



Extension

COLLEGE OF AGRICULTURAL, CONSUMER
& ENVIRONMENTAL SCIENCES

Illinois Fruit and Vegetable News

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Editors: Nathan Johanning & Bronwyn Aly

A newsletter to provide timely, research-based information that commercial fruit & vegetable growers can apply to benefit their farming operations.

Address any questions or comments regarding this newsletter to the individual authors listed after each article or to its editors, Nathan Johanning, 618-687-1727, njohann@illinois.edu or Bronwyn Aly 618-382-2662, baly@illinois.edu. The *Illinois Fruit and Vegetable News* is available on the web at: <http://ipm.illinois.edu/ifvn/>. To receive email notification of new postings of this newsletter, contact Nathan Johanning at the phone number or email address above.

In this issue...

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Upcoming Programs

Check the **Illinois SARE calendar** for a full list of programs and links for registration.

<http://illinoissare.org/> and <http://illinoissare.org/calendar.php>

Also see the **University of Illinois Extension Local Food Systems and Small Farms Team's website** at:

<http://web.extension.illinois.edu/smallfarm/> and the calendar of events at

<http://web.extension.illinois.edu/units/calendar.cfm?UnitID=629>.

- **Southern Illinois Summer Twilight Series: Blueberry Hill Farm, Monday, June 18, 2018 6 p.m. 675 Wrights Crossing Rd; Cobden, IL 62920.** This second twilight meeting of the summer series will cover blueberry and blackberry production for retail marketing (u-pick & roadside stand). For further information contact Bronwyn Aly at baly@illinois.edu or 618-695-6060. The other dates for the series are listed below:
 - **Karl Sweitzer Produce, Cobden, IL July 16, 2018**
 - **Cahokia Rice, McClure, IL August 20, 2018**
- **SIU Strawberry Research Field Day, Thursday, June 14, 2018 7:00-8:00 p.m. 3268 Pleasant Hill Road, Carbondale, IL.** Come out to the SIU Farms to learn about two different research projects going on that improve strawberry production and post-harvest storage. We will meet first at the Agronomy Center classroom (across from the Vermicomposting Center) and there will be two brief presentations as well as a demonstration on an edible coating for strawberries. Afterwards, attendees are welcome to walk over to the field behind the vermicomposting center where the two rows of strawberries were grown for research on the beneficial bacteria, *Pseudomonas putida*.
- **Produce Safety Alliance Grower Training Course, Monday August 13, 2018 8 a.m. – 5 p.m. Jefferson County Extension Office, 4618 Broadway, Mt. Vernon, IL.** For more information on this grower training and to register visit <http://go.illinois.edu/PSAMtVernon2018> or contact Laurie George at

ljgeorge@illinois.edu or 618-242-0780. Registration will close on July 27, 2018. There are a limited number of seats available for this training. Once the course is full, registrations will close.

- **2018 Pumpkin Field Day, Thursday, September 6, 2018, 10 a.m.** Ewing Demonstration Center (located about 20 minutes south of Mt. Vernon, IL) 16132 N. Ewing Rd. Ewing, IL 62836. Pumpkin Variety & Pest Management trials, No-till Production and more! Save the date; more details to come! For additional information contact Nathan Johanning at 618-687-1727 or njohann@illinois.edu.
- **Midwest Mechanical Weed Control Field Day Wednesday September 26, 2018 PrariErth farm in Atlanta, Illinois.** Visit <https://thelandconnection.org/farmers/mechanical-weed-control-field-day-2018> for more details and information about the field day as time gets closer.

News and Announcements

2018 Illinois Summer Horticulture Field Day

The 2018 Illinois Summer Horticulture Field Day was held Thursday, June 7, 2018 at Flamm's Orchard in Alto Pass, IL. It was a beautiful day in southern Illinois, warm but with a slight breeze. After a welcome and introductions, the group toured the packing shed, learning about the different sizing and sorting systems used for their summer vegetables, peaches, and apples. Next, the group watched sprayer demonstrations before loading on buses to tour plantings of apples, peaches, and cucumbers. All of the plantings were very healthy and growing well. Dr. Kushad, Dr. Babadoost, Dr. Weinzierl, Dr. Walters, and Nathan Johanning offered reminders and recommendations for pest management control for the rest of the season. During lunch (an excellent meal with local products), remarks were given by Dr. Shelly Nickols-Richardson, Interim Associate Dean of Extension, with regards to the College of ACES continued support of Extension and specialty growers in Illinois, as well as Raoul Bergensen, ISHS President, and Randy Graham, ISGA President. Dr. Laurie George provided a FSMA update and reminded growers of compliance dates and scheduled training opportunities.





