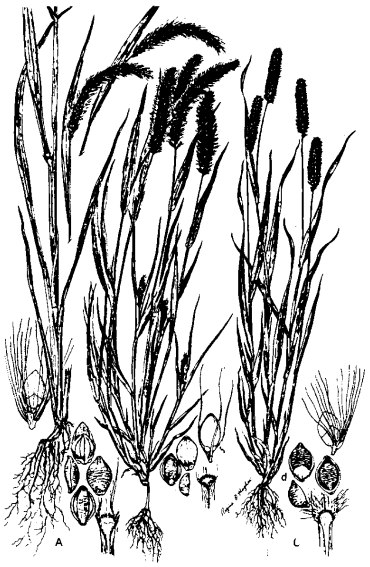
RUTGERS COOPERATIVE EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

FIELD CROPS/LIVESTOCK EDITION $1.50 MAY 29, 1997



INSIDE

Field Crops Weed Control

Bradley A. Majek, Ph.D., Weed Science

◆ Corn

Reports have come in of a few fields that require replanting for various reasons, including frost, bird damage, and others. If Lasso, Partner, Dual, atrazine, or Bladex have been used, disk and replant. Consider reapplying the Lasso, Dual, Partner, or Bladex at half the initial rate, if more than three weeks have gone by since the initial application, but *do not* exceed the maximum labeled rate. Atrazine does not need to be reapplied.

Do *not* disk the field if Prowl has been used. Preplant incorporation of Prowl herbicide can result in severe injury to corn. Try to scrape away the top inch of soil with a wide shoe and replant into the untreated soil. Throw the treated soil back during the first cultivation. Consult your county agent for additional assistance if Prowl treated fields need to be replanted.

Corn emerged in some fields before herbicides could be applied. The labels of common **annual grass** herbicides, including Frontier, Dual II, alachlor products including Lasso, Micro-Tech, and Partner, and acetochlor products including Surpass, Topnotch, and Harness, can be applied after corn has emerged. Frontier and alachlor product labels specify that applications must be made before weeds emerge or that emerged weeds must be controlled with postemergence herbicides. Frontier must be applied before corn exceeds 8 inches in height. Alachlor products, including Lasso, Micro-Tech, and Partner, must be applied before corn exceeds 5 inches in height. Acetochlor products Surpass, Topnotch, and Harness must be applied when **annual grasses** have no more than 2 leaves, and before the corn exceeds 11 inches in height.

The use of atrazine in combination with any of the above residual annual grass herbicides as a tank-mix or the use of the pre-mix product will improve the spectrum of weeds controlled and suppress or controlled emerged weeds and grasses that have less than two fully emerged leaves.

Fields with **annual grasses** with two or more leaves may not be controlled with this program. A postemergence weed control program that includes the use of Basis Gold or Accent plus atrazine or Banvel/Clarity, will provide consistently good results and should be considered.

◆ Grass Pastures

Crossbow, an ester jug-mix formulation of 2,4-D and triclopyr has been registered for use in pastures for a few years. The product is

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Herbicide Resistant Weeds

William J. Bamka, Burlington County Agricultural Agent

While reading the Penn State Field Crop News, I came across an article in the May 16, 1997 issue by Dr. William S. Curran (Extension Weed Scientist) that should be of interest to New Jersey field crop producers.

The article indicated that populations of ALS herbicide (sulfonylurea, imidazolinone, and sulfonamide herbicide families) resistant **shattercane** had been identified in Nebraska. Also, resistant **giant foxtail** has been identified in Minnesota.

The article indicates investigation has revealed 13 fields in Nebraska to contain **shattercane** that is resistant to the herbicide Beacon. ALS herbicides had been applied to 8 of the fields for at least two consecutive years. Several of the fields were reported to have had Beacon applied for five consecutive years. The Beacon resistant **shattercane** has not yet been extensively tested for cross resistance to other ALS herbicides.

Foxtail resistant to the ALS herbicides Accent and Pursuit has been identified in two Minnesota sites. Both sites consisted of a corn-soybean rotation with the corn herbicide consisting of Accent and a broadleaf herbicide. The soybean herbicide program consisted of Pursuit with or without Pinnacle. This was reported as the sole herbicide program since 1991.

