



# UNIVERSITY OF ILLINOIS EXTENSION

College of Agricultural, Consumer, and Environmental Sciences

## *Illinois Fruit and Vegetable News*

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*a newsletter for commercial growers of fruit and vegetable crops*

*"We are what we repeatedly do. Excellence, then, is not an act, but a habit." Aristotle*

Address any questions or comments regarding this newsletter to the individual authors listed after each article or to its editor, Rick Weinzierl, 217-244-2126, [weinzier@uiuc.edu](mailto:weinzier@uiuc.edu). The *Illinois Fruit and Vegetable News* is available on the web at: <http://www.ipm.uiuc.edu/ifvn/index.html>. To receive email notification of new postings of this newsletter, call or write Rick Weinzierl at the number or email address above.

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**University of Illinois Extension Specialists in Fruit & Vegetable Production & Pest Management**

### *Upcoming Programs*

- **Mississippi Valley Peach Orchard Tour, May 22, 2008** ... at Rendleman Orchards (<http://www.rendlemanorchards.com/>), Route 127, Alto Pass IL. Rendleman's is located approximately 12.5 miles south of Murphysboro on Route 127. For growers coming from the south, Rendleman's is 2 miles north of Alto Pass, IL. Online registration (no charge) is requested for an accurate lunch count and is available at <http://web.extension.uiuc.edu/edwardsvillecenter/>. Sign-in begins at 9:00 a.m., with the tour beginning at 10:00. For more information, contact Elizabeth Wahle at 618-692-9434 or [wahle@uiuc.edu](mailto:wahle@uiuc.edu).
- **Illinois State Horticulture Society Summer Horticulture Day, June 12, 2008** ... at Tanner's Orchard, Route 40, Speer IL. For more information contact Don H. Naylor, Executive Secretary, Illinois State Horticultural Society, at 309-828-8929 or [ilsthortsoc@yahoo.com](mailto:ilsthortsoc@yahoo.com). University of Illinois Extension contacts for this program are Mohammad Babadoost (217-333-1523; [babadoos@uiuc.edu](mailto:babadoos@uiuc.edu)) and Elizabeth Wahle (618-692-9434; [wahle@uiuc.edu](mailto:wahle@uiuc.edu)).

### *Regional Updates*

**From southern and southwestern Illinois:** Rain and more rain for the southern region combined with mild temperatures are definitely fulfilling any grower's need for a challenge. Soils have not had a chance to warm up, making direct seeded vegetables slow to germinate. Southern Illinois farmers have planted only about 25 to 30 percent of their corn crop compared to 80 percent in the east central and northern regions of the state. Apple thinning was already expected to be a challenge because of the heavy bloom following last year's freeze-out, but continued cool temperatures add to the challenge of effective thinning. Much of the region experienced high winds throughout Mother's Day, with gusts of 50 mph. Lodging of young trees has been reported in Calhoun County, and efforts are ongoing to re-stake laid-over trees. On the positive side, there is still a fantastic crop of fruit to manage. The first round of apple thinners got underway last week, and most growers are looking for 70 degrees F plus weather to get the second round of thinners on; for some, this occurred earlier this week on Monday. Peaches have been blossom-thinned but small fruitlets are not yet loose enough for additional clubbing off. Some hand thinning has been done. In far southern Illinois, codling moth biofix was set at May 3. Growers in the northern part of the region still have not caught enough moths to be sure of first generation flight timing, but traps should begin catching moths whenever we get some warm evenings. First flight of oriental fruit moth is for the most part

over in southern counties, and growers with traps should notice a drop-off in catch numbers until second flight starts. Oriental fruit moth mating disruption should be in place just in time for second flight; see comments below from Rick Weinzierl.

'Earliglow' strawberry, one of the earlier cultivars, is a week to 10 days from harvest. Thrips have been observed in some strawberries, so growers are advised to scout their crop and treat if necessary. According to the 2008 Midwest Commercial Small Fruit and Grape Spray Guide, control is warranted if thrips counts exceed 2 to 10 per blossom. Lorsban is not an option for most varieties this late in the season (21-day PHI), but Brigade (0-day PHI), Danitol (2-day PHI), Entrust (1-day PHI), or SpinTor (1-day PHI) are options for control this close to harvest. Organic growers (and others) might also consider using insecticides containing neem extracts (Aza-Direct or Neemix, 0-day PHI) that are less toxic to bees. Remember that thrips may re-invade fields after you control an initial infestation – keep scouting throughout bloom and fruit development.

