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Agronomy News

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In this issue

Land Grant College Program Has Been A Boost to U.S.

Jeff Semler, Extension Educator-Washington County

Spring has sprung and April's showers have arrived a little early, but I am not complaining.

Over the past several weeks, I have had the distinct pleasure to advise and teach many different audiences on a variety of topics. Those topics ranged from ground water to soil fertility and from poultry management to nutrient management.

While some are calling the recent health care reform action in Washington such things as historic or landmark legislation, only time will tell. But I can tell you for sure that there was once legislation that started a movement that is still moving nearly 150 years later. That legislation was called the Morrill Act of 1862 or the Land Grant College Act.

This legislation was a major boost to higher education in America. The grant was originally set up to establish institutions in each state that would educate people in agriculture, home economics, mechanical arts and other professions that were practical at the time. The land-grant act was introduced by a congressman from Vermont named Justin Smith Morrill. He envisioned the financing of agricultural and mechanical education. He wanted to assure that education would be available to those in all social classes.

While there were several of these grants, the first passed in 1862. This bill was signed by Abraham Lincoln on July 2. This gave each state 30,000 acres of public land for each senator and representative. These numbers were based on the census of 1860. The land was then to be sold and the money from the sale of the land was to be put in an endowment fund, which would provide support for the colleges in each of the states. The land grant has improved the lives of millions of Americans.

Most of you know of or maybe have even attended a land grant institution but my guess is unless you were in the college of agriculture you didn't even know it. In the spirit of March Madness, 20 of the 64 teams that started the NCAA men's tournament were land grant universities.

I do not know who will survive in the tournament, but by the time you read this half of the sweet 16 were land grants.

They were Cornell, Kansas State, Kentucky, Michigan State, Ohio State, Purdue, Tennessee, and my alma mater, West Virginia. Quite impressive. In addition to teaching the world to feed itself, they play a pretty mean game of basketball. Oh and my employer, the University of Maryland, is a land grant.

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The land grant model is the envy of the entire world, but as our society has evolved, the land grants' importance is being overlooked. In a sense, we are the victim of our own success. Through the work of colleges of agriculture, agriculture experiment stations and extension offices, today the American farmer feeds about 155 people worldwide, up from 25.8 in 1960.

So why should anyone care? Only because the land grant universities are still serving you today. In addition to the commercial farmers that would have been in my nutrient management class, my horticulture colleague is training our fifth class of Master Gardeners. I have instructed more than 100 Tri-State area residents in small flock poultry management over the last three years. So learning never goes out of style and there is a resurgence in interest in agriculture and horticulture as many urban refugees move to rural areas and stake their claim.

Whether you are one of those generational agrarians or you are new to the vocation, welcome to the front door of your land grant university, the Washington County Extension Office. If you are interested in raising hogs on a small scale, you are in luck. We are having a class Thursday at the Extension Office beginning at 7 p.m. Please call to register.

Other opportunities on the horizon are our perennial pasture walks. In addition, I am soliciting interest in a fence building workshop and in our new Flock (poultry) Walk series. Please call to be added to our list for these new offerings. Until next time, remember the words of Wendell Berry, "If you eat, you're involved in agriculture.

This article was first appeared in The Herald-Mail on March 30, 2010

Addressing Rutted Fields

Dr. Bob Kratochvil, Extension Specialist – Agronomic Crop Production

During early April, we were finally getting glimpses of improved weather that is allowing fields to dry. I know there are many fields that have wheel-track ruts remaining from last year's wet harvest season (most that I have seen were in soybean last year). Addressing those ruts is a task that should be undertaken prior to planting in order to eliminate, as best as possible, the possibility of an uneven seedbed. My recommendations for managing rutted fields are:

- Allow the soil surface in affected fields to dry to a depth of 2-4 inches before attempting to smooth rutted areas. You do not want to create any additional compaction in those areas while you are attempting to resolve the rut problem.

- Use light tillage equipment (light disk, chisel plow set shallow, vertical tillage implement) to disturb soil in rutted areas only. There is no need to till the entire fields unless you have one of those fields where such havoc occurred. I know there are entire fields in that condition because I have seen some of them.
- Till across the ruts at slight angles to the direction they currently run so that as you disturb the dry surface soil it is moved into the ruts. You may have to till these areas 2-4 times in order to get them smooth.
- If you are unable to smooth the ruts adequately, you may want to plant this year's crop at a slight angle to the previous direction your rows have run. Uneven areas as shallow as 2-3 inches deep can cause seed placement issues. By running this year's rows at a slight angle, you will likely avoid having entire rows that are planted so shallow that stand establishment is detrimentally affected.

