

# THE MIDWEST

# BIO-TECH NEWS

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**December, 2011**

## **MY THOUGHTS ON SOIL COMPACTION**

We are fast approaching that time of year when we see lots of articles in the farm papers about soil compaction. I agree that this is one of the most important problems in crop farming. We hear a lot of reports from farmers who complain about having "hard" soils that are difficult to farm and can't absorb water. However, I think that many of these articles take the wrong view on soil compaction. Although some of the articles mention the biological component of soil compaction, most of them continue to focus on mechanical solutions like subsoil tillage and farming practices like staying off wet soils or restricting traffic patterns in the field. While these actions may keep the soil compaction problem from getting worse, they do not address the root problem.

Based on my experience over the past 33 years, I have observed that the main cause of soil compaction is probably not related to tillage. If you have compacted soil, then poor tillage practices like plowing when the soil is wet can make the problem worse. However, the soil compaction was not initially caused by poor tillage decisions, and it is probably due to limited microbial life in the soil. If your soil is biologically active, then you probably do not have soil compaction problems, regardless of your tillage practices. We know farmers who operate at all points on the tillage spectrum from complete no-till to conventional tillage, and none of them who used the Chandler products for at least three years have soil compaction problems.

Unfortunately, most of the industry is still focused on finding tillage solutions to the problem. For example, we have talked to several farmers who recently started using a subsoil ripper in place of a chisel plow or related implements for their primary tillage. Although subsoilers were originally meant to be used every few years (if at all), these farmers have probably been told that regular subsoil tillage is the best way to attack soil compaction. I don't think this will solve their problem in the long run, and it is an expensive way to till the soil. Based on the latest custom rates, the difference between using a subsoiler and a chisel plow can range from \$3.50 to \$10 per acre (depending on the specific equipment), and most of the difference is due to higher fuel usage and the additional labor required.

Many farmers who have routinely applied Chandler Soil for years continue to use a standard chisel plow, and they report that their soil is so mellow they can shift up by 1-2 gears. They also tell us that their fuel savings are enough to cover the cost of the Chandler Soil application, and they enjoy the remaining product benefits for free.

Can this claim be true? Yes, we can see that it is if we compare the costs of the Soil product with the difference in the tillage costs. For example, Chandler Soil applied at the 12-16 ounce rate runs just \$7 to \$10 per acre if purchased at the 12% December discount. This product cost is well within the range of differences between the tillage custom rates, especially if we account for the labor and fuel savings that are possible at faster tillage speeds in fields that have been treated with Chandler Soil.

## **USERS REPORT ON-FARM RESULTS FOR 2011**

Several of our users have kindly shared their field results with the Chandler Crop Products during the 2011 growing season. In a few cases, these folks have been willing to provide their names and locations for the newsletter. For the rest of the reports, we do not provide this detailed information about our users in accordance with our privacy policy:

- The most striking reports came from those areas that were very dry from July 1 through the end of the season. I traveled through these dry areas from southeastern Iowa through central Indiana during the late summer, and it reminded me of the drought in 1988. Any time the plants are under that much stress, the benefits of biological products really show up. For example, one of our long-time users in 1988 farmed in Jackson County, IA, which was one of the driest areas that year. On his treated corn ground, he harvested 88 BPA, which was a short crop for him. However, this yield was more than double the amount of corn per acre harvested by any of his neighbors.

- This year, none of the users we talked to reported Goss's wilt or other crop disease problems. Many of these people had tried fungicides in earlier years but did not apply them in 2011 because they got the same benefits at lower cost from the Chandler Crop Products.

- One of our users in south central Illinois has applied the Chandler Crop Products for the past several years, and he experienced extremely dry weather in 2011. Most of the corn in his area only made 90 to 140 BPA, but he harvested more than 200 BPA of #2 corn. Also, his soybeans produced more than 60 BPA, which was the highest yield in his area. We even got a call from his local fertilizer dealer, who told us that these crops showed no stress during the dry spell and were the best looking corn and bean fields in their area. The fertilizer dealer wanted to know what was in the Chandler products that could help the plants thrive under such dry weather conditions.

- Another user from southern Michigan had no rain on his bean crop after July 1. He applied Chandler Dry Seed Treat, Soil, and Foliar to his soybeans, which helped the plants to develop a tap root system that extended more than 9 inches deep. The plants also had plenty of sugar content, and he was the only soybean farmer in his area who did not have aphids. Despite the lack of rain, his soybeans made 47 BPA, which was the highest bean yield in his area.