Those attending 2018 Illinois Summer Hort Field Day watched sprayer demonstrations before heading out to the orchard to look at various apple and peach plantings. Photos by B. Aly.

Farm Worker Head Start Program

Su Casa Head Start
Cobden Illinois
Free Daycare:

For Farm Families in Union, Jackson, Williamson Counties

Monday-Friday 7:30-4:00 May to November

Infant/Toddler/Preschool Programs

Now accepting applications for children 0-6, including children with disabilities, for qualifying families who work in the fields, orchards, packing sheds, nurseries, or other jobs related to agriculture.

We Provide:

- School Readiness Program
- Services to Family and Children
- Free Transportation
- Free Nutritious Meals and Snacks through ISBE'S CACFP Program

Eligibility Requirements for All Farmworker Families:

- Low Income
- 51% of Income from work in agriculture

For more information please call:

(618) 893-4022

(Se Habla Español)

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Regional Reports

From west central Illinois... Soil moisture is low in Macomb. Even though our irrigation system is up and running, I've had to manually flip on the timer a few times this past week. The rains predicted last weekend from the tropical storms in the Gulf never reached us. Looking at the long-range forecast, there is a slight rain chance the coming weekend. I've learned not to hold my breath and added a few more runtimes to the irrigation controller.

I have been enjoying garlic scapes this past week, especially in my scrambled eggs. I am seeing more farmers, CSAs, and Co-ops selling garlic scapes in my area. It seems this initial garlic harvest is beginning to catch on with consumers.

Our bok choy started to bolt, so we cut the last of those. Arugula had its final cut too. Only a few kale remain, and those will probably be out by next week.

Two of my six hop vines have aphids, along with ants farming those aphids for their sweet honeydew (aphid poop). Watching the ants work and fight off aphid predators is pretty cool. I mixed up some neem oil to give a knockdown to the aphids, only to find something beat me to it. I've also had remarkable success with imported cabbage worm and eastern comma caterpillar control. By control, I mean I haven't had to spray a thing this year. A few weeks ago I caught eastern comma caterpillar feeding on my hops and waited a few days for them to get to size so I could record a video on their control, only to find no trace of them a few days later. Same goes for the cabbage worms. I'm not sure what species to credit for my gardening success, but it is nice when nature works in your favor.

Chris Enroth (309-837-3939; cenroth@illinois.edu)

Also from west central Illinois... Dry doesn't adequately describe the conditions we're experiencing this year. I belong to a rainfall recording organization that has individuals from across the US who participate. We record daily and submit data, which is available at COCORAHs.org. The rain gauges are of exceptional quality and provide a very accurate measurement. They are 3" in diameter for accuracy. The past two months have been exceptionally dry for us. April rainfall totaled 0.80", May totals are 2.0" and so far in June we've had 0.05". Early planted corn (field and sweet) have been leaf rolling the past 10-12 days, even at temperatures in the 70's. Nothing planted in the past week would germinate unless provided with irrigation. There is a concern that pre emerge herbicides will not perform up to standards due to lack of any rainfall to incorporate them. The heat along with the winds are just causing soils and plants to lose moisture at a rapid pace.

I've talked to a number of strawberry growers and all are reporting the same thing, a very poor crop. The season will be much shortened due to the heat and the berry size is much reduced, I think because the plant just can't keep up with transpiration losses as well as fruit sizing, even when providing adequate irrigation. We started picking on May 23rd, and will conclude June 5. I can't remember a strawberry season when we haven't been rained out or delayed in picking at least twice a week. Thus far, we haven't had that luxury.

Plantings of any crop, as well as succession plantings, unless irrigated, will not emerge until we receive rainfall. The heat and wind are really drying out plants as well as the soil. I can't believe how much water we're using keep things hydrated. Those plants that are in production are requiring supplemental water. The first planted sweet corn has really taken off the past few weeks, however I'm noticing that in the afternoons there is some leaf roll as the plant is trying to reduce evapotranspiration water loss. The later planted corn has not yet exhibited this as water requirements are not as high.