These examples should serve as an important reminder to rotate chemicals with different modes of action when selecting herbicides. When continually using herbicides with the same mode of action, a population of weeds resistant to the mode of action is more likely to develop. Once resistance develops, many useful herbicides will rapidly become less effective.

One of the best ways to prevent the development and spread of resistant weeds is to become familiar with the mode of action of the herbicides used in your herbicide program.

For further information or assistance, contact your County Agricultural Agent. ❑

Weekly Pest Summary - 5/29/97

Joe Mahar, Field Crops IPM Agent; Dave Lee, Salem County Ag Agent; Sue Jones, Field Crops IPM Program Associate; Miles Huffaker, Salem County Program Associate

◆ Alfalfa

State-wide first cutting insect pests have been very low with most fields having no problems. So far only two fields have reached threshold for alfalfa weevil in South Jersey.

First cutting harvest is well under in the south and will probably take care of any additional problems with insect pests.

Potato leafhopper has been reported in all scouted alfalfa fields from Monmouth County and south. None reported in North Jersey.

Weed pressure has been variable with some fields having very few, to others in danger of being overgrown with weeds.

One field in Salem County was showing disease problems with general stem and crown dieback, probably resulting from fusarium crown rot and mechanical damage. The same field had a light sclerotinia infection. As long as the humidity near the soil remains low, sclerotinia should not be a problem.

◆ Corn

In the south there are few problems so far. One field in Salem County has a disease infection that is causing seedling corn to wilt as though attacked by wireworm.

In North Jersey where temperatures have been even cooler, there are a variety of problems associated with cold soils. Low stand counts have been reported in scouted fields. Light wireworm injury has been seen in several fields including one field in Sussex County where soil insecticide has been used and both wireworm and white grubs have been found.

One field in Sussex County has reached threshold for black cutworm. The caterpillars are small, apparently only about half-grown.

◆ Wheat

There are few pest problems in scouted fields. Wheat has headed out in the south and fields should be watched now for armyworm infestations. ❑

Weed Control from page 1

especially effective for the control of **woody perennial broadleaf** weeds and certain other hard to control **annual** and **perennial broadleaves**, including **spiny pigweed**. Hay harvest and grazing restrictions, especially for lactating dairy animals were severe and limited the product's usefulness. Shorter restrictions have been approved for rates below 2 gallons per acre. Standard rates are 2 to 4 quarts per acre, depending on weed species.

Pasture and Green Forage
- Lactating dairy animals - 14 days
- other livestock - no restrictions

Grass Hay
- Lactating dairy animals - next growing season
- other livestock - 7 days

Slaughter Restrictions - withdraw livestock from treated forage 3 days before slaughter.

Consult your Cooperative Extension Office and the new product label for additional information. ❑

Methods for Evaluating Alfalfa Fields for Renovation

Daniel Kluchinski, Mercer County Agricultural Agent

Spring is a good time of year to evaluate alfalfa stands to determine if fields should be renovated or kept in production for another year. This allows adequate time to get pH and fertility adjusted, weeds controlled, and fields prepared for late summer planting. What methods can be used to evaluate the fields to see if renovation should be done?

Traditional stand counts, the number of plants per square foot at several different locations in the field, have been used for many years. Once the counts are taken, the average number of plants per square foot is determined. If counts fall below the following levels, growers are advised to renovate the fields: 20 or more plants per square foot in the seeding year; 12-20 plants in the first production year; 8-12 in the second year; and 5-8 plants in the third year or older.

Researchers at the University of Wisconsin have developed another method which better evaluates stands one year or older. Since seeding year stands were not studied, the above plants count method is recommended. The stem count method is done by counting the number of stems per square foot in several randomly selected places in the field. Then the average should be determined. Counts should be taken when the plants are small enough to easily count the stems, but wait until the stems start to grow. These counts can be taken at any time during the year, either spring or after cutting.

For stands one year old or greater, consider plowing the field if there are under 40 stems per square foot. If there are 55 or more stems per square foot, the stand should be maintained. The Wisconsin researchers showed that between 40 and 55 stems reduced optimum yields by 8 to 25 percent. Therefore, between 40 and 55 stems per square foot, base a decision on whether losses can be tolerated, weed pressure, disease occurrence, and crop rotation plans.

