

FRUIT NOTES



Vol. 23, No. 3

July–September, 2008

Bermudagrass: A Perennial Problem

Controlling bermudagrass is a considerable challenge but one worth accepting. Bermudagrass is very competitive and will reduce the growth of young plants as well as fruit yields in mature plantings of grape, apple, peach, blueberry and blackberry crops. The good news is that bermudagrass can be controlled in perennial fruit crops with Poast™, Fusilade™ or clethodim (Select™, SelectMax™, Intensity™ and others).

Application timing is critical to successful bermudagrass control. An initial application should be applied to bermudagrass with 4 to 6 inches of new growth. A second application will be necessary when regrowth occurs. The second application and its timing are critical to successful control. The bermudagrass must have recovered from the initial herbicide application before applying the second application. Growers often ask, “How long should I wait after the first application before making the second application?” There is no specific answer to that except to say the time frame can vary. Factors affecting regrowth include soil moisture at the time of application, rainfall events after the application and temperature. The common mistake made with the second application is failing to apply it or applying it too soon.

The table below provides herbicide rate range and crop restriction information pertaining to non-bearing uses, as well as PHI information for each of the herbicides mentioned above. On each of these product labels there is detailed information regarding bermudagrass control. In addition to bermudagrass, these products control johnsongrass and annual grass weeds like large crabgrass, fall panicum, goosegrass and others. If you have questions regarding the use of these products, contact your local Extension agent in your county.

Altacor Registered on Apples

Altacor™ 35WDG (active ingredient rynaxypyr) recently received registration for use on apples, as well as other pome and stone fruits and grapes. Altacor is the first insecticide registered in the anthranilic diamide class of chemistry, which provides a new mode of action compared to all other classes of insecticides. It is an excellent fit in tree fruit IPM programs in that it is a selective insecticide with low toxicity to beneficial arthropods. In addition to exhibiting excellent activity against our key lepidopterous apple pests (i.e., codling moth, oriental fruit moth and tufted apple bud moth), it also has long residual activity and is safe to key mite predators. It is labeled for use at 2.5 to 4.0 oz. per acre, but

Herbicide	Rate	Blueberry	Caneberry	Apple	Peach	Grape
Poast	1 to 2.5 pt A ⁻¹	30-day PHI	45-day PHI	14-day PHI	25-day PHI	50-day PHI
Clethodim	Rate varies with formulation	Non-bearing	Non-bearing	Non-bearing	Non-bearing	Non-bearing
Fusilade	8 to 24 oz A ⁻¹	Non-bearing	Non-bearing	Non-bearing	14 day PHI	Non-bearing

Refer to product label for spray additive recommendations.

(submitted by Wayne Mitchem, Weed Specialist – NC State Univ., Clemson Univ., Univ. of GA)

trials in North Carolina have shown that 3.0 oz. per acre provides excellent control of all target pests. Altacor also provides flexibility in application timing for control of codling moth, because it is toxic to both eggs (e.g., ovicidal activity) and larvae. Hence, good results can be expected when an initial application is made any time between the start of egg laying to egg hatch.

With Altacor and Delegate™ (active ingredient spinetoram) now registered for use on apples, there are two new and very effective insecticides available for control of codling moth. These registrations come at an opportune time, due to increased problems with codling moth during the last few years associated with populations resistant to older insecticides. Properly using these insecticides at the onset is important to preserving their long-term efficacy. As outlined in meetings this winter, it is recommended that one of these products be used against first-generation codling moths in May and June, and the other against the second generation in July and August. Within a season, do not expose a single generation to both insecticides, or use the same product against successive generations. Considering the timing of the Altacor registration and the fact that initial insecticide applications against the first generation are now being made, for those growers choosing to use these new chemistries, it will probably be necessary to use Delegate against the first and Altacor against the second generation this year.

(Dr. Jim Walgenbach, Extension Entomologist, NCSU/Entomology)

Food Safety

Food safety problems with fresh and minimally processed fruits and vegetables seem to crop up frequently. Many produce buyers are requiring growers to submit to audits of their Good Agricultural Practices (GAPs). If you are marketing your crop directly to consumers, you are not required to have an approved GAPs program. However, you might benefit from developing a GAPs program for your farm. When you market your crop directly to consumers, you inherit total responsibility for food safety.

While it never will be possible to totally eliminate food safety concerns, addressing potential problem areas will certainly lessen risks. Washington State Cooperative Extension has a self-assessment workbook for producers of apples, juice and cider. You can access this workbook at <<http://organic.tfrec.wsu.edu/FoodSafety-Wed/Self%20Assessment.pdf>>. Although the work-

book was developed for apples, most of the information in it will pertain to other fruit crops as well. Going through the workbook may help identify potential problem areas.

You work hard to grow and market high-quality fruit crops. Invest a little more effort to demonstrate your commitment to providing a safe food supply as well.

Return Bloom Treatments for 2008

So, the first round of chemical thinning is over, but there are still way too many apples on your trees. It's time to re-thin. It normally takes 10-12 days after re-thinning before the fruit will loosen and start to drop. High daytime temperatures, warm night temperatures and cloudy days following application will increase the activity of most thinners. A combination of all three could create a 'perfect storm,' resulting in severe over-thinning. Re-thinning is always a nervous time.

If you re-thinned with an Ethrel/Sevin™ combination then the Ethrel™ should help a little with return bloom. However, even if your re-thinning program has a successful outcome, you will still need to follow this with either a summer NAA program or an Ethrel spray as insurance against a poor return bloom, particularly for biennial varieties like 'Fuji' and 'Cameo.' It's the crop load during the first few weeks after bloom that will determine return bloom of strongly biennial varieties. If there were too many fruit on the tree during this period, then return bloom will be poor.