We placed our shade cloths over the high tunnels two weeks ago. It's amazing how much of a temperature difference they can make, about 10 degrees with a 30% shade cloth. We had to treat for spider mites a week ago when we noticed them in one area of tomatoes.



Photo by Mike Roegge.

The spinach plants are bolting with these temperatures and the lettuce is starting to as well. Early spring crops such as asparagus, rhubarb, radish, and greens are being harvested. Pea's are having a difficult time with the hot weather.

We finished our asparagus season on May 28th. We've never had a season like this in which each day we harvested a good amount. Usually we get swings of temperatures, in which the asparagus responds so that a few days will be good and a few days will find a lower amount picked. Not this year! Every day was a good day. We conclude the season by picking everything in the row, then mowing off the row (to eliminate any and all unharvested spears) and treating with glyphosate and a residual right after picking and mowing. The glyphosate will not harm the asparagus as there are no spears remaining, while at the same time can provide control of any weeds that have a leaf surface that's intact.

Remember to contact all neighbors who have soybeans within close proximity, as the post emerge herbicide programs will begin soon. And there are many of those fields in which the soybean field will be treated with dicamba. The potential for volatile drift is extremely high when temperatures exceed 85 degrees. Last year, we only had about two weeks of temperatures that high, and those came after most dicamba applications were made. This year, if these high temperatures hold, we could be facing some real tough challenges.

Mike Roegge, Retired Extension Educator & Mill Creek Farms (roeggem@illinois.edu)

From the St. Louis Metro-east... We are in the season of growing, just waiting for harvest to really kick in. The strawberries season has ended and asparagus harvest is close to finished as well. The strawberry season was not one of the best, with many growers reporting a shorter and lighter crop than in past years. Freeze injury to primary bloom combined with heat during harvest turned what one grower described as a 5 week crop into a 2 week crop. The asparagus crop has been strong this year. Turnips, beets, kale and other greens, spring onion and tunnel tomatoes are all in harvest. Though planted later than normal, growth has been good and harvest of zucchini and green beans is expected in the next 10 to 14 days. Sweet peppers will be in harvest within the week for some growers. Sweet corn and field tomatoes are liking the hot dry conditions and are showing strong growth. Cantaloupe are progressing nicely and pumpkin and gourd planting has just started. With some exceptions, growers are reporting low pest pressure as a result of ongoing dry but not droughty conditions. Rain would be welcome throughout the region.

There have been several reports of heavy numbers of aborted peach fruitlets dropping, which can be good or bad depending on the overall crop load. Some peach growers are now reporting short crops on certain cultivars, most likely due to site specific winter injury, whereas other sites are on their hand thinning pass and have a good crop. The apple

crop overall looks good with some difficult to thin cultivars like Fiji still too thick after three thinning passes. Some cultivars like Golden Delicious and Jonathan experienced quite a bit of natural thinning, most likely due to heat. Growers in the area reported codling moth traps suddenly “lighting up” with unusually high catch numbers, marking a very clear first flight with a biofix of May 5. With traps catching 11-15 moths per day, aggressive control measures were taken and so far no stings are being reported. Traps are zeroed out for now.

Elizabeth Wahle (618-344-4230; wahle@illinois.edu)

From southern Illinois... We’ve been feeling the heat in southern Illinois with highs in the 90s and lots of humidity. This has really pushed crop growth. We did get some rain about a week ago but with the warm temperatures most areas are pretty dry and could use some rain. We do have chances of rain forecasted over the weekend and early next week, if it materializes. Temperatures are supposed to remain in the upper 80s to mid 90s.

Summer crops are taking off quick. We got our shade cloth on our high tunnel at the office and none too soon. The tassels are starting to show on the earliest plantings of sweet corn. Tomatoes and peppers are growing quick and potatoes are blooming or just past bloom. Zucchini and yellow squash harvest is just getting started in southern Illinois. Plasticulture strawberries are quickly coming to an end. Early blueberries are just starting to get a little bit of color and apples and peaches are really starting to size and grow nicely. Some of the earliest peach varieties might be starting to come in as early as another two weeks. Pumpkin planting has started. Now is the time to be planning your weed management program for pumpkins. Consult the [Midwest Vegetable Production Guide for Commercial Growers 2018](#) for more details or see the article later in this issue for more information and thoughts on pumpkin weed management.

