

Colorado Coalition for School IPM Newsletter

July 2017

Inside this issue:

- **New Rat Control Product Options**
- **Partner spotlight: CDA**
- **Pest of the month: Wasps**
- **What are you seeing now? Current Pests**

New Product Spotlight : New Rat Control Product Options

EPA Registers New Rat Control Product Option

Contributed by Clyde Wilson, Assistant Regional School IPM Coordinator, EPA Region 8

Federal Insecticide, Fungicide & Rodenticide Act (FIFRA) requires that before a product can be marketed for the control of a pest, it must be registered by EPA. EPA registers pesticides based on scientific data and other information sufficient for the agency to conclude that it can perform its intended function without posing unreasonable risks to people or the environment. Each registered pesticide product must have EPA-approved labeling, which includes detailed instructions and precautions. Use of a pesticide product in a manner contrary to the approved labeling is against the law.

On June 29, 2017, EPA registered Bell Laboratories' dry ice product called, "Rat Ice," for control of burrowing rats. We expect this registration will provide localities and pest management professionals with another tool in efforts to control these pests. Dry ice complements other registered lethal baiting and contraceptive control pesticides and offers unique characteristics that applicators may find useful. This is a single pesticide registration, and the registrant (Bell

Laboratories) can package and sell it with different brand names. How they market the product is at the sole discretion of Bell Laboratories, as long as they comply with the registration requirements.

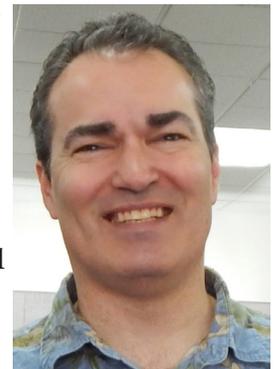
Bell Laboratories is currently working on state registrations for Rat Ice™ and will provide a more comprehensive update, including launch details, in the near future.

Colorado Coalition for School IPM Agency Partner Spotlight: Colorado Dept. of Agriculture

Colorado Pesticides use Update

By Jonathan Handy, Colorado Department of Agriculture

The Colorado legislature recently passed new basic requirements for non certified (i.e. unlicensed) pesticide applicators making applications for state and local government agencies, or those making applications for their business on land owned or leased by their employer.



These new requirements apply to those who only apply general use ("over the counter") pesticides. Those who intend to apply restricted use pesticides must continue to be registered with the Colorado Department of Agriculture.

Examples of government agencies ("public applicators") include a city parks and recreation departments or a state agency such as CDOT applying pesticides along roadways. Examples of business applicators applying on land owned or leased by their employers ("limited commercial applicators") include a private golf course or a landowner applying

pesticides in an industrial park.

All public and limited commercial applicators in Colorado must now meet standards that enhance the safe use of pesticides. In the past, only commercial pesticide applicators and those using restricted use pesticides were required to meet additional standards beyond following label directions. Following label directions applies to anyone using a pesticide.

The new standards are in effect. Most persons working for a public applicator must be trained in pesticide use. At least one person (owner or designee) for each limited commercial applicator must be trained.

The new training requirements cover the basic pesticide safety practices: laws and regulations, pesticides and their families, applicator safety, public safety, environmental protection and the use of pesticides. These requirements may be met in a variety of ways - holding a pesticide applicator license issued by the Colorado Department of Agriculture (CDA), passing licensure examinations, or meeting training requirements. Free training is available and online through CSU, CDA's partner. Simply go to: <http://cepep.agsci.colostate.edu/1-licensing/non-registered-applicator-training-modules/>

Register on the site, and complete the modules that are offered. Retain your certificate! The training is designed to be completed in three hours or less. An applicator must complete the training every three years to maintain certification.

If you have any questions, please feel free to contact the Colorado Ag Department: Jonathan Handy, Pesticide Applicator Program Coordinator, jonathan.handy@state.co.us or (303) 869-9063.

Featured Pests of the Month: Wasps

Wasps and their management

Wasps and bees can be a serious nuisance problem throughout Colorado, particularly late in the summer when certain yellowjacket wasps forage at garbage and outdoor food areas. In overall balance, however, these insects are beneficial in their activities, particularly as predators of pest insects and as pollinators. There are two groups of wasps, social and solitary forms.

Social Wasps

Several wasps are social insects that produce a colony. Colonies begin anew each spring, initiated by a single fertilized female (queen) that has survived winter. The social wasps construct their nest of paper, which they produce by chewing on wood, scraps of paper and cardboard.



Figure 1. Yellowjacket entering nest underneath wall.