Asparagus harvest is more than half-way completed. Flower buds are visible on summer-bearing raspberries, and grapes have significant shoot growth. Brambles are susceptible to thrips damage just as strawberries are, so growers should plan to scout as bloom develops. A heads up for grape growers with a history of phylloxera ... bloom (when caps fall off) is the target stage for control of the leaf-stage form. Apply one of the recommended insecticides at bloom and repeat 10-14 days later. Blueberries are at petal fall for some varieties and fruit set is just becoming visible.

**Register now** for the **Mississippi Valley Peach Orchard Tour** (Illinois, Missouri and Kentucky), scheduled for May 22 at Rendleman Orchards. Rendleman's is located approximately 12.5 miles south of Murphysboro on Route 127. For growers coming from the south, Rendleman's is 2 miles north of Alto Pass IL. Online registration (no charge) is requested for an accurate lunch count and is available at <http://web.extension.uiuc.edu/edwardsvillecenter/>. For more registration information contact Elizabeth Wahle at 618-692-9434 or [wahle@uiuc.edu](mailto:wahle@uiuc.edu).

Finally, remember to plan ahead for the 2008 Illinois State Horticulture Society Summer Horticulture Day, June 12, Tanner's Orchard, Route 40, Speer IL.

*Elizabeth Wahle (618-692-9434; [wahle@uiuc.edu](mailto:wahle@uiuc.edu))*

**In northern Illinois**, early May has brought a few sunny days with high temperatures in the mid 50s to upper 70s. Lows have ranged from the 30s to 50s, and freezing temperatures that occurred during the last two days of April did not hurt tree fruit blossoms, as apples were still at tight cluster. Extremely cold winter temperatures in the region killed some strawberries, blackberries and garlic, plants that survived are taking off very well. The region received 1-3 inches of rainfall over the last 2 weeks, with heavy rains on May 11 that continue to prevent field work.

Peaches are in full bloom, and most apples are in full bloom as well, with a few varieties at petal fall. I observed poor flowering in some apple varieties where there is an excellent bloom in one tree and the next four or five trees have few blossoms or none. Other fruit trees such as pears, plums, and sour cherries are at petal fall, and grape buds are starting to open up. Codling moth traps are up in many orchards.

Cool-season vegetables such as cabbages, potatoes, carrots, onions, and broccoli, have been planted. First plantings of sweet corn also are done. Other warm-season vegetables such as tomatoes, cucumbers, eggplants, peppers, and melons transplants are still inside greenhouses, and will soon be hardened in readiness for field planting.

*Maurice Ogutu (708-352-0109; [Ogutu@uiuc.edu](mailto:Ogutu@uiuc.edu))*

### ***Notes from Chris Doll***

A wet and late year. So far this month, rainfall here has totaled 5.5 inches (after 4.8 in April), and this is less than some southern Illinois growers are reporting. It has been difficult to apply and maintain spray coverage to all crops. As for the season being late, it was the latest petal fall for apples and shuck-split for peaches (both on April 30) since 1997 and previously 1992. As a result of delayed phenology, it is now thinning time for apples in some orchards. And here again, the cool and cloudy weather causes problems for thinners to work the way growers would like for them to. 2002 was the most recent year with a comparable spring. At that time it was wet and fairly late, and a heavy peach and apple bloom had occurred. Some recorded observations in that year included variable fruit set on Jons and Goldens and fruit set on some peach varieties that was not as heavy as the bloom indicated. I have seen both occurrences this year. Some petal fall sprays of Sevin on Gala and Reds appear to have been fairly successful.

Continued wet weather and saturated soils can create problems for the trees too. When the wind blows like it did Sunday morning, there can be wallowing and leaning. Corrective measures of straightening the trees and filling the wallowed hole can be done while the soil remains wet. I just read in the Rutgers Plant and Pest Advisory that it is time to begin calcium sprays on apples, and this

coincides with the wet soil factor that can contribute to calcium disorder in the fruits. Calcium sprays might also improve the firmness of ripening strawberries in wet fields.