Remember to Check Planter Settings

Dr. Mark Hanna and Dr. Roger Elmore, Iowa State University

There are several planter settings that must be checked when heading out to the field this spring. Your planter may have been perfectly adjusted for the last field planted in 2009, but likely is not well-adjusted to plant your first field this spring. Soil moisture in the top couple of inches can vary from saturated to moist or even dry depending on sun and wind. For those fortunate enough to be using a new planter, avoid assuming all adjustments are 'correct' because it just came from the dealer. Features such as adjustable closing wheel down pressure are on the planter so that the operator can make final adjustments subject to field conditions.

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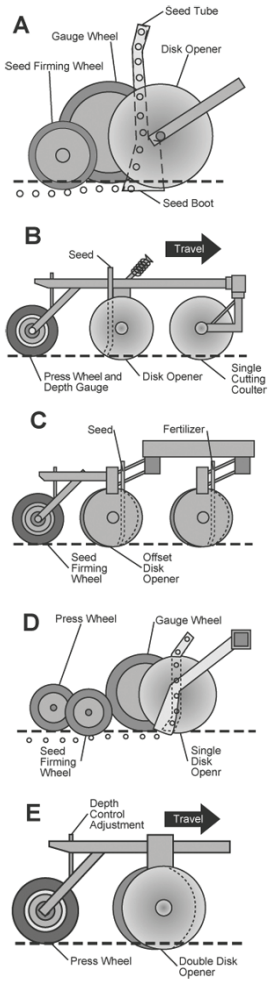
Planting depth
Planting depths of about 2 inches are appropriate for corn in Iowa. Given this, Iowa State University research shows that corn emerges and produces well from both much deeper and shallower planting depths - provided ideal conditions occur following planting. We can't count on ideal conditions!

Corn plant crowns and the primary nodal root system form from 1 to 1½ inches below the surface provided soil conditions are good and seeding depth is below that point. Shallow seeding can result in rootless corn and may seriously impact crop standability and yields. Planting too deep can reduce stands and uniformity of stands. In some cases, inadequate planter adjustments coupled with fast planter speeds results in seeding depth variability within a row. Variable seeding depth translates into variable emergence rates which results in reduced yields. Remember that the planter row unit must carry enough weight so that the depth-gauge wheels are firmly on the soil surface. Otherwise the double-disc seed opener is holding the row-unit out of the ground and seed will be planted too shallow.

Closing wheel pressure
Virtually all planters feature adjustable down pressure by using a spring on the closing system. Most Deere, Kinze and White planters use a multi-position lever to adjust surface pressure exerted by two closing wheels. Case planters have an adjustment of spring pressure on two closing discs ahead of a single press wheel.

Research shows that increasing down spring pressure can increase soil strength and help bring capillary water to the seed if soil is dry. Higher contact pressure may be useful in dry soil conditions. Light or 'no' down spring pressure should be used in moist or wet soils to avoid over compaction of soil around the seed. Using no spring pressure, sometimes called the 'float' position, supplies the lightest pressure using only the weight of the wheels. In wet soil conditions, consider using a drag chain or tine to close the seed furrow instead of resorting to high spring down pressure that can compact soil. Although rubber-coated aluminum closing wheels are commonly used, some planter operators prefer 'finger-' or 'spade -type' closing wheels in wetter soil conditions.

Depth-gauge wheel pressure
Depth-gauge wheels on either side of the double-disc seed opener need to have enough contact pressure in order to be firmly on the soil surface (to gauge seed depth), but not so much contact pressure that the depth wheels overly compact soil adjacent to the seed zone. In practical terms, this means that when soil moisture is overly moist or wet, use only enough down spring pressure on parallel links attaching the row unit to the toolbar frame to maintain firm contact of the wheels on the soil surface. Some newer planters adjust depth-gauge wheel contact pressure with pneumatic diaphragms. If significant weight has been transferred by down pressure springs for drier soil and you have been rained out of the field, remember to lighten spring tension when going back in to wetter soil.



Converting Your Planter for No-till Operation

Dr. Mark Hanna, Iowa State University

A few pointers will help adjust a planter for no-till farming systems. Instructions for getting optimum results from your planter in a no-till system are contained on a DVD created by members of the Iowa Learning Farm team. The DVD is available from the Iowa Learning Farm for free and can also be seen on YouTube in a series of videos. A planter must accomplish three key responsibilities in a no-till system: planting seed at a uniform depth, closing the furrow so that the seed is in proper contact with soil to start germination and maintaining uniform seed spacing.

