

# *Western Farm, Ranch & Dairy Magazine*

The vital resource of the Ag Industry

Rocky Mountain/Heartland • summer/fall edition 2015

Colorado / Iowa / Kansas / Missouri / Montana / Nebraska / North Dakota / South Dakota / Wisconsin / Wyoming



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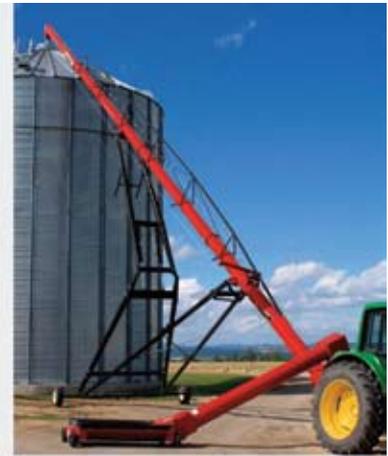
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## Bio S.I. Technology Helps Potato Farmers Rebuild, Restore, and Renew Profits

As the world's fourth largest food crop, potatoes are a critical staple for the United States' agricultural industry. Representing diverse regions and climates, potato growers are faced with unique conditions and challenges which are specific to their own fields. While known for their resilience and robustness, potato crops have a fickle growing process that requires a high degree of attentiveness.

Potato growers face many obstacles during the growing season. Bio S.I. Technology produces microbial products that are used to help combat many of those obstacles. Disease suppression, nutrient availability, stubble digestion, and pest management are key areas these products can help with. Bio S.I. products do not eliminate these issues but they do a great deal to help reduce their effect on crops. We must start working with our soils to promote microbial life so that the soils will be able to produce healthy vigorous crops that make a profit.

Microbes are the key to helping remove the plant stubble from the previous crop. They digest this material and recycle the nutrients that you have already paid for and make them available to your next crop. They convert all this material into humus which is what holds water and nutrients in the soil. They provide the only way to rebuild the humus (carbon) in your fields. Pests are another area that microbes can help with. The microbes help the plant get the nutrients they need to be healthy and to increase the sugar content of the sap in the plant. Many sucking insects can't metabolize this

increased sugar and will move on to the next field reducing the need for pesticides in some cases.



Healthy root systems get plants off to a fast start. Bio S.I. Ag Formula and Bio S.I. Select with Mycorrhizae (beneficial fungi) help the plant produce a tremendous root system which improves nutrient uptake. As the microbes align with the roots they not only feed the plant but also help protect the root system from fusarium, rhizoctonia, pythium, and other root diseases. They do this by competing for space and food in the rhizosphere because they work with the plant forming a symbiotic relationship that is beneficial to both. This activity helps to keep pathogens away from the roots. You will be able to reduce the amount of fungicides over time as the microbial community is improved.

Another area that microbes are a

tremendous benefit is in the nutrient arena. They process or metabolize nutrients and make them available to your crop. They help release nutrients that are tied up in the soil in forms unavailable to the plant. This activity helps the plant utilize nutrients they would not normally get in a timely fashion for growth and production.

Many growers have soil issues that plague the crop stand like crusting, poor water penetration, and hard compacted soil. Microbes help reduce crusting, open the soil so water can go into the soil versus running off, and also help to aerate the soil making it softer and easier to work. As the microbes rebuild the humus fraction of the soil you will see a reduction in irrigation needs and this is becoming a critical issue all over the country.



Products produced by Bio S.I. Technology are all natural, non-manure based, and are soil borne. They work naturally to help plants get the nutrients they need in exchange for sugars from the plant. So they work together to improve quality and vigor of the plant.

For more information see our web site: [www.biositechnology.com](http://www.biositechnology.com)





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## Egbers on Super Edge

"There just isn't enough we can say about the Super Edge Auger Flighting" says Doug Egbers, owner of Egbers Flighting Company, Inc. The Super Edge is created in the rolling process. This is a cold rolling process so the steel is not heat treated. "This lets the steel retain its strength," states Doug.

Because of how the flighting is made, the outside edge is thicker than your common market flighting, or "plain flighting," as they call it. Super Edge Auger Flighting has an outside edge that is approximately 50% thicker. It gives longer wear and longer life of the auger.

