

Early Weed Control in Corn

Weed specialists have been extolling the advantages of early season weed control. Common sense would indicate that any competition from weeds has an effect on the growing corn crop. Weeds compete for nutrients, space and for water. Recent studies have evaluated various factors that weeds and corn compete for and their affect on plant development.

In the Western Cornbelt, water is one of our most limiting resources. Studies conducted by The University of Nebraska, Kansas State University, Ohio state University and Texas A&M University found that weeds consume nutrients and water as fast as or faster than crops. In a moisture study from Nebraska, researchers found that weeds, about two inches tall, would consume water three times faster than where weeds were controlled.

They also tested for the effect on 14 nutrients but focused on nitrogen. They found just one- to two-inch weeds can remove about 10 pounds of nitrogen per acre. They also found that corn under early weed competition would take up much less nitrogen than where weed pressure was absent. Where there was weed completion, corn accumulated only 60 percent as much nitrogen when compared to weed free corn. They also found that once corn was stressed, it was not able to catch up during the growing season.



Economic optimum nitrogen rate is the nitrogen rate at which a grower would no longer see an economic return on nitrogen investment. The study concluded pre-emergence residual weed control and well-timed post-emergence weed control produced similar economic nitrogen rates. The earlier weeds were controlled, the more return there was on their nitrogen inputs. They also found that the later weeds were controlled, the more nitrogen that had to be applied to reach the optimum rate. In a 2006 study, the optimum nitrogen rate was 100 pounds per acre where weeds were controlled early but that increased to 200 pounds per acre when weed control was delayed.

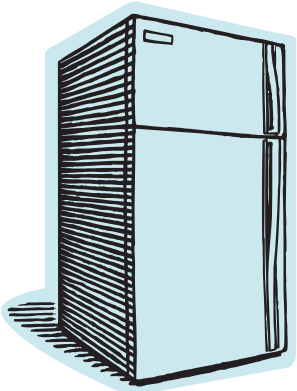
Research from Ontario suggests the amount and quality of light a corn plant receives early in the growth process will immediately affect the growth of the root system, the health of the corn plant later in life and ultimately, yield potential. The study focused on how light, reflection and shade avoidance affected weeds and corn. Weeds reflect “bad” light back onto the corn plant, causing the plant to change its growth pattern in response. Under weedy conditions, the corn plant has decreased root mass, and the corn plants absorb “bad” light reflected from the weeds resulting in the leaves growing into the row and the plants growing taller to avoid the “bad” light, failing to produce a complete crop canopy closure. Under weed-free conditions, the corn plant develops a 15- to 17-percent larger root system, absorbs “good” light and its leaves grow across the rows, forming a full crop canopy.

Source: Wayne Crook, Agronomy Specialist

Vaccination time is around the corner—is your refrigerator ready?

Producers know that springtime brings calves and breeding time; however, what most producers don't think about is "How's the refrigerator working?" Many producers think that if they hear the motor running, the refrigerator is working fine and there is no need to worry. Think again! A case study conducted by Arkansas researchers dispelled the myth that "if the motor is running, everything is fine." The refrigerator that stores all those animal health products is usually a very overlooked piece of equipment that is just as important as any other tool on a farm, maybe more so.

Refrigeration is required for most animal health products (antibiotics, pharmaceuticals, biological, vaccines, etc.) and they have very rigid storage temperature requirements. The temperature range for many animal health products is between 35 to 45 degrees. So what happens to those animal health products when the temperatures goes above or below that? They become much less effective. For instance, when the refrigerator goes below 35 degrees, this can have just as a negative effect on the animal health products as the refrigerator going above 45 degrees because the antigen can separate from the adjuvant, making it less effective.



In an Arkansas study of 191 refrigerators, 76% were owned by producers, 18% were owned by retail stores and 6% were owned by veterinary clinics. Of the 1,800 animal health products in producer's refrigerators 12% were expired and 29% were opened. ANY expired animal health products need to be disposed of properly, and immediately. Expiration dates are put on the label for a reason.

