Paul Kassel, Crop Field Specialist

Soil moisture supply has been a topic of concern during this winter meeting season. Some of the concern is accurate as the USDA Drought Monitor shows about half of Iowa under moderate drought compared to one year ago when about three-quarters of the state was in moderate drought.

There is also some drought concern that may be unwarranted. A dry start to the winter – with little snow – left many fields open. Persistent cold weather created numerous wide cracks in the soil with the illusion of dry weather. Long stretches of time without precipitation, dusty gravel roads, dry creeks and streams and open fields create concern about dry weather and drought.

However, winter weather has very little impact on subsoil moisture. Some areas of western northwest Iowa and north central Iowa have good levels of soil moisture.

In late August/early September the current crop slows down its moisture demand and the soil moisture season begins. Late summer and fall rains then contribute to soil moisture reserves. Once the crop reaches maturity, the moisture demand stops. Tile drainage systems may drain away the excess moisture. But the remaining moisture will be there until a plant root accesses that moisture. Those areas with decent soil moisture had some late summer/early fall rainfall that will contribute to the next year’s moisture reserve.

Most Iowa soils hold about 2 inches of moisture per foot of soil or about 10 inches of moisture in the top five feet of soil. Tile drainage systems may take away the free moisture but do not take away the moisture that is held against gravity.

ISU Extension and Outreach has a soil moisture survey that involves a five foot deep soil sample in one foot increments. Soil moisture samples are taken at some pre-determined locations in northwest Iowa. Those soil samples are weighed wet, dried and re-weighed. These calculations show inches of plant available moisture in a five-foot profile.

Many of our locations show soil moisture levels in the 5 to 6 inch level – which is about normal. However, there are areas – including western Plymouth County, Monona County and western Sac County – where the soil moisture levels are in the amount of 2 inches.

An additional concern in some of these dry areas is where the moisture is located in the profile. For example, at the soil moisture location near Schaller – all of the soil moisture is in the top two foot of soil. The subsoil is completely dry in the third, fourth and fifth foot of the profile. A dry spring without soaking rains to replenish the soil profile at depth can create a dry zone in the subsoil that will make the crop very dependent on frequent summer rains.

In summary, the moisture situation in Iowa is not as bad as it was one year ago. One could argue that we are in good shape in terms of soil moisture. Even though we are on the dry side in some areas – we still have room in the soil profile for more rain. Rainfall events often happen very easily in April, May, and June – and sometimes in excessive amounts. Expected April rainfalls for much of Iowa are around 3 to 3.5 inches, while May is about 4 inches and June is about 4.0 to 4.5 inches. Therefore soil moisture recharge can occur very quickly. And it is always good to have some room in the profile for some extra moisture. We learned that very well last spring in a number of northwest Iowa locations.

Beth Doran, Beef Program Specialist

There is no shortage of things for beef producers to consider, regardless of which segment of the industry they represent!
**Cow-Calf**

We experienced an extremely cold winter that had the potential to affect bull fertility and consequently, the number of females that may conceive. Because of this, it is recommended that all bulls have a Breeding Soundness Evaluation (BSE) conducted by a veterinarian 30 to 60 days prior to turnout. The BSE involves physical examination (feet, legs, eyes, teeth, flesh cover, scrotal size and shape), an internal and external examination of the reproductive tract, and semen evaluation for sperm cell motility and normality. To pass a BSE, the bull must meet or exceed established standards for each of the criteria.

While we are on the subject of testing, another “new” sexually transmitted disease is beginning to surface in Iowa. This disease is Trichomoniasis (Trich), characterized by infertility and early embryonic death. Unfortunately, most producers don’t recognize there is a problem until the females are preg-checked. Hence, it is recommended that a test for Trich be conducted at the same time that the BSE is performed. Currently, the state of Iowa requires that all breeding age bulls coming into Iowa be accompanied by a negative Trich test within 30 days of arrival. All new bulls introduced into your operation should be tested for Trich prior to turning them out with the cow herd. There is no cure for Trich. ISU has a fact sheet about Trich that can be accessed at [https://store.extension.iastate.edu/Product/Trichomoniasis-in-Beef-Cattle](https://store.extension.iastate.edu/Product/Trichomoniasis-in-Beef-Cattle).

We are quickly approaching the time when the replacement heifer calves will soon be yearlings, and producers will determine which heifers to retain. What should a producer consider in their selection? Certainly visual appraisal is important, but don’t forget other criteria – her genetics, health history, performance and reproductive measures.