- Rick Bauer of La Moille, IL, had plenty of moisture throughout the growing season for his annual corn plot. The field was in corn during 2010 and was planted on May 10, 2011 at a population of 29,500 to 30,000. The entire plot was treated with Chandler Soil and only 120 units of N, and all 20 seed varieties were planted with Chandler Dry Seed Treat. For comparison purposes, Rick planted Kruger K4-9209 in side-by-side plots with and without Dry Seed Treat. He did not spray fungicide in the field, and there was no visual evidence of disease problems in the corn. We attended his field day on September 8 and took several population counts, kernel counts, and plant sugar readings in the treated and untreated plots. Although there was no significant difference in the population counts, the treated stalks had 10% more kernels per ear and 40% more sugar in the corn stalks (10.5 brix or percent sugar in the treated plot versus 7.5 brix in the untreated plot). Rick harvested the plot on October 24, and the overall plot average yield was 210 BPA. Rick's soil is in excellent condition, and he usually produces very uniform yields. This year was no exception, and the plot yields ranged from 181 to 229 BPA with only three hybrids less than 200 BPA. The Dry Seed Treat plot yield was 3 BPA higher than the untreated plot (204 BPA versus 201 BPA), and the treated corn had one-half pound higher test weight and one-half point lower moisture. These are excellent yields for corn-on-corn in a year with less than optimal weather, and we congratulate Rick on the success of his plot and thank him for sharing these results with us.

## QUESTIONS ABOUT 0-0-60 POTASH FERTILIZER

During the past year, we wrote that the Chandler products should be applied at higher rates per acre in some situations, including fields that had received high rates of anhydrous ammonia or 0-0-60 fertilizer in the current or past crop years. While we explained the problems with anhydrous in earlier newsletters, we had not explained the main concerns about 0-0-60 and some readers have asked about this point.

There are several chemical compounds that can provide commercial potassium sources for crop production, and the actual chemical composition of 0-0-60 potash fertilizer is potassium chloride. Although small amounts of chloride are required for crop growth, an excess of chloride in the soil can become toxic to plants. We have seen studies that show very high chloride levels can burn seedlings and stunt root growth, and moderate to high levels of chlorides can limit the biological life in the soil. For these reasons, some people prefer to use less toxic sources of potash such as potassium sulfate (0-0-50). While we do not make fertilizer recommendations, we know that you can reverse the impact of high chloride levels or other forms of toxicity in your soils by using Chandler Soil to increase the beneficial microbial activity.

## DECAY RESIDUE WITH BIOCAT 1000 IN THE SPRING

If you didn't apply Biocat 1000 in the fall because your soil was too dry or harvest ran late, you can still decay crop residue with a spring application of Biocat 1000. The main thing is to get the product on early so that it can start to work on the residue as soon as the weather warms. Also, it doesn't take long to decay residue --- this fall, one of our Illinois users told us that he harvested some corn in early September and applied Biocat 1000 right after the combine left the field. He said the corn residue was almost completely decayed by mid October (about 40 days later).

## WINTER FARM SHOWS

As in the past, we will exhibit at several major farm shows during the winter months. The dates and locations for the shows from November, 2011 to March, 2012 are:

Nov. 29 to	Greater Peoria Farm Show
Dec. 1	Civic Center Peoria, IL
Jan. 15-17	Quad Cities Farm Show QCCA Expo Center Rock Island, IL
Jan. 17-19	Fort Wayne Farm Show Allen County Coliseum Fort Wayne, IN
Jan. 25-26	Midwest Ag Expo Gordyville USA Gifford, IL
Feb. 28 to	Hawkeye Farm Show
Mar. 1	University Dome Cedar Falls, IA

As always, please be sure to stop by our booth and say hello if you attend one of these farm shows. Also, you can save on shipping charges by placing an advance order and picking up your product at one of the shows. To do this, **please let us know at least 5 days before the show begins.** We usually bring some product to sell at the farm shows, but we try to limit the quantity when the weather is cold. If we know you will pick up your order at the show, we can have it ready when you arrive.

Please note that we will not be attending the Ag Mechanization show at Macomb, IL in February. Although we had attended the Macomb show for the past several years, we decided to drop this show due to the recent changes in its format. They still have some machinery exhibits, but more of the other exhibits are shifting to home improvement and craft products. Every year, we have seen fewer farm customers and prospective users at this show, and it just doesn't pay to attend any more.

If you purchased or picked up product at the Macomb show in the past, let us know and we can make other arrangements to get the product to you. We can bring your order to another farm show, see you at one of our spring meetings, or ship it to you.

