

October 10th, 2009..... Harvest is Just Days Away

It is Time to Consider Five Ways to Improve Your Next Crops Chances in 2010

By: Mike Petersen, Precision Tillage Agronomist

For many of us the frost came a bit early this year since the entire season was behind in heat units and corn plants and kernel development needed a few more days to reach “black layer” in many locations. As we move to the next steps of harvest, drying if that is part of your process we would like to propose some thoughts as to how your approach will be to 2010. What might be five top ideas for you to consider as you approach land/field preparation, seeding, fertilizers, weed control, water, and fifty-two other things?

Tillage to the Goal of a Better Seedbed:

Did your approach to 2009 give you the best seedbed possible for those soybeans, corn, sunflowers, grain sorghum, dry edibles, sugar beets, cotton, ground nut crops, and or veggies? The question that follows, did your plants have the right soil medium to begin with? Hopefully it was not cloddy, no pockets of air or dang few, little to no residue mixed into the seedbed where you placed your seeds – right? As a tillage company we agree that must be a primary goal of all farmers this day and age. Seed costs, tech fees, soil moisture conditions are critical, fertilizers, pre-emerge herbicides – they all rattle the cage of how you get the ground ready. The technology of the stacked corn and soybean varieties are superior to what we had in the past, but they must get a right start to succeed and give you the potential yield that you to seek. We encourage you to use strip-till equipment to till, help manage any soil compaction within the upper 12 inches of the soil surface and place some quality fertilizers that will promote early development for a good send-off into the cropping season of



Orthman 14RIPr Strip-Till Tool Giving a Clean and Solid Seedbed - 2009

share with you the clues where to find one in your area.

For over two hundred years we have been tilling soil and planting seeds for food, forage and fiber. The moldboard plow was one method and has served its purpose. Newer methods are readily available, strip-till being one of those and our company firmly believe this one-pass operation prior to the planter has made

2010. If you are not using this method – look into everything you can find out about the strip-tillage system approach. There are numerous resources available to the row crop grower; winter conferences across the U.S., Land Grant Universities researching the method in the field at the Extension Research Centers and on growers farms, articles in the major ag publications, newsletters and Internet sites loaded with information. Our site www.precisiontillage.com is a resource that has value and we invite you to go to and read articles and news topics. There are many field demos going on this fall for numerous companies all across the nation, check with your dealers or representatives and they will

significant strides for growers lowering input costs and providing benefits to the soil and boosting profit margins. We are wanting to help you develop a bigger root zone, gain root access to more water and nutrients deeper in the soil profile, keep the plant internal temperature cooler when its feet is in cooler soils on a day of 104° under a blanket of residue. The benefits are widespread and significant for the row crop farmer.

Plant Hybrids that Gain a Quick Foothold in Cool to Cold Spring Soils

The seed companies are never at a standstill in developing better traits and hybrids. Their efforts are tops at offering you the producer a sack of corn, sack of grain sorghum or soybeans that can hit those goals you believe will be best with your management decisions. Look at the traits of early vigor in the cooler soils and more moist conditions of leaving more and more residue on the ground surface. That is well depicted in the photo on the previous page. Having a hybrid that ‘springs’ out of the ground to start photosynthesis is what you are after. Ask the questions about root strength and architecture to fit your soil conditions, ie: limiting depth, soil texture, water table or lack of, salinity, free lime, sand and gravel depth, fragipan, or natural claypans of the continental glaciers long, long ago. If antagonistic insect pests are in your soils, seed treatments or BT ready seed may be very much a need in your seedboxes. Healthy plants that are not getting roots pruned are essential to that goal of high production.

Use Smarter Choices of Low Salt Fertilizers

Is 10-34-0 the only choice you have out there? Well we know better, but the choices to apply reasonable amounts of nitrogen (N), phosphorus (P), and potassium (K) are limited in some locales and cost of different products enter the decision process.

Balancing your N-P-K to meet early crop needs, soil test recommendations, proper nutrient feeding all the way to seed set, and your ways to put fertility to the soil must be weighed.