Social wasp colonies are very small early in the season, but expand rapidly through the summer as more wasps are raised that assist in colony development. By the end of summer, a colony may include dozens, or even several hundred, individuals. Some wasps reared at the end of the season are fertile females (potential queens) and a few males. In fall, colonies are abandoned, never to be reused, and the fertilized females scatter to find protection during winter. The remaining members of the colony perish with cold weather.

Most social wasps rear their young on a diet of live insects. Several types of social wasps are important in controlling insect pests such as caterpillars. An exception to this is the western yellowjacket, which primarily scavenges dead insects, earthworms and other carrion, including garbage. This scavenging habit is usually why yellowjackets become serious nuisance problems. Male wasps occasionally visit flowers to feed on nectar, however, social wasps are generally not important plant pollinators.

All social wasps are capable of producing a painful sting but none leave the stinger embedded, as do honey bee workers. Most stings occur when the colony is accidentally disturbed.

Yellowjackets (*Vespula* spp.) are banded yellow or orange and black and are commonly mistaken for honey bees, but they lack the hairy body and are more intensely colored. Yellowjackets typically nest underground using existing hollows. Occasionally nests can be found in dark, enclosed areas of a building, such as crawl spaces or wall voids.

Nests are enclosed in a paper envelope, but they are not exposed nor observed unless excavated. The nest entrance is small and inconspicuous. Colonies are readily defended and yellowjackets will sting when the nest area is disturbed.

The western yellowjacket (*V. pensylvanica*) is, by far, the most important stinging insect in Colorado. Late in the season, when colonies may include up to 200 individuals, they become serious nuisance pests around outdoor sources of food or garbage. The western yellowjacket is estimated to cause at least 90 percent of the “bee stings” in the state.



Figure 3: Western yellowjacket.

Hornets (*Dolichovespula* spp.) produce large, conspicuous grayish paper nests in trees, shrubs and under building eaves. The most common species is the baldfaced hornet (*D. maculata*) which is stout-bodied and marked with dark and white striping. Hornets feed their young live insects and do not share the scavenging habit of yellowjackets. Nests often attract attention because of their large size, but hornets rarely sting unless the colony is seriously disturbed.

Paper wasps (*Polistes* spp. and the western paper wasp, *Mischocyttarus flavitarsus*) make paper, open cell nests that are not covered by a papery envelope. Often these nests are produced under building overhangs. However, a new species to Colorado, the European paper wasp (*Polistes dominula*), will also nest in small cavities in the sides of buildings, within metal gutters and poles, outdoor grills, and similar items. Paper wasps are more slender-bodied than other social wasps. Most native paper wasps are reddish-brown and marked with yellow, but the

European paper wasp is marked with shiny black and yellow, allowing it to be easily mistaken for a yellowjacket.

Paper wasps are beneficial predators of caterpillars and other insects and do not scavenge. However, the habit of the European paper wasp to nest in many locations around a yard has greatly increased the incidence of stings associated with this group of wasps.



Figure 2: Baldfaced hornet.



Figure 4: Baldfaced hornet nest cutaway to expose paper comb.

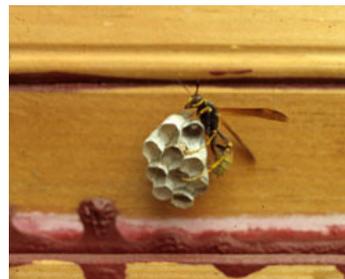


Figure 5. The western paper wasp, a native species of paper wasp.



Figure 6: European paper wasp.

Control of Social Wasps

Many concerns with social wasps occur late in the season when colonies grow large and the above-ground nests of hornets and paper wasps become apparent. If the wasps are not causing a problem, the best solution is to wait until the nest is abandoned in the fall. The nest can be safely removed in the winter or, if left alone, will break up during late fall and winter.

Reducing paper wasps nesting sites is possible before the colonies become established in early spring. This is done by sealing all openings that allow access to hollow tubing or similar materials. The interior of many kinds of children’s playground equipment are suitable nesting sites by this wasp and should be given special attention.

Social wasp nests are more easily controlled early in the season when colonies are small. For exposed nesting species, such as paper wasps, insecticides

can easily be applied directly to the nest and control should be excellent. Insecticide applications are best made during late evening or cool periods in early morning, when the wasps do not readily fly and most foragers have returned to the colony. A variety of insecticides are currently sold for this purpose check Colorado State Extension publication (fact sheet #5.525).