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

Address Service Requested

## **PRE-SEASON DISCOUNT PRICE PROGRAM**

We have enclosed the price list for our "Pre-Season Discount Program." The 12% December discount ends at midnight on January 7, 2012, so you can lock-in the lower prices in 2011 or 2012. Also, you save more in the early months of the program, and the regular retail prices for all products go back in effect on April 1, 2012.

Although we raised prices by about 5% at this time last year, we are happy to report that the 2012 regular retail and discount prices for all of the Chandler Crop Products will remain the same as last year. Also, we do expect that our UPS rates and other shipping costs will increase at some point in the coming year, but we will try to manage these cost increases by ourselves so we don't have to raise the shipping charges for our customers.

We know that many of the other farm input costs have increased for 2012, so we are pleased that we can maintain the same prices for our products. As a result, the Chandler Crop Products continue to provide an excellent value for crop farmers. For example, you can use Dry Seed Treat and 16 ounces of Soil on each acre of corn for about \$11.50 to \$12.50 at the December discount price. The per-acre cost for beans is just a few dollars higher and depends on your population rate. For another \$9 to \$10 per acre, you can add a 16 ounce treatment of Biocat 1000 to your spring tank-mix. By decaying the residue early next spring, you can release nutrients for your 2012 crops and increase the humus in your soil. Biocat 1000 also helps to reduce volunteer corn in fields that were planted to corn in 2011.

## **RECENT CHANGES TO OUR COMPANY WEBSITE**

We introduced our company webpage in 2000, and we have added a lot of new content at [www.midwestbioman.com](http://www.midwestbioman.com) in the past 11 years. However, we also realize that the site has become a little cluttered over time. To help visitors to the site, we reconfigured our web pages to be more modern and better organized, and the new design was rolled out on November 25. The new website contains the same information as before plus some new things, and we plan to add more new data in the near future. Also, our general email address is still [info@midwestbioman.com](mailto:info@midwestbioman.com), and we have added new personalized email addresses. You can now send email to Jim at [James.Miller@midwestbioman.com](mailto:James.Miller@midwestbioman.com) or to Doug at [Doug.Miller@midwestbioman.com](mailto:Doug.Miller@midwestbioman.com).



*Seasons  
Greetings*

We want to take this opportunity to say "thank you" for the privilege to have served you in the past year, and we look forward to serving you in the future. We also extend our personal "Seasons Greetings" and wish you a "Very Prosperous New Year."

Sincerely,

*Jim and Doug Miller*

**2011-2012  
SPECIAL PRE-SEASON DISCOUNT PROGRAM  
for  
CHANDLER CROP PRODUCTS**

**ORDER FORM**  
**MIDWEST BIO-TECH, INC.**  
P.O. Box 156 – ERIE, IL 61250  
Phone 309-659-7773

<u>Chandler Products</u>	<b>Retail</b>	<b>Mar.</b>	<b>Feb.</b>	<b>Jan.</b>	<b>Dec.</b>
15# Bkt Dry Seed Treat	155.00	149.00	144.00	140.00	136.00
2 to 5 Bkts - Per Bkt	150.00	144.00	140.00	135.00	132.00
6 or more Bkts - Per Bkt	145.00	140.00	135.00	131.00	128.00
(Each Bkt will treat about 60 Bu. or units of seed)					
Gal Liquid Seed Treat	130.00	125.00	121.00	117.00	114.00
2½ Gal Liquid Seed Treat - Per Gal	124.00	119.00	115.00	112.00	109.00
- Per 2½ Gal	310.00	298.00	288.00	280.00	273.00
30 Gal Liquid Seed Treat	113.00	108.00	105.00	101.00	99.00
(Each gallon will treat about 64 Bu. or units of seed)					
Gal Soil	97.00	93.00	90.00	87.00	85.00
2½ Gal Soil - Per Gal	94.00	90.00	87.00	84.00	82.00
- Per 2½ Gal	235.00	225.00	218.00	210.00	205.00
30 Gal Soil	85.00	82.00	80.00	77.00	75.00
Gal Biocat 1000	95.00	91.00	88.00	86.00	84.00
2½ Gal Biocat 1000 - Per Gal	92.00	88.00	85.00	83.00	81.00
- Per 2½ Gal	230.00	220.00	213.00	207.00	202.00
30 Gal Biocat 1000	83.00	80.00	77.00	75.00	73.00
Note - Biocat 1000 is a cellulose digester					
Gal Foliar	117.00	112.00	109.00	105.00	103.00
2½ Gal Foliar - Per Gal	113.00	108.00	105.00	102.00	99.00
- Per 2½ Gal	282.00	270.00	262.00	255.00	248.00
30 Gal Foliar	103.00	99.00	96.00	93.00	91.00
<u>Chandler Organic</u>					
Gal Organic	110.00	106.00	102.00	99.00	97.00
2½ Gal Organic - Per Gal	104.00	100.00	97.00	94.00	92.00
- Per 2½ Gal	260.00	250.00	242.00	235.00	230.00
30 Gal Organic	93.00	89.00	87.00	83.00	81.00