Birthdate is VERY important. Earlier-born heifers attain puberty, conceive and calve earlier. Thus, they re-breed earlier and wean heavier calves. If fed out, these calves have better carcass grades. The daughters of these early-born heifers also cycle, conceive and calve earlier. Finally, this early-born heifer stays in the herd longer and provides more return to her owner! Bottom-line – select and retain heifers born early in the calving season.

**Feedlot**

Tyson has announced that it will keep the Denison beef processing plant open. This is good news, not only to 380 plant workers, but also to western Iowa feedlot producers, in that it provides producers with greater market access. The Denison plant was the birthplace of Iowa Beef Packers when it opened in 1961. Of Tyson’s eight beef plants, the Denison plant is the only one in which live animals are harvested, but further fabrication does not occur on-site.

More good news! Effective with the August 2015 delivery month, the Chicago Mercantile Exchange will allow heifers to be delivered against the Live Cattle Futures contract. The amended conditions for heifer delivery are outlined at the following website:


Spring is just around the corner – the geese are going north, the snow is melting and soon there will be spring rains. With this comes the challenge of managing feedlot run-off. Be pro-active! Go out now and check where your manure is going. DNR will be conducting a comprehensive survey of all large concentrated animal feeding operations (CAFOs) and medium-sized animal feeding operations (AFOs) over the next five years. The survey may be either an on-site inspection or desktop evaluation and is estimated to involve 8500 facilities in Iowa.

Here are some recommendations:

- Do not direct discharge to a stream or river
- Do not direct discharge to a ditch
- Do not direct discharge to a tile line
- Prevent run-off from feed storage
- Scrape the feedlot prior to a rain or snow event
- Stockpile where there will be no run-off
- Incorporate manure as soon as possible after land application
- Check that your manure certification is current
- Have a manure plan and follow it

This list is not exhaustive, but the goal is pretty straightforward. Do your best to ensure that Iowa has clean water. For more information, check out the Iowa Manure Management Action Group website: [www.agronext.iastate.edu/immag/](http://www.agronext.iastate.edu/immag/)

**Does History have to Repeat Itself?**

*Matt Swantek, Ph.D, Swine Program Specialist*

Iowa pork regional conferences were pleased to bring back Dr. Mike Brumm, with Brumm Swine Consultancy, to walk producers through steps they can take to be better prepared and work on the common mistakes he has found in the wean-finish barns.

Dr. Brumm focused on those basic daily chores in feeder adjustments, ventilation leaks causing extra propane to be used, and water flow rates that may cause water shortages in wean-to-finish facilities. The two easiest ones to work on are properly adjusting feeders and fixing those leaks and cracks that tend to cause over-ventilating barns in order to get proper air-exchanges. His third major point was on the plumbing of the water supplies through barns and to pens. This one is not easily fixed, but needs to be considered. Pigs generally consume 1.5 times the amount of water to the feed intakes. Thus restricting water may restrict feed consumption that thus limiting daily gains. Each of these affect producer’s bottom-line and with the futures setting new record levels, any factor limiting selling weights will reduce potential returns. What is disturbing is that in this day and age there should be no excuse for the equipment failures or poor management practices regarding feeder adjustments. This was happening 30 years ago with poor feeder
designs. Maybe they weren’t poorly designed but rather poorly managed.

Adjusting feeders should be a daily chore, especially if feeders are not kept full or diet bulk densities change when ingredient inclusion levels change in the feed programs. But these should be manageable if pigs are checked daily and feed budgets evaluated during the grow-out period rather than after the closeouts are finalized. Figure 1 depicts a feeder that needs adjustment. For more information on feeder management see www.iowapork.org/ProducerResources/811/Seminarsandconferences.aspx

Dr. Brumm pointed out how water restrictions occur from poor barn plumbing designs. The first is not sizing the main water supply line to meet peak needs during the summer months. Waterlines should be sized in order to meet not only the needs of 300-pound pigs, but also to be able to supply water for cooling those large pigs. Figure 2 illustrates a common plumbing problem where the plumbing to the water-medicator reduces the water flow rate by more than 50% with the small elbow.

With the expertise in building design and the cost of feed it is hard to understand how these types of mistakes still occur. As always, when we don’t learn from our mistakes we are doomed to repeat them. Or has common sense become the exception rather than standard in livestock production?

Finally have you seen the lean hog futures for this year. New records are being set and worth watching throughout the rest of the year.