However, ground nesting yellowjackets with only a small external entrance can be much more difficult to control since the nest may actually be some distance from the opening. Repeated insecticide applications are often required to destroy existing yellowjacket nests.

Nuisance problems with scavenging yellowjackets are difficult to manage unless all the nests are found and destroyed. However, nests are inconspicuously located and the wasps may fly as far as 1,000 yards from the colony while foraging, so complete control is difficult.

Yellowjackets will regularly return to sites where food and water sources are available. Therefore, it is important to deter yellowjackets from visiting an area by eliminating all food sources (e.g., open garbage cans, pet foods). Water sources around the yard may also attract yellowjackets during hot, drought-stricken periods.

There has been some success using baits and traps for control of yellowjackets. The western yellowjacket is attracted to the chemical heptyl butyrate, which is included as a lure in many wasp traps. Such traps can be helpful when used early in the season, June and early July, when the number of yellowjackets is small and the colonies are struggling to become established. However, these traps will not attract European paper wasp and are worthless for control of this species.

Solitary Wasps

Many kinds of wasps do not produce a colony, including the hunting wasps (Sphecidae family) and spider wasps (Pompilidae family). Instead the female wasp constructs some sort of nest and provisions it with prey.



Figure 8: Mud dauber. (Photo from the K. Gray collection.)

Nesting habits vary with the different hunting wasps. Some excavate nests in soil, others dig out chambers in the pith of plants, or use existing holes. Some even construct nests made of mud. Perhaps the best known

of these is the mud dauber, which makes a series of elongate cells, each of which is then packed with paralyzed crab spiders on which their young develop.

Some solitary hunting wasps may have a fearsome appearance but they are non-aggressive and sting only if directly handled or accidentally trapped. With the exception of spider wasps, the sting is quite mild compared to that of social wasps.

An unusual wasp common in prairie areas are the velvet ants. Females are wingless, hairy, extremely active and possess a painful sting. Velvet ants develop as parasites on ground-nesting bees.



Figure 9: Mud dauber building nest. (Photo by H. Evans.)

Another important group of wasps are the parasitic wasps. These wasps lay their eggs in other insects and the developing wasp larva slowly consumes and ultimately kills the host insects. Parasitic wasps are non-aggressive, only sting when handled, and are considered beneficial for their role in controlling a wide variety of pest insects. They are discussed further in fact sheet 5.550, Beneficial Insects and other Arthropods.

Source: Whitney Cranshaw: Nuisance wasps and Bees (Colorado State University fact sheet # 5.525).

Current Pests: What Are You Seeing?

Statewide

Arapahoe, Douglas, & Elbert Counties

- Japanese beetle: Peak period of adult activity
- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Sawflies: *Neodiprion autumnalis* may cause damage peak in midsummer in ponderosa pine forests.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Pearslug: Larvae damage plum, cotoneaster.
- Elm aphids: Stages on leaves excrete large amounts of honeydew.
- "Tomato" hornworms: Peak damage by larvae occurs over the next month.
- Potato/tomato psyllid: Symptoms may begin to appear on potatoes and tomatoes.
- Grasshoppers: Damage accelerates over the next month.
- Mexican bean beetle: Larvae begin to damage beans.
- European paper wasp: Colonies start to increase greatly in size and foraging adults are commonly seen.
- Spottedwing drosophila: Adult activity increasing and ripening berries at higher risk.

Denver Metro Area

- Codling moth: Second generation continues to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Pearslug: Larvae damage plum, cotoneaster.
- Elm aphids: Stages on leaves excrete large amounts of honeydew.

- Japanese beetle: Adult feeding continues but declines. Eggs hatch and larvae begin to feed on turfgrass
- "Tomato" hornworms: Peak damage by larvae occurs over the next month.
- Potato/tomato psyllid: Symptoms may begin to appear on potatoes and tomatoes.
- Mexican bean beetle: Larvae begin to damage beans.
- Spottedwing drosophila: Adult numbers increase and put ripening berry crops at risk.

Eastern Plains Counties

- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Fall webworm: Tents grow large and begin to become conspicuous.
- White grubs: Peak period of egg laying activity by the "annual white grubs" (chafers).
- Ants: Swarming of winged reproductive forms may occur on warm days following rainfall.
- Tomato hornworms: Peak damage by larvae occurs over the next month.
- Hummingbird moths: Adults of the whitelined sphinx moth may be seen visiting flowers
- Potato/tomato psyllid: Symptoms may begin to appear on potatoes and tomatoes.
- Mexican bean beetle: Larvae begin to damage beans.
- Squash bugs: Injury to hard/winter squash increases.