A summer NAA program is four bi-weekly sprays of 5 ppm NAA, the first two in June and the second two in July. An Ethrel spray for return bloom tends to be a single application some time around six to eight weeks after bloom, at rates ranging from 8-72 oz Ethrel per acre depending on variety, crop load and the history of biennial bearing. These programs have generally worked well for us here in the Southeast, and while Ethrel tends to be a one-shot deal, my preference is for summer NAA. My reasons for this are two-fold: the rate of NAA is constant regardless of variety and it can be included with the regular cover sprays during June and July, so it is not necessary to make a special trip through the orchard. Since the rate of Ethrel will vary depending on variety, then more often than not Ethrel sprays for return bloom will require a separate trip through the orchard.

Steve McCartney, NCSU, Fletcher

What Rate of Ethrel?

As mentioned above, while Ethrel for return bloom need normally be applied only once, the rate is dependent on variety and crop load. If the trees were re-thinned with Ethrel then you will want to wait at least three weeks after the re-thin to spray Ethrel for return bloom or you might reactivate the thinner. If the crop load is heavy, you may want to consider making a second application of Ethrel at the same rate two to three weeks after the first spray, particularly on ‘Fuji’ and ‘Cameo.’ However, I would be a little concerned about making a second application of Ethrel onto ‘Honeycrisp’ at these high rates. Use the Table below as a guide. You will note that ‘Jonagold’ does not appear in the Table. At this time I suggest that ‘Honeycrisp’ and ‘Jonagold’ may be more suited to a summer NAA program for return bloom than Ethrel.

Ethrel Rate (oz/acre)	Variety
8-16	Nonspur Rome, Pink Lady
16-32	Gala, Spur Rome, Nonspur Red Delicious
32-48	Golden Delicious, Mutsu, Spur Red Delicious
48-72	Fuji, Cameo, HoneyCrisp

A Review of Re-Thinning Options

It should now be around two weeks since the first post-bloom thinner was applied, so you will soon have to decide if re-thinning is necessary. How soon after applying a thinner can you predict the response? You

should be able to see a clear separation between the fastest- and slowest-growing fruit within a cluster by 10-14 days after application, although this interval may be longer in cooler years when fruit grow more slowly. It is (usually) safe to assume the slowest-growing fruit will drop. Dr Duane Greene at U. Mass. has developed a system for predicting thinner efficacy as early as seven days after applying a thinner, which we are evaluating this year at the MHCRC in Fletcher.

If you feel you have not achieved enough thinning with your first (primary) post-bloom thinning spray, you will need to review the re-thinning recommendations in the 2008 Integrated Orchard Management Guide for Commercial Apples in the Southeast (reproduced below). The least aggressive approach to re-thinning is Sevin™ alone, which should be applied within 10 days of the primary thinner and will only thin fruit that are already weak or stunted. Adding surfactant to the Sevin will provide some additional thinning, but this combination should not be applied earlier than 14 days after the primary thinner. Waiting three or more weeks to assess the activity of the primary thinner will provide a more accurate indication of which fruit will drop, but will also mean that persisting fruit will be larger and require a more aggressive re-thinning strategy. This can be achieved by combining Sevin and Ethrel, either with or without Fruitone L™ (remember, don’t use Fruitone L on Fuji or other varieties that may develop pygmy fruit). This is where I get nervous, because while I have seen some excellent re-thinning results with Ethrel combinations, I have also seen more crops over-thinned with Ethrel than with any other compound. The important point to remember here is that the thinning activity of

Apple Re-Thinning Recommendations for the Southeast

(Source: 2008 Integrated Orchard Management Guide for Commercial Apples in the Southeast)

Relative Activity	Chemicals/Combinations (rates per 100 gallons)	Time of Application	Re-thinning (all varieties)
Least	Sevin (0.5-1 lb a.i.)	7-10 days after first thinner application	If needed to push weak/stunted fruit off. Esp. Golden Delicious
	Sevin + Surfactant (0.5-1 lb a.i.) + (0.5-1.0 pt)	14+ days after first thinner application	Rome, Standard Red Delicious, Mutsu, GoldRush, Jonagold
	Sevin + Ethrel + Fruitone L (1 lb a.i.) + (0.5-0.75 pt) ± (2.5 ppm)	18-30 days and at least 14 days after first thinner application	On moderately over-cropped trees (150-200% crop load), esp. on easy-to-thin varieties
Most	Sevin + Ethrel + Fruitone L (1 lb a.i.) + (1.5 pt) ± (5-10 ppm)	18-30 days and at least 14 days after first application	Heavy to excessively over-cropped trees (>250% crop load), esp. spur-type varieties

Ethrel increases dramatically with temperature. You will need to reduce the rate of Ethrel if daily maximum temperatures rise much above 85 F or even consider removing it altogether if temperatures are going to be in the mid '90s or higher. Having a crop of apples and a big hand-thinning bill is still preferable to having no crop at all.

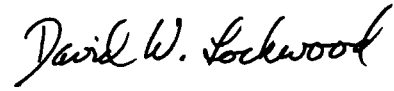
Steve McArtney, Southeast Apple Specialist, MHCREC

Field Days

Apple/Peach Field Day. August 12, 2008. Mountain Horticulture Crops Research and Education Center, Fletcher, NC. (For additional information, contact

David Lockwood @ 865-974-7421 or E-mail at **dlockwood@utk.edu**)

Steak and Potatoes Field Day. August 5, 2008, 8:00 am. Plateau Research and Education Center, Crossville, TN



David W. Lockwood, Professor
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Fruit Notes

From:

Leader/Agent

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3.1M 7/08 E12-5115-00-001-09 09-0010

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