And Egbers knows their augers. Their repair and fabrication division has years of experience in re-flighting and balancing auger sections. "It just makes good sense to replace the auger flighting instead of buying a new auger section." Confirms Doug, "New auger sections can be pricey and the Super Edge Auger Flighting is priced to sell." Along with their repairs

Egbers offers a wide assortment of replacement parts and tubing. They have your basic inside tubing, pipe, rolled tube for grain cart unloading augers all the way up to 40 ft. lengths for transport augers. "We've always thought freight and shipping different replacement parts from different sources can create a problem for our customers, and we can ship pretty much all the replacement parts a customer needs from here," Doug says. "That way all your parts come from one location instead of several."

A newer service for Egbers is their ability to balance combine rotors. "We're always looking for new products and services for our customers. These rotors can be balanced at a fraction of what a new one costs," says Doug.

All in all, Egbers supports a great team for sales and repairs. They're your One-Stop-Shop for your replacement needs, and they're farmer friendly! Call them at 800-462-2588 or check them out on the web at [www.egbersflighting.com](http://www.egbersflighting.com)



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# Nokian Manufactures Agricultural Tires for Modern Needs

Nokian Tyres is a European tire manufacturer that specializes in specific solutions for unique agricultural applications. Their focus is on offering new tire designs that out-perform traditional agriculture tires by improving performance on hard surfaces and carrying heavy loads efficiently.



The Nokian TRI 2 tractor tire is designed for the needs of the modern tractor. It features a block tread pattern that performs well when tractors are on the road and in the field. When the Nokian TRI 2 is used on the road, it has more tread surface in contact with the road than a traditional tractor tire. That spreads the tire wear out over a larger surface area and allows the TRI 2 to last much longer than a traditional tractor tire in

hard surface applications. The Nokian TRI 2 also has excellent grip and self-cleaning and limited ground disturbance in the field. The TRI 2 offers higher load carrying capacity than traditional tractor tires, which helps extend the life of your tire. The Nokian TRI 2 is a 40 mph rated tire, which allows you to drive faster and ride smoother than a traditional tractor tire. The Nokian TRI 2 offers excellent performance for agricultural applications where the tractor is used on the road and/or carries a heavy load.

Nokian flotation radial tires are designed to carry the heavy loads of today's agricultural trailers with stability and low ground pressure. The Nokian ELS radial tires have a lug pattern that is typical to many other flotation tires currently available in the market. What is different about the ELS radial tire is its' ability to carry heavier loads with the stability and larger footprint of a radial tire. In addition, the Nokian ELS radial will perform better on hard surfaces than a typical agricultural trailer tire. If you use your agricultural trailer mostly on the road, or if you are carrying the heaviest loads, the Nokian Country King is designed specifically for those needs. All Country Kings are steel belted to offer increased load carrying capacity, while maintaining a light footprint in soft soil applications. The Nokian Country King features a block pattern that maximizes the tread contact with the road, which leads to a long service life in hard surface applications. The Nokian line of flotation radial tires are manufactured for the needs of the 21st century agricultural trailer.



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# Ultra Light Aluminum Boom Extensions – Factory Direct

A family owned company in rural Iowa, with a long history of working directly with ag producers, is now offering aluminum sprayer boom extensions directly to customers throughout North America. 4L Manufacturing and their Ultra Light booms may not yet be a household name, but they are gaining serious traction in the age of producers and service providers looking to do more with less.

“Our company designed the first functional 120’ boom extension for JD sprayers in 2010,” explained Dan Light, the president of 4L Manufacturing. “Even though we’ve been in business for decades, we aren’t widely known because, until 2014, we went to market through a distribution partner that handled both the sales and service.” Light went on to explain that the decision to “go direct” to customers had a variety of advantages for the company, but most importantly for producers. For producers, a direct relationship with the actual manufacturer reduces their total investment in the machinery and allows them to get service directly from the folks that designed and produced the equipment. “For us at 4L, the largest advantage of going direct is the feedback from customers. We love talking with the customer in the field. In fact, our most important product innovations have come from discussions directly with customers,” said Light.