We know and agree with University specialists that ‘spoon feeding’ our row crops do the best job of your crops gaining their yield potentials. Early season loading of 200-300 lbs of N has many negative points that can cause root burn, leaching losses, drying out of the soil, and harming of the soil microbial life and earthworms. Timing in many growers minds leads them to thinking I have to apply the load of my N via anhydrous or urea-based N products prior to seeding because side-dressing is not for me. Any loss 20% or more of the anhydrous ammonia places the grower even with the pricing of liquid products. Anhydrous will desiccate (dryout) soils (when application rates exceed 150 units) within the ball or zone of the applicators exit tube behind the shank or coulter. If the soils are dry and leave cracks when applying anhydrous a loss of >20% is for certain. If the ground is dry, rolling terrain and the applicator is not parallel linked losses of >20% is a strong possibility. If the soils are too warm (>50° F.) losses are certain to occur, high moisture condition soils and subsequent rain or snowmelt will enhance leaching and that is a loss. So you see the optimal chance for anhydrous to minimize losses is not so great. Yes, some of you say I am getting great use and benefits from my application of anhydrous – that is great.



Seed Corn Hybrid Testing in Field Trial Courtesy: Ebberts Seed Co.

To utilize the advanced technology that many fertility suppliers now have at their disposal to produce slow release N products, sustained release P products, lower salt carriers, better balanced N-P-K ratios, micronutrient packages is so important to consider with the prices and plant needs. Additives are on the market to slow the conversion of anhydrous and urea based N products, these should be a real part of your fertilizer decisions

nowadays. When you apply to the soil and for the root uptake is very important to maximize your management of water and soils resources. Agronomically and physiologically we now know more about when the corn or soybean crop you grow needs specific nutrients via fertilizer. Please, make a strong effort to inquire, read or listen to current information by university, industry, and USDA scientists as to what they are delivering to the public via seminars, conferences and mass media. It is revolutionary and exciting.

Via the methodology of strip-tillage, we advocate placing a major portion of the N-P-K on with the strip-till implement. Some growers, especially in the northern tier states, fall tillage is the best time to place the P & K. Both of these products are much less mobile than N. We recommend you follow soil test results for the amounts of all nutrients. It is also wise counsel to pay attention to the warnings of applying N products when soils are warmer than 50°F in the zone. Bacteria get pretty excited, ready to convert and use the N at temperatures > 50°F, that is why researchers and consultants are advocating the temperature caution flag.

One of our suggestions is to keep the application amount of N below 40-45% of the total N you have determined for your row crop of corn with the strip-till implement, especially in the spring ahead of planting. In the fall or early winter if you are strip-tilling then and wanting to fertilize, we are even more conservative – 30% of the total N load. Why? Since it can be converted to a leachable form, feed winter annuals, put the microbes in high alert status so to speak, use it and tie it up. That may be a desire of yours but normally not.

As Season Progresses – Use Fungicides When Warranted, They Really Can Help

Health of your crops from the seedbed start, fertility placed, types, and quantity, improved soil quality/tillth all set the stage for your top producing crop of 2010. But still there may be disease issues from a fungus, mildew, insect carrying a virus or bad bacteria out there lurking. In 2009 in many parts of the Western Corn Belt, spraying fungicides was warranted. The right package of Headline, Quilt, Tilt, Bumper, etc in corn arrested the fungal growth, released hormones within the plant to gain a foothold to better overall health and allowed the ears to finish well. We offer as a thought, to consider using a foliar application of fertility at the same time of this fungicide application at rates of 0.75 to 1.5lbs per acre of the product. It is documented in many trials that a touch of fertility has merit. Where not sprayed, we observed several fields having bottle-blunted ears and aborted kernel set. All yield reducers for the grower. Leaves all the way to the ear leaf were damaged and eventually shriveled and/or died, reducing the photosynthesis capacity of the plant. This was happening to 30-50% of the fields. Yield took a big hit.

