diameter of container. This rule is no longer true with newer pesticides, some of which are more active and some of which are less active. Regardless, product performance and label directions are based on a certain volume of mixed material applied in a given volume of soil.

One final point is that drench applications are best made to moist soils rather than dry. A dry soil mass would not allow for even distribution throughout the container. An overly wet soil may conversely allow material to be leached out of the pot. The bottom line is to follow the label directions in order to achieve best product performance.



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