Peach growers might appreciate the cool temperatures if research data from California hold true in Illinois. It was reported in California Agriculture, Volume 61, Number 1, Jan-March 2007, that high early spring temperatures during the 30-day post-bloom period decreased the size of packed fruit at harvest. I don't know of any Midwest research that has shown that effect or if it works on our varieties, but one can hope for some benefit from the cool weather.

Reports of enough codling moth catches to set a biofix date for the area have been received, and flight appears to have begun May 3-5. Using a biofix date of May 4, I now have accumulated 86 degree days. The reason for uncertainty about the biofix date is that I have caught only one codling moth to date, and only 6 oriental fruit moths. There are a few traps in commercial orchards that have had zero to light catches also.

Rosy apple aphids are the only fruit insect pest that I've seen in numbers this spring. And Tom Schwartz reported that flower thrips must have drowned in the strawberry fields, as neither of us have seen any. No disease infections have been seen in sprayed orchards, but the past week's rainfall will put that statement to the test, as it was fire blight, cedar apple rust and potential infection weather for scab of both apple and peach. Wind tatter is visible following 50 mph winds on the 11th.

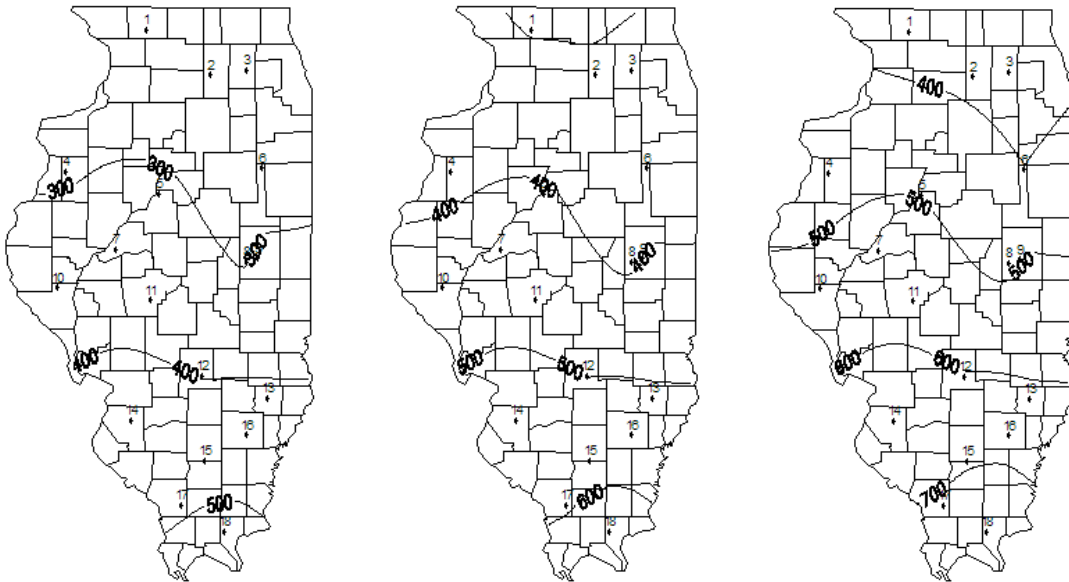
*Chris Doll*

### **Degree-day accumulations**

**Degree-day accumulations, base 50 degrees F, starting January 1.**

Station	County	Base 50F DD Jan 1 – May 13, Historic Average	Base 50F DD Jan 1–May 13, 2008	Base 50F DD Jan 1–May 20, 2008 (Projected)	Base 50F DD Jan 1–May 27, 2008 (Projected)
1. Freeport	Stephenson	337	225	296	371
2. Dekalb	Dekalb	377	228	305	387
3. St. Charles	Kane	344	247	312	382
4. Monmouth	Warren	425	286	371	455
5. Peoria	Peoria	465	328	415	500
6. Stelle	Ford	418	232	315	400
7. Kilbourne	Mason	554	373	464	555
8. Bondville	Champaign	484	292	381	471
9. Champaign	Champaign	485	330	420	511
10. Perry	Pike	522	343	434	523
11. Springfield	Sangamon	525	366	466	567
12. Brownstown	Fayette	597	396	498	605
13. Olney	Richland	595	415	514	618
14. Belleville	St. Claire	658	454	559	669
15. Rend Lake	Jefferson	696	466	578	694
16. Fairfield	Wayne	657	454	564	680
17. Carbondale	Jackson	688	491	594	703
18. Dixon Springs	Pope	727	524	633	748