El Paso & Teller Counties

- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Sawflies: *Neodiprion autumnalis* may cause damage peak in midsummer.

- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Pearslug: Larvae damage plum, cotoneaster.
- Elm aphids: Stages on leaves excrete large amounts of honeydew.
- Tomato hornworms: Peak damage by larvae occurs over the next month.
- Potato/tomato psyllid: Symptoms may begin to appear on potatoes and tomatoes.
- Grasshoppers: Damage accelerates over the next month.
- Mexican bean beetle: Larvae begin to damage beans.

High Country Areas

- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Pearslug: Larvae damage plum, cotoneaster.
- Mountain pine beetle: Typical peak period of new "hits" from invading adults
- Flea beetles: Second generation adults emerge and feed
- Tomato hornworms: Peak damage by larvae occurs over the next month.

Northern Front Range

- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Pearslug: Larvae damage plum, cotoneaster.
- White grubs: Injury by larvae of May/June beetles often begins to be observed (eastern areas of region)
- Ants: Emergence of winged forms of pavement ants is common a few days after rainfall events

- Tomato hornworms: Peak damage by larvae occurs over the next month.
- Potato/tomato psyllid: Symptoms may begin to appear on potatoes and tomatoes.
- Mexican bean beetle: Larvae begin to damage beans.

Pueblo & Fremont Counties

- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Fall webworm: Tents grow large and begin to become conspicuous.
- Walnut husk fly/Apple maggot: Peak period of adult flight and egg laying.
- Dog day cicadas: Nymphs emerge from soil and molt to adult stage.
- White grubs: Peak period of egg laying activity by the "annual white grubs" (chafers).
- Ants: Swarming of winged reproductive forms may occur on warm days following rainfall.
- Tomato hornworms: Peak damage by larvae occurs over the next month.
- Potato/tomato psyllid: Symptoms may begin to appear on potatoes and tomatoes.
- Mexican bean beetle: Larvae begin to damage beans.
- Squash bugs: Injury to hard/winter squash increases.

Southwestern Counties

- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Pearslug: Larvae damage plum, cotoneaster.
- Mountain pine beetle: Typical peak period of new "hits" from invading adults
- Flea beetles: Second generation adults emerge and

feed.

- Tomato hornworms: Peak damage by larvae occurs over the next month.
- Potato/tomato psyllid: Symptoms may begin to appear on potatoes and tomatoes.
- Western cherry fruit fly: Adults continue to lay eggs in sweet cherry fruit.

Tri-River Counties

- Codling moth: Second, and most damaging generation begins to lay eggs. Monitor flights with pheromone traps.
- Elm leaf beetle: Second generation egg laying and hatch often occurs in late July.
- Cooley spruce gall: Abandoned galls become dry and very conspicuous.
- Fall webworm: Tents grow large and begin to become conspicuous.
- Mountain pine beetle: Typical peak period of new "hits" from invading adults
- Walnut husk fly/Apple maggot: Peak period of adult flight and egg lay-ing.
- European paper wasp: Activity of wasps becomes much more notice-able as colonies increase. Damage to ripe fruit may begin and will continue for next month.
- White grubs: Peak period of egg laying activity by the "annual white grubs" (chafers).
- Ants: Swarming of winged reproductive forms may occur on warm days following rainfall.
- 'Tomato' hornworms: Peak damage by larvae occurs over the next month.
- Squash bugs: Injury accelerates.
- Grape leafhoppers/Zic-zac leafhoppers: Damage accelerates on grape and Virginia creeper.
- Tobacco (geranium) budworm : Egg laying of the typically occurs at this time. larvae may be evident.

Source: <http://bspm.agsci.colostate.edu/outreach-button/insect-information/> (Yard/Garden Insect Calendars)

Credits

Editors: Clyde Wilson, U.S. EPA Region 8; Assefa Gebre-Amlak, CSU Extension; Frank Peairs, CSU Extension; Thia Walker, CEPEP.

Design & layout: Kierra Jewell

"Pest of the month" photo(s): Whitney Cranshaw, CSU Professor & Extension Specialist

Want to subscribe or unsubscribe? Go to:

https://lists.colostate.edu/cgi-bin/mailman/listinfo/ccsipm_1

Remember, the CCSIPM listerv is a forum for you to post a message to the entire group! Simply write a message to ccsipm_L@lists.colostate.edu!

Did we miss something? See an error?

Please contact Assefa Gebre-Amlak at:

Assefa.Gebre-Amlak@colostate.edu

(970) 491-2666