

# THE MIDWEST

# BIO-TECH NEWS

PUBLISHED QUARTERLY

MARCH - JUNE - SEPTEMBER - DECEMBER

Email: [info@midwestbioman.com](mailto:info@midwestbioman.com) Homepage: [www.midwestbioman.com](http://www.midwestbioman.com)

June, 2007

## OLD JOKE ABOUT THE LUCKY TEXAN

The recent headlines in the newspapers have reminded me of an old joke that first made the rounds several years ago. As it goes, a Texas cattle rancher had a very good calving season, and the total size of the cattle herd really jumped. The rancher suggested to his wife that they should hold back a lot of the new stock to build up the herd. The rancher's wife warned him that they would need access to a lot more water to maintain a much bigger herd, so the rancher set out with his crew to dig another well. After a week of digging, the rancher told his wife that they would have to sell the calves and most of the rest of the herd. She complained that they would receive a pretty poor price for cattle at that time of the year, but the rancher told her the price of cattle did not matter --- every time he tried to dig a well for water, he hit oil!

Although oil prices continue to rise as we move into the summer travel season, the joke reminds us that there are other more essential commodities. We can live without oil, but we can't live very long without water. The same is also true for the livestock and crops that are raised on farms and ranches. The latest farm newspapers and magazines have been full of different stories about how water issues affect US agriculture, including some new issues that have not really had much impact on Cornbelt farmers in the past. In this issue of the newsletter, we first focus on some of the key water problems and issues that are currently important or will soon have a major impact on farmers and other producers in the Midwest.

## IMPORTANT ISSUES RELATED TO AG WATER USE

**Ethanol** --- one of the hottest topics in the recent press is the impact of new ethanol production plants on local water supplies. For a dry grind processing facility, the plant needs three gallons of water for each gallon of ethanol produced. At the present time, the plants can only recover about half of that water from the remaining distilled corn by-product, and this non-potable water has to be filtered or processed before it can be returned to municipal or ground water sources. Consequently, ethanol plants can have a very big impact on the quality and quantity of local water sources, especially in areas where multiple plants have been built or are on the drawing boards.

**Continuous corn** --- given current high corn prices, farmers across the entire country have an incentive to plant more corn acres and less wheat, cotton, and soybeans. These alternative crops tend to need less water than continuous corn, so it is expected that soil moisture may become increasingly short as farmers shift to continuous corn production.

**Irrigation use** --- for farmers in traditionally dry areas, the incentive to increase corn acres means that it may pay to install irrigation equipment. The same is also true for farmers in areas that tend to receive enough rainfall for corn production --- they may use irrigation to protect against temporary drought conditions like we have seen in the Midwest in the past few years.

**Access to water rights** --- although we have not had to worry about water rights in most parts of the Midwest, this has been a very big issue in the Plains and Western states for the past several decades. For example, we saw a recent report claiming that most of the water rights in Kansas are now allocated, which means that any new enterprise that uses water must secure the rights from an existing user. Given the rate at which new ethanol plants, growing cities, and other water consumers are using water from ground and surface sources, many people wonder how long it will be before these water rights issues will get serious consideration in the Cornbelt states.

**Nitrogen and phosphate run-off** --- for a long time now, scientists have told us about the long-term impact of fertilizer run-off that flows into the Gulf of Mexico from the Mississippi River and other waterways. The nitrogen and other nutrients stimulate growth of water-borne plants, which reduce the oxygen content of the water. As a result, the scientists claim there is a large dead-zone in the Gulf of Mexico that cannot adequately support fish or other saltwater species. Consequently, environmentalists and other people have proposed a variety of regulations and methods for controlling farmland water run-off as well as various restrictions on the amount of fertilizer that may be applied to farmland in the water systems that empty into the Gulf of Mexico.

**Controlling drainage patterns** --- drainage issues are also cropping up in areas well away from the major rivers and waterways. Over the past few years, we have talked to several people forced to abide by rulings issued by drainage commissioners, county managers, and other local authorities who do not really understand farming. Although some of these decisions on water drainage patterns may be appropriate for cities and suburbs, the outcomes may not be practical or feasible for farms. Unfortunately, these problems will tend to increase as cities continue to grow into the country-side.

## MANAGING WATER ISSUES IN AG PRODUCTION

The problems associated with managing water use can be temporary in the case of a drought or flood, or they can be long-term issues related to water pollution or access rights. As water issues become more important in Midwest farming, you can use the Chandler Crop Products to reduce the impact of some of these problems:

- As farmers move some of their acres to continuous corn (at least for a few years), crop water use will tend to increase and soil moisture levels may be depleted. Chandler Dry Seed Treat enhances seed germination and early plant growth in soils with excess or limited moisture.
- Chandler Soil helps to build soil structure that captures more of the available soil moisture and holds it for later use in plant growth. The improved soil structure also allows plant roots to penetrate deeper to reach water and nutrients and to improve plant stability. Finally, there are fewer water erosion problems because the soil has better surface water absorption and drainage abilities so that less of the excess water from heavy rains runs off.
- Continuous corn can also lead to cold and wet soils that hamper seed germination and emergence due to the excess residue left from the previous corn crop. Chandler Biocat 1000 helps to decompose the corn residue before the next crop is planted.
- Chandler Soil and Biocat 1000 release nutrients from the soil and crop residue that can be used to support the next crop, so you can reduce fertilizer rates while maintaining crop yields. As a result, the water problems associated with nitrogen and phosphate run-off are reduced.
- Dry soils and other sources of plant stress can reduce plant sugar levels. All of the Chandler Crop Products work to promote plant growth and vigor through the entire growing season by increasing nutrient uptake. Plants with higher sugar levels generate higher yields and have fewer problems with insects.