Degree-day accumulations summarized above for weather stations in the Illinois State Water Survey WARM data base have been summarized using the Degree-Day Calculator on the University of Illinois IPM site (<http://www.ipm.uiuc.edu/degreedays/index.html>). The list below includes only degree-day accumulations and projections based on a 50-degree F developmental threshold and a January 1 starting date, but other options that use different thresholds and specific biofix dates are available on the Degree-Day Calculator. The degree-day calculator is available as a result of a joint effort of current and former extension entomologists (primarily Kelly Cook) and Bob Scott of the Illinois State Water Survey. If you have questions about how to use the site, contact me or Bob Scott ([rwscott1@uiuc.edu](mailto:rwscott1@uiuc.edu)).



Degree-day accumulations, base 50 F, January 1 – May 13, 2008 (left), and projected through May 20 (center) and May 27 (right).

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## ***Fruit Production and Pest Management***

### ***Fruit Thinning***

Apple and peach flower development have advanced relatively slowly due to the cool weather that we have experienced. Bee activity is also less than adequate and may affect fruit set. Regardless of the weather, you should consider applying thinning agents but with some caution.

As most of you know thinning is not an exact science. There are many factors that can make a thinning chemical work more effectively and others that make it less effective. Tree physiology and environmental conditions are the two major factors affecting the response of most chemical thinners. The physiological factors in the tree that affect thinning response include variety, tree age, tree health, crop load, and severity of pruning. A weak and very old tree is relatively easier to thin than a healthy and young tree. Similarly, a heavily cropped tree is relatively easier to thin than a lightly cropped tree. However, you should know that even though the chemical may have knocked a large number of fruits off the tree, you may still have more fruit left due to poor chemical coverage. So monitor the number of the fruits that are left on the tree not those on the ground. Another factor that contributes greatly to the effectiveness of a thinner is the variety. For example, 'Fuji' fruits are harder to thin than 'Gala' fruits. The type of tree is also important; for example 'Spur' varieties are harder to thin than non spur varieties. Some studies also suggest that pruning may have an influence on the effectiveness of thinning. Application timing is also important. Some thinners work best when applied at bloom time. Benzyl adenine is much more effective when applied at bloom than after fruit set while NAA works best when fruit diameter is between 8 and 9 mm than on larger size fruits. Penetration of the chemical thinner is greater through the lower side of the leaf than the upper side and the difference increases as the leaves age because older leaves have more wax deposited on the upper surface than the lower surface. Interestingly, very little NAA enters the plant leaf through the stomata and instead most enters through active transport channels across the plasmalemma. In other words, the leaves spend energy to get NAA inside so it can cause the fruit to abscise. A tree that has heavy bloom will require significant amount of energy to take up the thinner, and so it is advisable to supplement the tree with some nitrogen at bloom to offset the amount of the energy spent on producing the flower and getting rid of the fruit during thinning.

Environmental factors also have strong influence on the effectiveness of thinning chemicals. Ed Stover and Duane Green published a very nice review in HortTechnology 2005, volume 15, pages 214-221, on the effect of environment on the performance of thinners. In this article they pointed out several pre-, during, and post-application factors that impact the effectiveness of growth regulators on fruit thinning. During the early stages of growth, leaves deposit waxes on the surface. The amount, structure and composition of these waxes influence leaf witness, and penetration of thinning chemicals. Deposition of these waxes is affected by the environment. Low light, high humidity, frost damage, and low temperatures were listed as factors that can increase the response of thinning chemicals, while high temperature and dry conditions reduce the effectiveness of the thinning chemicals. Many of these factors work synergistically, and so if the weather is warm and humid the thinning chemical will work more effectively than if the weather is cold and dry. The biggest uptake occurs right before the chemicals completely dry, when their concentrations are greatest. However,

uptake decreases drastically when the chemical has completely dried. Therefore, conditions that allow for longer drying periods will increase the effectiveness of thinning. Field studies have also shown that if the chemical droplet dries before it is washed by rain, then its activity is not lost. However if the droplet is still wet and a rain occurs, then the chemical will be less effective because it washes off before it gets into the leaf. These are only a few of the factors that impact the effectiveness of the thinning chemicals and that is why it is difficult to predict if a thinner will work or not.