Realize that plant or stem counts cannot predict actual yield, but are a method to estimate yield potential under optimum growing conditions. Actual yields may be lower or higher because of crop management, pH and fertility management, cutting management, disease or insect pressure or drought. For additional information on alfalfa management, contact your local field and forage crop agent. ❑

Determining Plant Populations In Corn

William J. Bamka, Burlington County Agricultural Agent

Plant population counts in corn can be useful when checking planter accuracy and for determining if plant population is adequate to achieve expected yields. If plant population counts indicate places with fewer plants than desired, those areas may need to be evaluated for replanting or may require lower pest management thresholds.

Typically, population counts are taken about 2 weeks after initial plant emergence. The 2-week delay allows for late emergence of seedlings due to differences in field conditions and weather.

There are several methods to make a population count. All methods will require knowledge of the planter row width. One of the easiest methods to determine the plant population is to count the number of plants in a portion of an acre and to convert to plants for the whole acre. The portion of an acre commonly used is 1/1000 of an acre. The table below shows row lengths for 1/1000 of an acre for several row widths.

Row Width	1/1000 Acre Row Length
20"	26' 1"
30"	17' 5"
36"	14' 6"

Make the population count by measuring off the distance for 1/1000 acre down the row and count the number of plants on one side. Multiply the count by 1000 and that is the plant population. Do the count in 5 places throughout the field and average to get a representative plant population for the field.

Population counts can tell you if your planter needs calibration and provides an opportunity to scout your corn fields. ❑

Spring and Summer Feeding

Michael L. Westendorf, Ph.D., Animal Science

With corn prices being at near record levels, it may be wise to reconsider some of your feeding options. If you had a good corn silage crop last year, you may have some extra that could be used to supplement dry cows and replacements. Normally corn silage with acid detergent fibers ranging from 23 to 28% will have about one half of the dry matter as ear (cob and kernel). Using this assumption, 20 lbs. of corn silage would supply 4 lbs. of ear corn dry matter (20 * .40 = 8; 8 * .50 = 4). This can replace an equal amount of corn grain. Now is the time to maximize the use of your home grown silage. Also barley harvested as soft dough silage this spring can be used to supply some of the energy needs of the dairy herd. Another option is to wait and harvest the barley grain and use as a replacement for corn in the ration.

Pasture can be a cheap source of nutrients for all classes of animals, and, if managed correctly, can supply most of the nutrient needs of dry cows and replacement heifers. With lactating dairy cows on intensively managed pasture, it may be possible to feed less feed grains or complete concentrates and maintain milk flow. For instance, it may be possible to feed a 4:1 or even 5:1 milk to concentrate ratio as opposed to a more typical 3:1. Other options may be available for replacing some corn in the diet, but high producing dairy cows should be given first priority for the purchased corn.

◆ Pasture

The technology associated with using pasture for the dairy herd has advanced to the point that pasture is a viable alternative for at least some milk producers. It, like all other new technologies, must be considered on a case-by-case basis. Some of the attributes are: 1) it supplies good nutrition, 2) is environmentally friendly, 3) is cow friendly, and 4) can reduce the need for some stored feed. Immature pasture has in excess of 20% protein and is high in energy. Milk production will improve many times when cows are first placed on pasture. The trick is to keep production after the spring growth. Pasture is both environmentally and cow friendly because it allows dispersal of manure over a relatively large area and gets cows off hard concrete surfaces. Also, less stored feed would be needed in the spring, summer, and fall if conditions are favorable.

Some obstacles to overcome are: 1) it takes a different type of management, 2) dry weather, 3) shade and water, and 4) cow movement. To manage pasture it is necessary to monitor growth on a daily basis and modify movement of cows accordingly. Dry weather can be a problem with keeping plants growing and in an immature state. Providing shade and water is critical for success. Travel lanes made of materials such as pug are possible to keep mud from being a major problem in movement of cows from the milking area to pastures. Pasture is not for everybody just as BST is not. However, it can have a place on many farms. Don't forget, dry cows and heifers can have much of their feed requirements met with pasture.