## **CHANDLER FOLIAR**

As we move beyond the planning season, we encourage you to consider using a foliar plant feeding program based on Chandler Foliar. The product contains nitrogen and other organic compounds, micronutrients, and proprietary biostimulants that enhance plant vigor and yield. The micronutrients in Chandler Foliar are chelated to make them more readily available to the plant, and the biostimulants are organic compounds that increase nutrient availability and uptake and accelerate plant growth activity.

Soybean producers report that Chandler Foliar helps them to generate higher bean pod count and fill, test weight, and yields. Several side-by-side university and field test results show soybean yield increases ranging from 2-50% over untreated beans. At the current bean price, a small yield increase makes the foliar application cost effective. Most of our bean growers add Chandler Foliar to the tank when they make their first or second chemical application.

For alfalfa and other hay crops, Chandler Foliar boosts the photosynthesis process, which leads to quicker plant growth after each cutting and increases hay nutrient content. The plants are also healthier and less susceptible to disease, insects, and other pest problems because the product helps to increase plant sugar, which is not digestible by most insects. Alfalfa growers who use Chandler Foliar usually apply the product as soon as there is enough new plant growth to receive the spray after the first and third cuttings

Chandler Foliar may be applied to plant foliage using conventional spray equipment and is non-phytotoxic when used as directed. Chandler Foliar may be applied by itself or in a tank mix, and the product is compatible with most liquid fertilizers and pesticides. Chandler Foliar should be applied with enough water (10-20 gallons per acre) to provide good plant coverage, and the product may be applied with newer equipment that uses lower water flow rates. The product cost ranges from \$5.33-8.75 per acre (depending on application rate).

## **PRIVACY POLICY**

Many of our users report that Chandler Crop Products help them generate added net income that gives them a competitive edge when bidding for farmland. For this reason, we always protect their identity when they share yield results or other benefits of using Chandler Crop Products. Although this policy reduces the amount of product information we can share with other users and prospective customers, we understand the privacy needs of our customers and fully honor all requests to protect their identity. We will not provide any identifying information about our users in print materials, at the Midwest Bio-Tech website, or during personal communication without getting their permission in advance.

## **CHANDLER ORGANIC**

As we reported in previous issues of the newsletter, Chandler Organic is a new product that combines Chandler Foliar and Soil. The new product is approved by the USDA National Organic Program, but we are still working on approval by all of the state and local organic organizations. However, some farmers who have used Chandler Foliar in the past are trying Chandler Organic because it combines the benefits of the foliar and soil products in one pass. We find that Chandler Organic is especially appealing to those people who want to make an early application of Chandler Foliar to soybeans and other row crops but do not have band spraying equipment. They can still use their regular broadcast sprayer and get the full benefit of Chandler Organic because any of the broadcasted product that does not reach the plant leaves will benefit the soil. Please note that this treatment does not replace the regular application of Chandler Soil.

We know that not everyone is ready to make the switch to organic production, but Chandler Organic and the other Chandler Crop Products provide one way to reduce fertilizer, herbicide, and pesticide rates while maintaining or increasing crop yields and quality and improving the environment.

**Midwest Bio Tech, Inc.**  
**Box 156**  
**Erie, IL 61250**  
**(309) 659-7773**

Address Service Requested

## **IN THE NEXT NEWSLETTER: DEALING WITH CONTINUOUS CORN RESIDUE**

We consider issues related to water use in farming in this issue of the newsletter, and next time we focus on another hot topic in agriculture --- how to handle the large amounts of heavy corn residue that are generated under continuous corn farming. At this time, the farm newspapers and magazines are full of articles that provide a wide range of suggestions for dealing with the problem. Based on our experience, we find that some of the suggestions are useful but others are not practical, especially from a long-term perspective. We will review these ideas and offer you some tips for managing corn residue in the September issue of the Midwest Bio-Tech News.

## **RECEIVE YOUR NEWSLETTER BY EMAIL**

You can receive this newsletter by email, postal delivery, or both. To sign up for the electronic version, please send email to [info@midwestbioman.com](mailto:info@midwestbioman.com), send a fax to (309) 659-7827, or call us by telephone at (309) 659-7773. Under our privacy policy (page 3 inside), we will not use your email address to send unsolicited advertising or promotional materials, and we will NEVER provide your email address to any third party without your permission.

**IF YOU HAVE AN UPDATED ADDRESS THAT IS DIFFERENT FROM THE ONE ON YOUR ADDRESS LABEL, PLEASE SEND IT TO US OR GIVE US A CALL SO IT CAN BE CHANGED FOR FUTURE NEWSLETTERS.**