**Figure 1.** Fruit size is based on the average diameter of about 50 fruits including the king fruit, usually the largest fruit in the center of the cluster, along with the next largest two to three fruits in the same cluster. Collect 10 to 12 fruit clusters from five to six trees from the same block and variety and measure fruit diameter.

The number of chemical thinners on the market had not changed much in a long time until recently when new formulations of an old chemical called 6-benzyl adenine (6-BA) were introduced. The new 6-BA formulations are MaxCel (from Valent), Exilis Plus (Fine Agrochemical, UK) and RiteWay (from Nufarm, Burr Ridge, Illinois). All three chemicals will work if the temperature is above 65 F on the day of the application and two to three days later. Growth regulators require warm temperature for optimum uptake and if the temperature is cold (55 F or lower), chances are that neither of these chemicals will be effective. These chemicals also work better on hard to thin varieties when they are combined (at 100 ppm) with 1 quart of Sevin XLR per acre. Maxcel and RiteWay are listed to work on fruit ranging in size from 5 to 12 mm, but all three have also been suggested to induce good thinning at petal fall and can increase fruit size.

Traditional thinners like NAA and Sevin are the most popular, followed by several formulations of NAD (Amid Thin and Accel). Petal fall thinning is highly desirable practice in years of heavy bloom and on varieties that are hard to thin like Fuji and Honeycrisp. Petal fall thinning is done by applying Amid Thin (naphthylacetamide) at 4 to 8 days after full bloom. Petal fall thinning using Amid-Thin is not a good idea on Gala or Delicious because of the risk of pygmy fruits. Amid-Thin is applied at 50 ppm in at least 150 gallons of water per acre. Another chemical used for petal fall thinning is Accel. The rate for Accel is no more than 30 grams of active ingredient (53.4 fluid ounces product) per acre in 150 to 200 gallons of water. Accel has been shown to increase fruit size of some apple varieties like Gala, McIntosh, Paula Red, and Golden Delicious if applied when the fruit is less than 10 mm.

Consider spraying NAA early when the fruit diameter is less than 12 mm, preferably 9 to 10 mm. If fruit size is larger than 12 mm, then consider a mixture of full rate of Sevin and a half rate of NAA or Accel. Do not apply NAA when fruit size is larger than 15 mm and never combine NAA with Accel so you don't get pygmy fruits, especially on spur varieties like 'Spur Delicious' and 'Gala'. When all else fails, consider using Ethrel if fruit size is larger than 20 mm, but you can over-thin with ethrel, especially on spur type 'Delicious.' I have seen a report which suggests that ethrel is less effective when fruit size is small (8mm), but its effectiveness increases as fruit size increases. Make sure to read the label before applying any chemical.

To see if the thinner worked, I suggest that you cut a few fruits in half, soon after you apply the thinner, leaving the stem half attached to the tree. Mark the place where these fruits are and check on them after about 10 days. If they dropped, select a branch with a heavy fruit set then shake it vigorously. Count the number of fruits that are left attached to that branch. If there are more fruits left than necessary, then you can use a single application of either Sevin or NAA at full rate. Most thinners work best in the first application. Hand-thin clusters to one to two fruits.



To date there are no reliable chemical thinners for peaches, although some studies have shown that an application of 100 to 125 ppm GA<sub>3</sub> before bloom induced some thinning but had no effect after bloom even when the concentration was doubled. In general, peach fruit clusters are still thinned by hand, usually to a single fruit every 6 to 9 inches depending on the cultivar, tree age and vigor.

