

Know Your Soils, Crops, Varieties, Plant Enemies

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Lancaster Farming Staff
LANCASTER (Lancaster Co.) — About 120 people attended the annual Lancaster County crops day program Tuesday, held at the Lancaster Farm and Home Center.

The program featured four speakers, with Dr. Elwood Hatley, a Penn State University professor of agronomy, discussing four different topics; Dr. Steve Ford, on intensive management of pastures, and Dr. Jayson Harper giving presentations on alternative field crops and variations in setting the price for rental properties.

Also speaking was Kathy Baxter, director of the Lancaster County of the USDA Consolidated Farm Service Agency, who updated attendees on crop insurance requirements and options, and milk assessment refunds.

The program was organized by Bob Anderson, county extension agent, who served as program moderator. In addition, Anderson also talked about worker protection standard requirements for pesticide users.

In all of his presentations, Hatley seemed to stress that producers must become familiar with the plants they intend to raise to the extent of knowing how to categorize them according to growth stages.

It is important that this is done because the use of herbicides, etc., can be useless, detrimental to the crop, or successful on eliminating competitive pests, depending on the stage of plant growth when the treatment was applied.

Hatley talked about the selection of small grain plant varieties, management of small grain crops, possible uses of raising soybeans

to ensile for forage, and small grain silages.

Also shown during the program was a video tape from a Penn State University satellite crops conference held earlier that demonstrated aspects of weed control in forages and grain crops.

The meeting was also worth two credits for pesticide applicator certification.

According to Hatley, although he said he's never seen a Hessian fly in Pennsylvania, it's wise to observe the Hessian fly-free date for fall planting overwintering grains.

He explained that while Hessian fly is not a problem now, it could well become a problem if growers flaunt the observed dates and begin to provide good habitat areas for the pest.

Hatley discussed a myriad of different aspects of what to look for and what to do in managing different species.

For winter wheat, he said the stages 2 to 3 are desirable going into the winter dormancy. He said that the stage 3 winter wheat plant has from four to five tillers, while stage 2 growth is when tillers are visible. Stage 3 gives the best survival for the plant because even if a tiller or two do not survive until spring, there is still other potential grain-bearing shoots to the plant.

Stage 5 of winter wheat is when the main stem shows erect growth. Stage 6 is when elongation of the main stem is really seen. During stage 6, the plant can be vulnerable to growth inhibitors.

The plant continues in leafing out and growing until it reaches stage 8, when the last leaf emerges. He said that in order to determine when the plant has reached stage 8, the tip of the main stem can be

peeled back to reveal the developing head which will soon burst out from the tip.

He said to be sure to examine the main stems of the plants, not the tillers, because the tillers are delayed by a few days in development compared to the main stem, but the heads will be forming in the tillers also.

After Stage 10, when the head has begun to form seeds (grain), it is too late to use fungicides or any other treatment effectively and efficiently.

According to Hatley, producers should concentrate on estimating yield before they plant a crop.

Hatley used a formula for estimating yield: $\text{Yield} = (\text{heads/acre}) (\text{grains/head}) (\text{weight/grain})$

This formula will express yield as weight per acre. In order to calculate this, it is necessary to know the average number of kernels per head, and the average weight per kernel.

"If we got 3 million heads, we're going to need 28 to 30 kernels per head," he said.

He said that in cereal grains, once the yield has been determined, the estimate is not reduced for harvesting losses, but can be reduced due to environmental aspects, such as wide varieties in soils and soil fertility, and weather conditions.

According to Hatley, mid-April is the time of importance. "What we do from mid-April on is what is going to determine (yield)," Hatley said.

But management of grains has to also be specie specific. For example, when the head of barley matures, during that time, 80 to 85 percent of the photosynthesis of the plant comes from the develop-

ing head, not the leaf and stem.

Flowering time for all plants is a critical time in determining yield. If the plants aren't protected and cared for properly during flowering, it doesn't matter how much work went on previously or afterward.

Proper seeding depth should be about 1.5 inches, and not as a median depth for a wide variety of depths, he said, adding that planters have to be set properly not only for rate, but for depth.

He said that at 1.5 inches, the plant has a better chance of keeping good soil to seed contact during periods of thawing and freezing.

The seeding rate for winter wheat should be from 1.2 to 1.5 million plants per acre for a goal of three million heads per acre, in order to achieve a good yield.

The 1.5 million plants only need an average of one main stem and one tiller in order to achieve that three million head population.

Other plants that don't grow tillers need to be seeded at higher densities.

Winter wheat and other overwintering grains need the cold period in order to form a head, he said. While a map of seeding dates has been set for the state, according to regional temperatures and climates, the later the crop is planted past optimum seeding time, the higher the seeding rate. He said the seeding rate can be substantially increased for late plantings.

During much of the discussion, Hatley referenced the new version of the Penn State Agronomic Guide, which is available from local cooperative extension offices for a nominal fee.

Christmas Tree Meeting Set

WILLIAMSPORT (Lycoming Co.) — The Ninth Annual Northeast Regional Christmas Tree Growers Meeting and Trade Show will be held Saturday, Feb. 25 at The Mountain Laurel Resort in White Haven from 8 a.m. to 3:30 p.m.

The topics to be discussed include introduction to soil fertility, 1995 worker protection regulations, Christmas tree diseases, spray adjuvants (spreader/stickers, etc.), and putting fertilizers to work for you.

Additionally, there will be a commercial trade show. All exhibitors deal in Christmas tree related equipment and supplies.

The purpose of this meeting is

to educate new and established growers on the most up-to-date cultural and marketing practices available.

Attendance at this meeting qualifies licensed pesticide applicators to receive credits toward recertification. Update training credits will be assigned by the Pennsylvania Department of Agriculture. Changes in the meeting agenda may result in adjustments in the assigned credits.

Meeting enrollment will be limited to the first 300 people who preregister. All registrations must be postmarked by Feb. 17. For additional information and registration form, please contact the county cooperative extension office at (717) 327-2350.

•February 15, 1995•

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