When this all happens growers may hesitate to the \$24 to \$34 per acre charge to have a plane fly over. But losses of 8 to 40 bushels per acre have a tremendous impact. Also the stay green capability of the plant is now in question late into the growing season. The lower leaves are not doing their part to produce photosynthates and sugars to the kernels – yield loss. When plants have a disease like Grey Leaf Spot, plants are susceptible to stalk rot issues which effects stand later into the fall for harvesting which may be a 2 mph slug fest trying to pick up corn lying down in every direction on the compass. As the Norwegians say “Uffda!”

Utilize a professional agronomist, consultant or Extension Service specialist if he/she is available to give you field observations and judgment calls as to when to pull the trigger or not. They are seeing and diagnosing the levels of the disease issues in so many more fields which are so beneficial to you and the call.

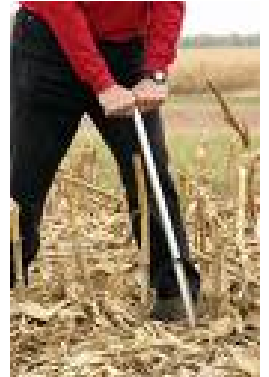
I think about this thought, a plant that grows 10 to 16 leaves, depending upon hybrid and I lose 5 leaves to disease and total withering/desiccation – I have cut back my factory by 33 to 50%. Output is tragically affected that is for sure.

Managing Your Soil Moisture Optimally

Soil moisture is a precious commodity. Those who grow row crops under natural precipitation know all too well that having a full soil profile of moisture gives one a fair start. Irrigated growers rely upon the well or the ditch and can gain better crop yields. At times a naturally rainfed farmer bemoans the fact, “ahhh the irrigator can guarantee a good crop”, well maybe. He has to pay for it in labor, actual water cost money for delivery, pumping and spreading it evenly. Too often soil profiles are over saturated in sections of the field with flood or ditch irrigation and other locales in fields – they may not be.

Knowing your soils water holding capacity is a must to know the condition of your soil water checkbook. I say that because a soil that can hold 8.0 inches plus of moisture in a 60 inch profile and needs 4.5 inches to fill it even after good rains and it ran off. That is a crying shame. One might know his/hers soils are clayey and have rocks. Knowing the content of the rock, amount of clay, slope of the land all is important to evaluate the effectiveness of rains, where the grower is during the early season of the crops life cycle, how much more can I hold when the summer rains fall to finish the soybeans or corn.

Your local county USDA published soil survey is a great source of information as to the specifics of each field and how much water can be stored and then withdrawn by row crops. The growing season predicted ET data from DTN or consultants or the Universities all offer data sets to help you make better informed management decisions as to managing water by crops, plant populations, nutrition, when to irrigate, and how much to apply.



As you hire an agronomist/consultant to help you maintain tracking of your soil profiles moisture, be sure they keep you well informed beyond just the first two or three feet of the soil profile. For our crop rootzones well managed can exceed 5 ft. in well drained soils, that knowledge can set your path of yield notches better. When we know corn can root to 72 inches quite readily, a soybean crop can root down to 54 or 60 inches. That is how the real pro’s edge out neighbors for 120 bpa. Ask your consultant about the rules of thumb about the number of inches of moisture to raise the first bushel of a corn, soybean or dry edible bean and for every inch above that can a crop yield. That set of information can really set a better frame of mind for crop management decisions.

Wrong types of tillage operations and done at inappropriate times of the year can really limit a farmers potentials. Maintaining higher residue quantities on the surface or using a cover crop all year around has such great benefits. The days of dust mulch are long gone; the days of four discings to keep weeds under control in a summer fallow are over and done with. We have replaced those inversion tillage tools with wiser implements in the last 15 years and better technology on how to use them for water management, nutrient applications.

Final Words....

In this GPS guided, well equipped farmer technologically advanced American farmer era – we can till more acres, faster, guide them and plant seeds more accurately than ever thought of 50 years ago. We have 10 steps to better retirement conditions, 12 steps to quit smoking, but do we have the best systems approach to raise 220 bushel corn, 100 bushel soybeans, 70 bushel dry edibles on your farm? We thought sharing five ideas was enough for now. Please keep moving forward with learning and doing more to advance your potential. We in the ag industry need you as much as you can use us in your management decisions and purchases of goods and services. As we provide information, and testimonials on this website, we know good things can come your way.