The Buzz on Bees and Fruit
Margaret Murphy, Horticulture Educator and Regional Local Food Coordinator

According to the USDA, one mouthful in three of our diet directly or indirectly benefits from honey bee pollination. There is an extensive list of food crops that rely on pollination by bees in order to produce fruit or have greatly improved fruit set and fruit quality if bees do the pollinating. This is true for many fruit and vegetable crops that we grow in northwest Iowa.

Take apples for example, the honey bee is responsible for about 90 percent of pollination. Apple production has a long history in Iowa and, in recent years, there has been a resurgence of homeowner interest in adding apple trees to their landscape. While most cultivars exhibit some degree of partial self-fruitfulness, apples are considered to be self-unfruitful. They do best when planted with one or more other cultivars to ensure cross-pollination and fruit set. Apples rely on insects, particularly honey bees, to transfer pollen from one flower to another. Bees fly from blossom to blossom collecting nectar and in the process pick up grains of pollen that stick to the tiny hairs on their body. As the bees travel from flower to flower and tree to tree, they are busy transferring the pollen from one flower to the next while gathering additional pollen along the way. One honey bee can visit up to 5,000 blossoms in a day!

Even with ample flower bud production, without proper pollination, fruit trees fail to bear a quality crop. For best pollination results, always plant at least two different apple cultivars that bloom at the same time. Plus, most flowering crabapples will pollinate a neighboring apple tree if in bloom at the same time. (For a list of cultivars and their bloom periods, see Fruit Cultivars for Iowa available free at the ISU Extension online store - https://store.extension.iastate.edu/)

Weather also plays an important part in pollination. Bees are most active when temperatures are above 60 degrees F. Cool, rainy, or windy weather reduces bee activity and pollination. Typically, two to three warm, sunny days are needed during bloom time for a good fruit set. For more information on fruit tree pollination and reasons why fruit trees may not bear fruit, see ISU Extension and Outreach publication, Tree Fruit Pollination, and, Why Fruit Trees Fail to Bear. Both are available at the ISU Extension online store.

Help Protect Bees
As many fruit tree and garden pesticides are toxic to honey bees, don’t spray plants while they are in bloom. Also, avoid the use of pesticides when nearby plants that may attract bees are in bloom. If pesticides are needed, use those that are less toxic to bees and apply very early morning or late evening when bees are the least active. It’s best to apply pesticides only after the flower petals have fallen. Keep in mind, that formulas such as granules and emulsifiable concentrates are safer to pollinators than wettable powders or dusts. For more information on bees and pesticides, see ISU Extension and Outreach publication, Protecting Bees from Pesticides available free at the ISU Extension online store. Remember to always follow good cultural practices in your yard and garden as the first step in preventing or minimizing pest problems. For help with determining whether insects you may encounter this growing season are indeed pests, visit www.BugGuide.net.

Special note: In an ongoing effort to protect bees and other pollinators, the U.S. Environmental Protection Agency (EPA) has developed new pesticide labels that prohibit use of some neonicotinoid pesticide products where bees are present. The new labels will have a bee advisory box and icon with information on routes of exposure and spray drift precautions. This affects products containing the neonicotinoids imidacloprid, dinotefuran, clothianidin and thiamethoxam. For more information, visit the EPA’s website.
COUNTY

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<tr>
<th>Hotlines Available For All Iowans</th>
<th>Hotlines Available to Iowa Residents Only</th>
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<tr>
<td>Iowa Concern (800-447-1985)</td>
<td>Families Answer Line (800-262-3804)</td>
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<tr>
<td>Farm On (877-BFC-1999)</td>
<td>Hortline (515) 294-3108</td>
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<tr>
<td>Teen Line (800-443-8336)</td>
<td>Iowa Healthy Families (800-369-2229)</td>
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<td>BETS OFF (800-BETS-OFF) (800-238-7633)</td>
<td>PORKLine (800-808-7675)</td>
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Apr. 4 & 5 4-H Shooting Sports Volunteer Training • Sioux Center
Apr. 5 4-H New Volunteer Training • Sheldon
Apr. 5 Selecting 4-H Replacement Heifers • Moville
Apr. 7 Pesticide Testing • Primghar
Apr. 8 Beginning Young Livestock Producers • West Bend
Apr. 8 Commercial Manure Reshow • Sibley
Apr. 8 Private Pesticide Applicator Recertification Course • Sheldon
Apr. 15 “Last Chance” Private Pesticide Applicator Recertification Course • Spencer
Apr. 25 Ag-Vestigations • Sioux Center

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