Nathan Johanning (618-687-1727; njohann@illinois.edu)

From Dixon Springs Ag Center... Crops in the high tunnels at DSAC are very happy and growing by the hour, literally. We are on our 12th harvest of hydroponic cucumbers, picking every Monday, Wednesday, & Friday. Lettuce and mixed greens have been harvested in both the hydroponic and in-ground plots. We placed shade cloth over the hydroponic tunnel last Friday (June 1, 2018). Tomatoes and cucumbers are continuing to be pruned and clipped, and cucumbers were lowered for the first time on Wednesday, June 6th. The cut flower plots are doing well, with the first cuttings made last week, and they have already sent out lateral branches that will be ready for another harvest by next Monday. We have observed a few areas in the cucumbers and peppers with aphids but have also seen lady beetle larva feeding in these areas. We were happy to see beneficial insects working to keep the pests in check. We are prepared to spray Beleaf® 50 SG insecticide to control aphids if needed. This product works well on the aphids while being easy on the bees and other beneficials. Thrips are very heavy in the strawberry stacks and have caused significant fruit damage to early berries (San Andreas ever bearing variety), requiring insecticide applications. There was a great turn out for both the Open House and Twilight Meeting on May 21, 2018, and we greatly appreciate the show of support from both the local community and the “grower” community. We have posted a couple of short informational, how to videos on the Local Foods Facebook page for southern Illinois, [U of I Ext Local Foods/Small Farms - Southern Illinois](#). We plan to add more to demonstrate different cultural and production practices we are utilizing in the high tunnels at DSAC. Check out videos by Julie and Bronwyn!



Lettuce and mixed greens are growing well in the table. Note the shade cloth that can be seen stretched over the outside of the tunnel. One problem that has been observed on this table is fungus gnats and larva that must have gotten in the groden blocks when they were being held outside before planting. We plan to use a bacterial control product to take care of this pest. Photo by B. Aly.



Hydroponic cucumbers are ready for lowering since they have reached the top of the wire. Note that the bottom of the plant has been pruned of any leaves or suckers to just below the bottommost fruit. This is done to keep nutrients in the main fruit production area of the plant and not “sink” to lower leaves that have no real benefit to future fruit production on the plant. Bare stems will be wound around the bucket on the ground below each plant as they are lowered. Pruning, clipping, and lowering is continually done to maintain about a 4 foot harvest area. Photo by B. Aly.



Various vegetable, fruit, and cut flower plots in ground beds. Photo by B. Aly.

Fruit & Vegetable Production & Pest Management

Eastern Flower Thrips

A few weeks ago I provided some notes and recommendations about the annual spring immigration of eastern flower thrips that usually arrives in May. Since then, actual numbers have varied a lot in strawberries and brambles, with infestations in some strawberry plantings exceeding at least the low end of the estimated threshold of 2-10 thrips per blossom. In general over the years, the same density of thrips seems to cause greater damage when cool, slow-ripening conditions develop after weather systems bring thrips into the region from the south.

If insecticides are to be used for thrips control in strawberries, Brigade (0), Danitol (2), Entrust (1) and Radiant (1) are labeled and effective; numbers in parentheses indicate the minimum preharvest interval (PHI) that must elapse between the last application of each insecticide and the harvest of fruit. For more details, see the [2018 Midwest Fruit Pest Management Guide](#).

Although eastern flower thrips also infests blossoms in brambles, research done over the last decade or more has failed to find that they cause damage to berries or reduce crop yields. Burrack and Fernandez reported in 2009 that in research completed in North Carolina, “Caging trials, where known densities (0, 5, 10, and 20 per cluster) of western flower thrips were placed on clusters of 5 buds and/or blossoms at the Cunningham Research Station, Kingston, NC, failed to result in a negative impact on fruit set, size, or shape.” As a result of this and other published research, I no longer recommend control in brambles where thrips are present and low to moderate densities.

Aphids and Mites in High Tunnels

Beginning around the first of June and through the remainder of the season, aphids and mites begin to build up in many high tunnels, especially on common crops such as tomatoes and peppers. Where aphid colonies (clumps of aphids that result from reproduction on plants in the high tunnels) start to develop, natural enemies (lady beetles, lacewing larvae, and parasitic wasps) sometimes help to keep them in check. Where this is not occurring, insecticides that are effective against aphids and NOT highly toxic to natural enemies or pollinators include Beleaf and Fulfill ... these should be the first choices for aphid control for commercial growers.