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## **Fruit Insect Management Considerations**

### ***Oriental fruit moth, codling moth, and lesser peachtree borer updates***

In issue 4 on April 30, 2008, I noted that biofix dates for oriental fruit moth so far range from April 20 at Echo Valley Orchard south of Murphysboro to April 25 at the University of Illinois orchard sites near Urbana. Biofix near Brussels in Calhoun County was April 21. From those biofix dates, degree-day accumulations and projections, base 45 F, from nearest Illinois State Water Survey weather stations are:

	Biofix Date	DD Base 45 F, through May 13	DD Base 45 F, projected through May 20	DD Base 45 F, projected through May 27
Murphysboro (Carbondale weather data)	April 20	350	485	629
Brussels (Brownstown weather data)	April 21	303	438	579
Urbana (Champaign weather data)	April 25	199	321	447

For growers in Calhoun County who are using Isomate OFM Rosso pheromone dispensers to control oriental fruit moth by mating disruption and are timing applications so that dispensers are in place just before second generation flight, keep in mind that second flight will begin around 950 DD base 45 F after the beginning of first generation flight. The degree-day projections above (629 through May 27) suggest that applications can wait until very late May or early June.

Biofix for codling moth in far southern Illinois was May 3, 2008. Egg hatch begins approximately 240 DD base 50 F after biofix. Cold temperatures have delayed codling moth flight significantly, and where growers have captured only one or two moths in several traps, waiting to get a more significant flight before starting the phenology model on codling moth is probably appropriate. Note the recommended timing for first application of various codling moth insecticides based on degree-day accumulations in the table on page 15 of the [2008 Midwest Tree Fruit Spray Guide](#).

Traps at Echo Valley Orchard near Murphysboro picked up lesser peachtree borer moths on May 6, 2008. I usually do not keep track of degree-day accumulations for lesser peachtree borer development, but the general rule for spray timing where this insect is a problem is to make an initial spray to trunk and scaffold branches 7 to 14 days after traps first begin to catch moths in the spring. Another application in August may also be necessary. See page 34 of the [2008 Midwest Tree Fruit Spray Guide](#) for more comments on the control of this insect and for a list of registered and effective insecticides.

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### ***Altacor Labeled for Use on Grapes, Apples, and Peaches***

Altacor, a new insecticide containing the active ingredient chlorantraniliprole (rynaxypyr) has been labeled by the US EPA for use on grapes, pome fruits (including apples), and stone fruits (including peaches). Altacor is produced and marketed by DuPont and is sold as a water dispersible granule that is 35 percent active ingredient by weight. Altacor is effective primarily against larval stages of Lepidoptera (so such pests as codling moth, oriental fruit moth, leafrollers, and grape berry moth. Altacor applied at 3 ounces per acre has been very effective against codling moth in apples in small-plot trials in the University of Illinois orchard. The label allows application of up to 9 ounces of Altacor 35 WG per season on grapes, apples, and peaches; the PHI for grapes and apples is 14 days; the PHI for peaches is 10 days.

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## Vegetable Production and Pest Management

### Colorado Potato Beetle Revisited

In issue 4 on April 30, I included Colorado potato beetle among the early season pests to monitor and control as needed. A call from southern Illinois about troubles controlling this insect points out the need to provide a few more details ...

Colorado potato beetle is one of a few insect species that might serve as a “poster child” (or poster insect) for an educational campaign on insecticide resistance. Populations in various locations around the globe have developed resistance to many different insecticides, and individual populations may show resistance to several unrelated insecticides. Where more than one mechanism of resistance makes a population resistant to unrelated chemicals, the phenomenon is known as multiple resistance ... and the Colorado potato beetle is the often-cited example. The [2008 Midwest Vegetable Production Guide for Commercial Growers](#) lists around 20 different active ingredients for Colorado potato beetle control, and those ingredients represent at least 10 different modes of action (and 10 different Insecticide Resistance Group numbers). As you choose insecticides for Colorado potato beetle control, Keep in mind the following guidelines:

- First, follow the cultural practices that help to avoid heavy infestations: rotate crops so that beetles have to move from last year’s infested fields (where they overwintered in the soil) to this year’s susceptible crops (potatoes, peppers, tomatoes, and eggplant). Placing susceptible crops as far as possible from last year’s infested fields delays and reduces beetle invasion. Straw mulching the outer rows of fields also slows buildup; trenching and propane flaming also are options.
- Treat according to need. Thresholds are based on percent defoliation; if damage is light, don’t use an insecticide, because doing so contributes to future resistance problems. Allowable defoliation (amount of leaf area loss) is 20 to 30 percent prebloom, 5 to 10 percent during flowering, and 30 percent during tuber growth.
- Choose and rotate insecticides among different modes of action and resistance groups. See page 125 of the [2008 Midwest Vegetable Production Guide for Commercial Growers](#) for a partial listing of insecticides and resistance groups. For more information on insecticide modes of action and resistance groups, see the IRAC (Insecticide Resistance Action Committee) [Mode of Action Classification Scheme](#).
  - If you have used a certain insecticide in the past (for example, a pyrethroid such as Pounce, Asana, Baythroid, or Mustang Max, or a neonicotinoid such as Admire, Provado, Platinum, Actara, or Assail), plan a rotation that includes insecticides in a different class (and IRAC group). Compounds that differ in mode of action from the pyrethroids and neonicotinoids listed above (and from each other) include Agri-Mek, Avaunt, Endosulfan, Monitor, Rimon, Sevin, and SpinTor / Entrust / Delegate.
  - If an insecticide fails to give control, don’t use it again. Switch to a different insecticide with a different mode of action.



Left to right: Colorado potato beetle adult (Ric Bessin, Univ. of Kentucky; <http://www.ca.uky.edu/entomology/entfacts/ef304.asp>), eggs (Univ. of Massachusetts; [www.umassvegetable.org/soil\\_crop\\_pest\\_mgt/ins...](http://www.umassvegetable.org/soil_crop_pest_mgt/ins...)), and larvae (Univ. of Idaho; <http://info.ag.uidaho.edu/keys/plates/plate36.htm>).

### Coragen Labeled for Use on Some Vegetable Crops

Coragen, a new insecticide containing the active ingredient chlorantraniliprole (rynaxypyr) has been labeled by the US EPA for use on certain vegetable crops. Coragen is produced and marketed by DuPont and is sold as a liquid formulation containing 1.67 pounds active ingredient per gallon. The new federal label allows use on cole crops, leafy vegetables, cucurbits, and fruiting vegetables such as tomatoes, peppers, and eggplant for the control of larval stages of Lepidoptera (so such pests as imported cabbageworm, diamondback moth, cabbage looper, tomato fruitworm, etc.). Coragen is not yet labeled for use on sweet corn, but a Section 18 Exemption request is pending for such use for the control of corn earworm. Continue to check this newsletter over the next several weeks for updates.

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## Herbicides Containing 2,4-D or Dicamba

It has been a late spring, cold and wet. Many herbicides are likely to be applied in the next few weeks, even if it is windy. Also, there is likely to be more applications of postemergence herbicides. So, now is the time to work on avoiding drift from herbicides. Growth regulator herbicides, such as 2,4-D and dicamba, are a common cause of drift injury to fruit and vegetable crops. The best way to avoid injury is to not apply growth regulator herbicides and ask your neighbors not to use them. Dicamba and 2,4-D are the active ingredients in many common corn, small grain, turf, brush, and total vegetation control products. Also, 2,4-D and/or dicamba are in many weed and feed products that are used for lawns. A few examples are: 3-seasons Fertilizer with Broadleaf Weed Control (2,4-D); ACE Green Weed and Feed (2,4-D + dicamba); Andersons Professional Turf Product (2,4-D + dicamba); Bayer Advanced Triple Action Lawn Fertilizer and Weed Control (2,4-D + dicamba); Blain's Farm & Fleet Estate Weed and Feed (2,4-D + dicamba); Greenview 2-Way Green Power (2,4-D + dicamba); and Lebanon Proscape (2,4-D + dicamba). Avoid applying these products near fruit or vegetable plantings and do not use grass clippings from treated areas as mulch.

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**Table 1.** Herbicide products containing dicamba and their major use.