Chandler Organic can be sprayed on the soil or as a foliar on plants

Dry Seed is priced per bucket, **the rest of the products are priced per gallon.**

A – The 12% December discount will terminate at midnight on January 7, 2012

B – The other three months discounts will terminate the last calendar day of the month at midnight

C – Customer must pay for product within the specified month to get that month's discount

D – You may take delivery of the product at time of payment or we can store it for you until spring

E – Prices are subject to change

F – All prices are F.O.B. Erie, IL

Name \_\_\_\_\_  
(please print)

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_ ZIP \_\_\_\_\_

Phone \_\_\_\_\_ - \_\_\_\_\_

<b>Qty.</b>	<b>Products</b>	<b>Unit</b>	<b>Price</b>
	15# Bkt Dry Seed Treat		
	Gal Liquid Seed Treat		
	2½ Gal Liquid Seed Treat		
	30 Gal Liquid Seed Treat		
	Gal Soil		
	2½ Gal Soil		
	30 Gal Soil		
	Gal Biocat 1000		
	2½ Gal Biocat 1000		
	30 Gal Biocat 1000		
	Gal Foliar		
	2½ Gal Foliar		
	30 Gal Foliar		
	Gal Chandler Organic		
	2½ Gal Chandler Organic		
	30 Gal Chandler Organic		

**PRICES SUBJECT TO CHANGE WITHOUT NOTICE**      **Product Total** \_\_\_\_\_  
UPS Shipping \_\_\_\_\_

TOTAL AMOUNT ENCLOSED \_\_\_\_\_  
WHEN YOU WOULD LIKE DELIVERY OF THIS PRODUCT \_\_\_\_\_

All orders over \$800.00 will be shipped Freight Free  
All orders under \$800.00 add the following UPS fee

Each 15# Dry Seed - \$14.00

Each Gal of Product - \$13.00

Each 2½ Gal of Product - \$15.00

Enclose Check or Money Order

Payable to Midwest Bio-Tech, Inc.

**THANK YOU FOR THIS BUSINESS!**

## RECOMMENDED APPLICATION RATES FOR CHANDLER CROP PRODUCTS

### Chandler Dry Seed Treat

4-5 oz. per bushel for corn, beans, and small grains and 4-8 oz. per bushel for alfalfa.

### Chandler Liquid Seed Treat

2 oz. per bushel for corn, beans, and small grains and 4 oz. per bushel for alfalfa.

### Chandler Soil

Broadcast 12-16 ounces per acre in the fall or spring, or apply 8-10 ounces per acre in a band over the seed row at planting. Use the higher rate if you are applying Chandler Soil for the first time or if your soil is heavy, compacted, or poorly drained.

### Chandler Biocat 1000

**Corn Residue** – depends on the harvested yield

Up to 180 BPA	12 ounces per acre
180-200 BPA	14 ounces per acre
Over 200 BPA	16 ounces per acre

**Soybean and Small Grain Residue**

8 to 10 ounces per acre

### Chandler Foliar

**Alfalfa** – for a new seeding, apply 10 ounces per acre. For an established crop, apply 10 ounces per acre at the first burst of spring growth. Later, apply 10 ounces per acre within 10-14 days after each cutting. For seed production, apply 10 ounces per acre just before flowering.

**Oats** – apply 10 ounces per acre at the second to third leaf stage.

**Soybeans** – for beans planted in rows, spray 8 ounces per acre in a band over the row at the second to third trifoliolate leaf stage. For drilled soybeans, broadcast 10 ounces per acre at the second to third trifoliolate leaf stage. Many users get an added yield boost from a second treatment (8 oz. per acre) applied between flowering and pod set.

**Wheat** – apply 8 ounces per acre at the second to third leaf stage. In the spring, apply 8 ounces per acre at the beginning of new plant growth or tillering.

**Pasture** – apply 8 to 10 ounces per acre at any time there is ample new growth or foliage to receive the spray.