The DVD and videos offer tips and simple checks for successful planting on two different planter configurations, depending on the style of implement. There are tips on leveling the planter frame, down pressure on depth gauge wheels, adjustments of seed openers and closing systems, and use of attachments such as row cleaners and fertilizer injectors.

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In a no-till situation, the planter is the key to successful no-till. It is the only time you have to move the soil to get the seed established. So treating the planter with respect and paying attention to some finer adjustments can really have big dividends.

In a no-till system, the soil is not disturbed before planting, except for perhaps injecting fertilizer. A coulter or disk seed-furrower opens a narrow strip for planting. Other tillage is eliminated entirely and residue from the previous crop year remains on the soil's surface. No-till has many benefits including improved soil productivity, increased organic matter and improved water infiltration. This system conserves energy by reducing passes across the field and improves soil tilth and soil organic matter. It also can reduce the capital costs associated with equipment used in conventional tillage.

The planter DVD is available at no charge by emailing the Iowa Learning Farm at ilf@iastate.edu, and be sure to include a mailing address; or write to Iowa Learning Farm, 2101 Agronomy Hall, Iowa State University, Ames, IA 50011. The same information is available on www.youtube.com/watch?v=2KAf-wf6WZ8.

Crop Reports

Central
In central Maryland, corn planting is under way in the southern areas. Soil conditions have improved to allow for all types of field work. Small grains generally look good and pastures are generally in good to excellent condition as pastures near their optimal seasonal growth period. Further north, emerged fields have excellent stands. Soil temperature less than desirable for planting. Soil moisture less than expected.

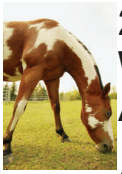
Southern
Field corn planting is now underway in earnest. Soil conditions are good. Planting is ahead of schedule given the unusually high temps in the last two weeks. Wheat condition is fair –good. Many fields are showing un-evenness due to the wet fall and spring. Many Nitrogen applications were delayed and are being made now. Cool season grass has greened up and is growing well.

North East
Some corn planting has been done, mostly field prep work with herbicide and fertilizer applications. Small grain looks very good and nitrogen applications are in full swing.

Upper Eastern Shore
Farmers are spreading manure, doing tillage especially to fill in last year's harvest ruts, planting corn in the southern part of the region, finishing up 2nd application of nitrogen on small grain. Small grain seems to be ahead of normal growth for this time of year and looks above average other than the ponded water areas! There seems to be high numbers of slugs on weeds in many fields which could become a problem in no till corn and beans. Most of the fields have dried out enough to begin spring work with the exception of small areas.

Lower Eastern Shore
Extremely wet weather has delayed spring field work. However, recent dryer weather conditions have improved field conditions and some cultivation, spraying and manure applications are underway in many areas. Wheat and barley green up looks good after last week's warm weather.

Upcoming Events



2010 Horse Pasture Walk Series on April 22nd

2010 Horse Pasture Walk Series, Soil Testing and Amendments will be held at Central Maryland Research and Education Center at the University of Maryland Equine Rotational Grazing Demonstration Site in Ellicott City, MD. For more information visit the website www.ansc.umd.edu/ERG or to register (required) contact Edith Silvious, 2115 Animal Sciences Center, University of Maryland, College Park, MD 20742 or email at esilviou@umd.edu or by phone at 301-405-5781.

Maryland Ag Day on April 24th

Maryland Day - the University of Maryland's popular (and free) open house - celebrates its 85th Annual Ag Day on April 24. Now one of the top annual events in the state of Maryland, the university welcomes the entire state to "Explore our World."

All over Maryland's 1250 acre campus, visitors can "Explore Our World" with tours, exhibits and demonstrations. The university is broken up into seven specific areas of exploration, learning and fun: Science and Tech Way, Ag Day Avenue, Arts Alley, Sports and Rec Row, Biz and Society Hill, Terp Town Center and the Global Village on Hornbake Plaza.

All Maryland Day events on April 24 run from 10 a.m. until 4 p.m. rain or shine. Everything is family friendly. Don't miss a scoop of Maryland ice cream at the Dairy. Admission and parking are free, and there will be free shuttle buses to and from the College Park Metro and on campus. Visitors are encouraged to take Metro. Navigation is easy with the help of complimentary activity maps that include descriptions of all events.

Did You Know

Today, it takes Americans only 40 days to earn enough to pay for a full year's supply of food, but it takes us more than 100 days to pay for our taxes.

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