Twospotted spider mites and damage to tomatoes.

Twospotted spider mites cause bronzing of leaves, poor vigor, and reduced yields where populations build up. Although estimates of a threshold for control vary somewhat, 1-2 mites per leaflet is a commonly used value. Where mites exceed this density on tomatoes or peppers, effective miticides that are labeled for these crops include Acramite (3), Agri-Mek (7), Nealta (3, tomatoes only), Oberon (1), and Portal – also effective against broad mite in peppers (1); numbers in parentheses indicate the minimum preharvest interval (PHI) that must elapse between the last application of each insecticide and harvest. Each of these miticides is in a mode of action group that is different from all the others listed. Rotating among them within a season and from year to year is recommended. Organic growers can use insecticidal soaps or horticultural oils, but applications should start when mite numbers are still low.

See the [2018 Midwest Vegetable Production Guide](#) for listings of registered insecticides and miticides for aphid and mite control in tomatoes, peppers, and other vegetable crops.

Rick Weinzierl (Weinzierl Fruit and Consulting, LLC, raweinzierl@gmail.com)

Pumpkin Weed Management

Here are a few notes and reminders about some of our preemergence pumpkin herbicides and how they can best help you!

Reflex

This is now the 3rd growing season we have had a special label for Reflex as a preemergence herbicide available for use for Illinois pumpkin growers. Reflex (fomesafen) has an indemnified 24(c) for Illinois growers (must sign a waiver for use; see below). Reflex brings additional preemergence control of many small seeded broadleaf weeds such as pigweeds, waterhemp, and lambsquarters, common purslane, and nightshades, some additional suppression of morningglories, ragweeds, and some larger seeded weeds and some suppression of annual grasses. Reflex is not necessarily a good stand-alone preemergence product, but it is a very good addition and tank mix partner to our current preemergence arsenal for control of some of our problematic broadleaf weeds, especially waterhemp/pigweeds. Below are a few notes about the use of Reflex on Pumpkins:

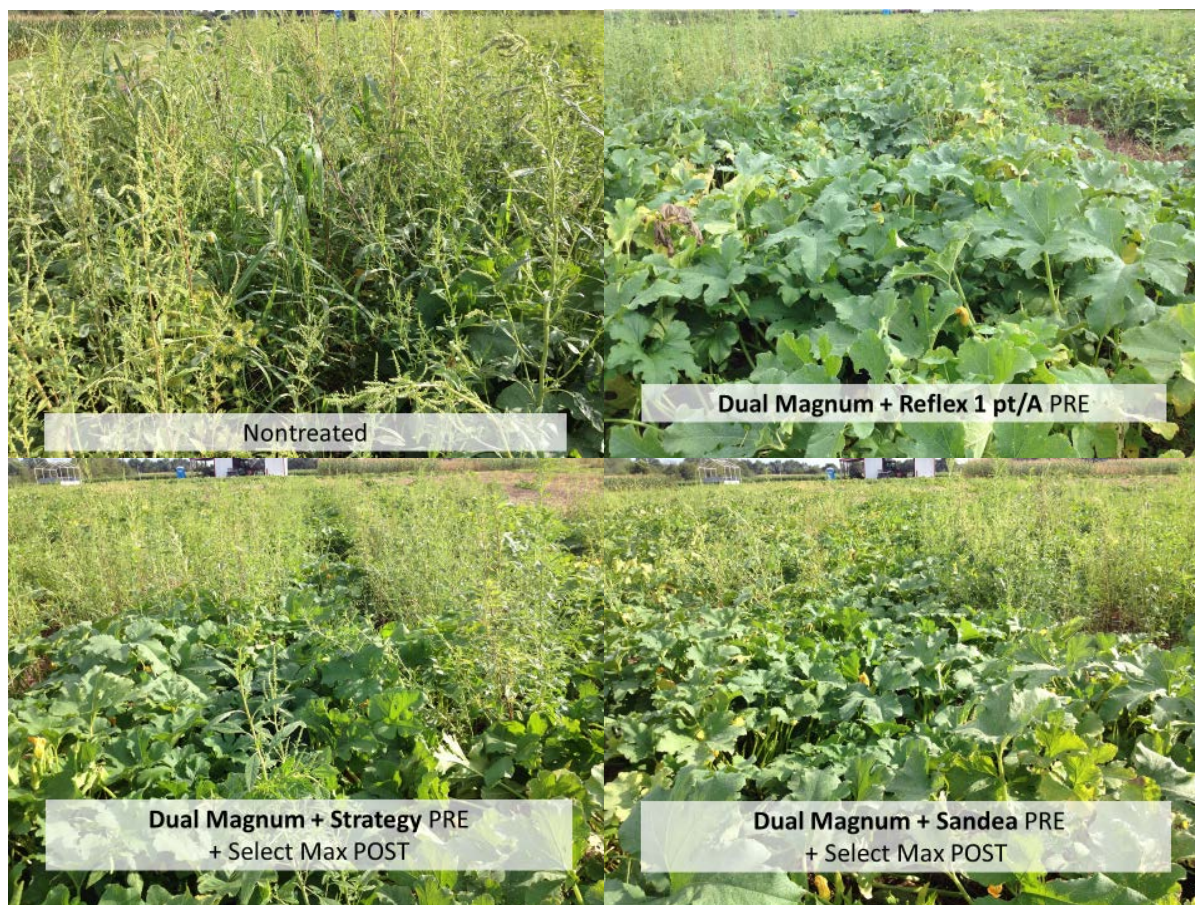
- Reflex Herbicide (or any other fomesafen containing herbicide) may only be applied in **ALTERNATE years** in Illinois. Fomesafen is also found in the soybean herbicides Flexstar, Prefix, and equivalent generics. (If you used it in 2016 you cannot apply to any crop until 2018)
- Rate: 0.5 – 1 pt/A applied:
 - **Preemergence broadcast** application after direct seeding pumpkin, but **before crop emergence**
OR
 - **Pre-transplant non-incorporated broadcast** application up to 7 days **prior to transplanting pumpkins**.
- From grower reports crop safety has been good with Reflex, but the chance for injury does exist. Injury potential is higher for direct-seeded pumpkins than transplants and also higher on more sandy soils where the herbicide can move through the soil profile more quickly. If direct-seeding, to avoid and reduce injury with **any** PRE herbicide, make sure the seed slot is closed when planting. If you are concerned about injury, try this on a limited area to test performance on your soils and weed spectrum.
-

Reflex does have an indemnified label so **in order to use this product you have to sign a waiver and get a copy of this supplemental label**. To do this you need to register at www.farmassist.com. After you create a log in go to Products > Indemnified Labels and enter the information as prompted and you will be able to print a copy of the label. If you do not have internet access or someone on the farm that does and you want to use Reflex on pumpkins, contact me and I will try to help out.

Dual Magnum:

We also do have an indemnified 24(c) label for the use of Dual Magnum as a preemergence broadcast spray over pumpkins at a rate of 1.33 pt/A. Dual Magnum is good on small seeded broadleaves and grasses. Just like Reflex in order to make use of this broadcast application you need to register at www.farmassist.com. After you create a log in go to Products > Indemnified Labels and enter the information as prompted and you will be able to print a copy of the label.

Overall Herbicide Programs:



The above pictures are all from the herbicide trial in southern Illinois at the 2016 Pumpkin Field Day. This site had waterhemp as the predominate weed along with some morningglories as well. Also note we had a very high amount of rain that season which really put these products to the test. In this case, we did not have a great deal of grass pressure so the Select Max treatments did not make a large difference from what you can see from the photos. Dual Magnum and Reflex together was one of the most effective against the waterhemp, however, all treatments certainly provided increased weed control compared with nontreated. Strategy is not as strong on waterhemp, but can help with some larger seeded weeds like velvetleaf and common lambsquarters. Sandea preemergence also adds some smartweed and common ragweed control in addition to velvetleaf and common lambsquarters. However, both Strategy and Sandea alone are not silver bullets for any of our weed issues, but do provide at least partial control of these weeds. Hopefully knowing what weeds you have had problems with in the past, you can choose some tank mix partners that together will help to give you the best results you can get.

Nathan Johanning (618-687-1727; njohann@illinois.edu)

Less seriously...



<https://dailyquotes99.com/s/clean-one-liner-jokes>

that moment when
you walk into a
spider web & suddenly
turn into a karate master

<https://www.pinterest.com/pin/93660867229843233/?lp=true>

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