Modified live vaccine products will remain effective for approximately one hour after it is opened. Killed vaccines last 10 days when refrigerated, —after the 10 days is up— dispose of properly.

The 191 refrigerators across AR had "WatchDog" data loggers placed inside them which recorded refrigerator temperature every 10 minutes, over a 48 hour period. The refrigerators were listed as ≤ 5 year old (22%), 6 to 10 yr (35.1%), 11 to 15 yr (22.5%), and > 15 yr (20.4%). Of the 191 refrigerators only 51 (26.7%) recorded the appropriate temperatures of 35 to 45 degree range $> 95\%$ of the time for 48 hours. To illustrate the situation, 45 refrigerators (23.6%) recorded temperatures between 35 and 45 degrees F $< 5\%$ of the time; meaning that more than 76% of the refrigerators tested were unacceptable for storing animal health products! **Wow**, that will make you check your refrigerator!

The following are some simple things can be done to make sure your refrigerator is working properly and making sure your animal health products are being stored properly:

- Put a temperature gauge in the refrigerator and monitor the temperature, just because the refrigerator is set to a particular temperature setting doesn't mean that is the actual temperature.
- Clean the refrigerator coils in the back. Dusty coils can cause the unit to work harder to cool the interior and contents inside the refrigerator and can increase energy demand by 6%! A good shop vac. can clean the coils!
- The drip pan located beneath the refrigerator, should be cleaned. Food or dirt particles can clog the drain.
- The "seal" or gasket, which keeps the cold air cold and the warm air outside needs to be checked. Use the paper test to see what kind of condition the gasket is in. Place a piece of paper between the rubber seal and the wall of the refrigerator should not slide. If it does, the gasket needs to be replaced.
- Consider the location of your refrigerator. Don't stick it in an extremely hot area or in direct sunlight (especially during the summer).

The refrigerator needs to be considered a necessary piece of equipment and as such a properly operating one is likely to save producers money in the long run.

Source: Wendy R. Flatt, MU Extension Livestock Specialist

Taxation Tidbit The Amish – Social Security and Medicare Taxes

Some religious groups including the Amish do not believe in commercial insurance because it is seen as not trusting in God and additionally, they believe in "taking care of their own". While the Amish believe in "render unto Caesar what is Caesar's", they objected to paying into Social Security's "Old Age, Survivors, and Disability Insurance". While the government initially argued this was just another tax – they later admitted it was not. In 1965 when the Medicare bill was enacted – the Old Order Amish and other religious sects who conscientiously objected to insurance, were exempted from paying Social Security and Medicare taxes, provided the sect had been in existence since December 31, 1950.

With the exception of Social Security and Medicare taxes, members of these religious sects pay the same income, property, sales, and other taxes as everyone else. In order to be exempt from Social Security and Medicare taxes, a member of these sects must obtain a Social Security number and file Form 4029 – Application for Exemption from Social Security and Medicare Taxes and Waiver of Benefits.

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This application when approved – waives all rights to receive any Social Security benefits for the filer and anyone else who might have been eligible to receive benefits on the filer's Social Security record.

This exemption from Social Security and Medicare taxes is applicable for self-employment income and wages. However, for wages to be exempt, both the employer and employee must have approved Form 4029 exemptions. Thus, wages paid to an Amish employee by an employer who is not a member of an exempt sect would be subject to Social Security and Medicare withholdings.

Source: Parman R. Green, Ag Business Mgmt. Specialist

Is ACRE Good or Not?

One piece of the 2008 Farm Bill (Food, Conservation and Energy Act of 2008) deals with a new program called ACRE, which stands for Average Crop Revenue Election. It is a new crop program and should farmers choose they want this program, they must enroll through the USDA Farm Service Agency.



ACRE is a program that offers protection against substantial reduction in gross revenue based upon yield and price. ACRE allows producers to choose a market oriented, risk management tool that adjusts with market prices and is designed to potentially pay farmers when they need it – when revenue is down.