Trade name	Other active ingredients besides dicamba	Use
Banvel		Corn
Clarity		Corn
Diablo		Corn
Dicam		Corn
Rifle		Corn
Vanquish		Turf
Vision		Corn
.....		
Brash	2,4-D	Small grains
Celebrity Plus	nicosulfuron + diflufenzopyr	Corn
Cimarron Max	2,4-D + metsulfuron	Total vegetation
Cool Power	MCPA + triclopyr	Turf
Disappear	MCPP + 2,4-D	Turf
Distinct	diflufenzopyr	Corn
End Run	2,4-D + MCPP	Turf
Escalade	2,4-D + fluroxypyr	Turf
Gordon's Brushmaster & similar products	2,4-D + 2,4-DP	Brush
Horsepower	MCPA + triclopyr	Turf
Liberator 531	MCPP + 2,4-D	Turf
Marksman, Dicambazine	atrazine	Corn
Millennium Ultra	2,4-D + clopyralid	Turf
Northstar	primisulfuron	Corn
Outlaw	2,4-D	Small grains
Overdrive, Status	diflufenzopyr	Corn
Power Zone	carfentrazone + MCPA + MCPP	Turf
Quincet	quinclorac + 2,4-D	Turf
Range Star	2,4-D	Small grains
Speed Zone	carfentrazone + 2,4-D + MCPP	Turf
Surge Power	MCPA + triclopyr	Turf
Super Trimec	2,4-D + 2,4-DP	Turf
Three-Way, Trimec Classic, Triplet	2,4-D + MCPP	Turf
Tri-Power	MCPA + MCPP	Turf
Vessel	MCPP + 2,4-D	Turf
Weed-A-Cide	MCPP + 2,4-D	Turf
Weed-B-Gon	2,4-D + MCPP	Turf
Weedmaster	2,4-D	Small grains
Yukon	halosulfuron	Corn



**Table 2.** Herbicide products containing 2,4-D and their most common use.

<b>Trade name</b>	<b>Other active ingredients besides 2,4-D</b>	<b>Use</b>
Amine 400		Many
Brush Killer		Brush
Brush, Vine & Poison Ivy		Brush
Formula 40		Many
Hardball		Corn
Hi-Dep		Total vegetation
LV 400		Corn
Orchard Clean		Fruit
Phenoxy 088		Corn
Unision		Corn
.....		
Brash	dicamba	Small grains
Crossbow	triclopyr	Total vegetation
Cimarron Max	dicamba + metsulfuron	Total vegetation
Disappear	MCPP + dicamba	Turf
Dissolve	MCPP + dichlorprop	Turf
End Run	dicamba + MCPP	Turf
Escalade	dicamba + fluroxypyr	Turf
Gordon's Brushmaster & similar products	dicamba + 2,4-DP	Brush
Liberator 531	MCPP + dicamba	Turf
Millennium Ultra	clopyralid + dicamba	Turf
Momentum	triclopyr + clopyralid	Small grains
Outlaw	dicamba	Small grains
Quincet	quinclorac + dicamba	Turf
Range Star	dicamba	Small grains
Recoil	glyphosate	Many
Shotgun	atrazine	Turf
Speed Zone	carfentrazone + dicamba + MCPP	Turf
Spoiler, Weed Whacker	MCPP	Turf
Strike Ultra	clopyralid + 2,4-DP	Turf
Super Trimec	2,4-DP + dicamba	Turf
Three-Way	MCPP + dicamba	Turf
Triamine	MCPP + dichlorprop	Turf
Trimec Classic, Triplet	dicamba + MCPP	Turf
Trisel	MCPP	Turf
Turflon II Amine, Chaser	triclopyr	Turf
Vessel	MCPP + dicamba	Turf
Weed-A-Cide	MCPP + dicamba	Turf
Weed-B-Gon	MCPP + dicamba	Turf
Weedmaster	dicamba	Small grains
Weedone 638	2,4-DP	Corn

***Less seriously ...***

There's always a lot to be thankful for if you take time to look for it. For example I am sitting here thinking how nice it is that wrinkles don't hurt.

The older we get, the fewer things seem worth waiting in line for.

Did you ever notice: When you put the 2 words "The" and "IRS" together it spells "Theirs?"

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