◆ Small Grain Silage

The small grains, if harvested at the proper stage of development, can make a suitable feed for dairy cattle. Rye must be harvested in the boot or vegetative state before seed head development. That means wilting to 30 to 40% dry matter before ensiling. Barley and wheat, however, can be harvested at the soft dough stage. Harvesting at soft dough allows for direct cutting without wilting, a benefit during wet spring weather. In a study we conducted with barley harvested for silage, we found that yields of dry matter were less than half when harvested as boot compared to soft dough. Protein percent, however, was 16.6 for boot and 9.1 for soft dough. Acid detergent fiber was similar at 31.1 and 33.9% respectively. Therefore, if barley or wheat is harvested at boot stage expect a significant reduction in dry matter yield relative to soft dough but increased protein concentration and similar energy. Harvesting at boot stage does allow earlier harvest, one month in the case of the study described, and does present in some cases the potential for double cropping with corn. If feeding to lactating dairy cows it is best to feed small grain silage along with corn silage. Corn silage is normally higher in energy and helps prevent the decrease in milk encountered when going from one forage to another. Dry cows and replacements can receive small grain silage as the only forage without problem. ❑

(*Source: Charles C. Stallings, Virginia Tech Dairy Pipeline, 1996, 1997*)

Early Season Corn, Soybean & Alfalfa Twilight Meeting

June 4, 1997
6:00 pm - 8:00 pm
Dave Kanach's River Lea Farm
South Branch (Somerset County), NJ

River Lea Farm is located on West County Drive, approximately 1 mile off of Route 202 North.

Topics will include:

- ❖ Insect and disease identification, feeding damage assessment, and IPM scouting methods
- ❖ Weed control recommendations. Bring weed samples for identification!
- ❖ Fertility management including PSNT testing for corn

Wheat Management Twilight Meeting

June 19, 1997
6:00 pm - 8:00 pm
Rutgers' Snyder Research and Extension Farm, Locust Grove Road
Pittstown (Hunterdon County), NJ

Topics will include:

- ❖ Nitrogen management including tiller counts and tissue testing
- ❖ Insect and disease identification, feeding damage assessment, and IPM scouting methods
- ❖ Crop management recommendations for planting this fall

Registration Information:

Call Daniel Kluchinski, County Agricultural Agent, Rutgers Cooperative Extension of Mercer County at (609) 989-6830 for additional information. The workshops are free, but pre- registration is required. Programs are offered without regard to sex, race, color, national origin, disability or handicap, or age. Pesticide recertification credits will be available.

Reporting Crop Damage

Submitted by Jerome L. Frecon, Gloucester County Agricultural Agent

The following information was recently sent to all agriculture leaders by Secretary Art Brown.

In an effort to reduce crop damage caused by deer and other wildlife populations, I'm writing you and members of your organization at the request of the State Board of Agriculture, to urge you to report crop damage caused by wildlife to the Division of Fish, Game and Wildlife (F,G&W). Here's Why!

In April, members of the Sate Board of Agriculture met with representatives of F,G&W to discuss their management plan for deer. According to F,G&W statistics, regulated hunting continues to be the most efficient, economical and humane means to control deer and other wildlife populations, and prevent the damage they cause. Yet the most *serious problems inhibiting the adequate control of deer and other wildlife are the lack of hunter access to such wildlife and not reporting damage caused by wildlife.*

Deer management zones are the key element of New Jersey's deer management program. And one of the major components to setting annual harvest goals is deer damage incurred and reported by farmers, as well as other landowners, homeowners, and the motoring public. Thus *it is absolutely essential for farmers to annually report any deer damage* so that it is included in the formula used to set annual deer harvest goals by zone. Unfortunately, in 1996 only 387 farmers in the state reported any crop damage to F,G&W.

To report deer and other wildlife damage or lack of hunter access to such wildlife, call the F,G&W's Deer and Wildlife Damage Hotline (908-735-6938 or 908-735-8793) 24 hours a day to leave a recorded message. To report damage to a wildlife management specialist, call 908-735-8793, weekdays from 8:30 AM to 4:30 PM or call the regional wildlife management office in your area. ❑

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