This new program (ACRE) uses a combination of state average yields, farm level yields and the national marketing year price to determine levels of revenue guarantees and payments for

each covered commodity. Two triggers must be met for ACRE to actually generate payments; state and farm actual revenue must be less than the guaranteed and benchmark revenues.

There are a few things that must be given up to enroll in ACRE. Direct payments decrease 20%. All counter-cyclical payments are given up. In addition, they must accept a 30% lower loan rate.

Another item to recognize with ACRE is the timing of payments. For example, if there would be a payment in 2009 (both state and your farm triggers are met), then a payment would be received after the 2009 marketing year, which will be October of 2010.

How can you determine if ACRE would be beneficial? The Food and Agricultural Policy Research Institute (FAPRI) has developed a spreadsheet tool, so farmers can enter their own data and see the probabilities of payments. This tool is based on estimated future yields and prices with built in forecasts but can be modified. This is an excellent tool to

see the probabilities of ACRE payments based upon your own data and helpful in determining if you want to enroll in this new program. The spreadsheet requires the software Microsoft Excel 2003 or 2007. The ACRE spreadsheet can be downloaded for free (<http://www.fapri.missouri.edu>). Once at the site, then click at the top on the words “FAPRI ACRE Risk Management Tool”.

The deadline for enrolling in ACRE for 2009 has been extended to August 14, 2009. If a producer chooses to enroll in ACRE, they are in the ACRE program for the life of the 2008 Farm Bill (i.e. you cannot switch back). For farms that are rented, both the landowner and farm operator/tenant must enroll.

Source: Mary Sobba, Ag Business Mgmt. Specialist

May Gardening Calendar

Ornamentals

- Pinch azaleas and rhododendron blossoms as they fade. Double flowered azaleas need no pinching.
- Fertilize azaleas after bloom. Use a formulation which has an acid reaction.
- If spring rains have been sparse, begin irrigating, especially plants growing in full sun.
- Apples, crabapples and hawthorns susceptible to rust disease should have protective fungicidal sprays applied beginning when these trees bloom.
- Weeks 1-2: Canker worms (inch worms) rarely cause permanent damage to ornamentals. Use B.T. if control is deemed necessary.
- Weeks 3-4: Trees with a history of borer problems should receive their first spray now. Repeat twice at 3 week intervals.
- Weeks 3-4: Begin fertilizing annuals. Continue at regular intervals.

Vegetables

- Place cutworm collars around young transplants. Collars are easily made from cardboard strips.
- Slugs will hide during the daytime beneath a board placed over damp ground. Check each morning and destroy any slugs that have gathered on the underside of the board.
- Growing lettuce under screening materials will slow bolting and extend harvests into hot weather.
- Week 1: Begin planting sweet corn as soon as white oak leaves are as big as squirrel ears.
- Weeks 1-2: Plant dill to use when making pickles.
- Weeks 2-3: Place a stake by seeds of squash and cucumbers when planting in hills to locate the root zone watering site after the vines have run.
- Weeks 3-4: Set out peppers and eggplants after soils have warmed. Plant sweet potatoes now.



Regional Private Pesticide Applicator Training (PPAT) Changes in 2009

The Private Pesticide Applicator Training (PPAT) program is for farmers that need to apply Restricted Use Pesticides (RUP) and are in need of certification or recertification. Certified applicators can legally buy RUPs by showing pesticide dealers their license. Licensed, Certified applicators renew or recertify their training every 5 years.



The Missouri Department of Agriculture (MDA), the lead agency for pesticides in Missouri, informs certified applicators in each county when their certification is about to expire. The extension offices help by facilitating the training programs.

Private Pesticide Applicator Training (PPAT) requirements have changed in 2009. All applicators must have a copy of M87 “Reference Manual for Private Applicators” in-hand during classroom trainings or as a “walk-in” clientele in county Extension offices. The cost of the M87 manual is \$12.00. Only one person from the same farm or family will be required to have a manual in their possession during the training. This manual is to be retained for quick reference by the applicator during the 5 year certification/recertification period.

Source: Todd Lorenz, Agronomy/Horticulture Specialist

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