One innovation, related to the Ultra Light sprayer booms, is the company’s patented, multi-directional breakaway device. “The combination of our breakaway device along with

reductions in weight have allowed our Ultra Light booms to offer significant functionality and reliability benefits over competitive booms,” said Light. Ultra Light boom extensions are currently all designed for JD sprayers. Ultra Light boom extensions are available up to 120’ for the 4720, 4730, and 4830. Up to 100’ for 4710 and up to 132’ for the 4930 and 4940. 4L is also designing extensions for other makes and models including Case and Hagie.

Compared to the competition, 4L Manufacturing is certainly a smaller company. But, they have developed a winning formula of quality, innovation, and value that producers are looking for. “We are totally comfortable with being a smaller company in a big market. We don’t need to be the biggest, we just want to offer producers the best possible solution and help them make, and keep, more money,” said Light.

The trends and math indicate that 4L Manufacturing is on the right track. Producers are staying in the same sprayer and replacing their outer booms with new aluminum extension because it’s cheaper than original JD parts. Customers can spend around \$20,000 on an aluminum replacement boom or \$375,000 on a new sprayer. With today’s grain prices, that’s a pretty easy decision.

For more information, contact Dan Light from 4L Manufacturing by phone at 319-929-1271, or by email at [dlight@4lmfg.com](mailto:dlight@4lmfg.com). You can also learn more about 4L Manufacturing’s booms at [www.ultralightsprayerbooms.com](http://www.ultralightsprayerbooms.com). 



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# “What’s In Your Water Becomes Part Of Your Soil”™

Larry Zibilske, Ph.D. – Vice-President of Research, Texas Plant & Soil Lab

What do you know about the water you use to irrigate your crops? One may ask, “What difference does it make? Water is water”. Well, not always. Water that goes into the soil to nourish plants comes from somewhere else. The sky provides some, or all, of the water needed for crops in some regions, but many farmers must supplement that with water from wells, streams, or surface impoundments. Everyone using water from these sources should be concerned because irrigation water quality can vary greatly, and poor quality water can really harm crops. As water becomes scarcer, as in the current widespread drought, quality is often reduced, compounding the shortage problem. We have been seeing water quality generally decline for some years with the falling aquifers as mineral salts become more concentrated in the remaining water.

How can water harm crops? Water contains some amount of dissolved elements. These chemicals, most often natural constituents of rocks, are dissolved when water comes into contact with rocks and sediments around the natural environment of the water source. Problems arise when those rocks and sediments have a high content of elements that are easily dissolved and affect other nutrients that the plant needs. Regional soil and bedrock differences lead to large differences in the quality of the ground water derived from those sources.

Generally, waters west of the Mississippi River are more likely to contain larger amounts of sodium, calcium, magnesium, and carbonates. These reflect the generally higher pH of soils and sediments in the more arid west. By contrast, in more easterly regions, iron, manganese, and zinc are common in ground waters, reflecting the more acidic nature of the soils. However, water from most all regions often contains a wide range of elements. Dissolved elements are not normally considered a problem, but how the water is used can lead to chronic problems with crop growth. The more we know about water quality, the better equipped we will be to manage it to minimize the problems. We can develop a feeling for water quality if we understand the effects of dissolved elements on plants and soils. To do this, it may be useful to review the fundamental relationships involved.

At the most basic level, plants (and all other living things) carry out their metabolic reactions in a soup of dissolved substances—dissolved in water within the cells. This part is easy to grasp—no water—no metabolic reactions—no life. Plants obviously acquire water through their roots, extracting it from the soil and transporting it up to the green parts to keep cell soup well supplied and the plant alive and active. Roots pull water out of the soil and away from soil particles by using energy provided by the photosynthesizing leaves. Water in the leaves is used for the cell soup, but it also evaporates to the stomata, taking with it heat from sun exposure on the leaves. This keeps the plant cooler, and helps in “wicking up” more water from the soil.

Thus, water uptake is an energy-intensive activity. As the soil dries out, the plant must use more and more energy to pull the water away from the soil particles. But plants have limits. They reach a breaking point when they can no longer gener-

ate enough energy to pull up the water. The result is a wilted plant. Water shortages tax the plant’s ability to carry out proper metabolism and result in decreased vigor, or worse.

As a result of moving water from the soil to the roots, water soluble nutrients (including fertilizers) in the soil tend to move along with the water and into the plant. Nitrogen, phosphorus, potassium, along with the required minor and trace elements are carried along with the moving water into the plant root, providing the building materials to continue plant growth and development. The amounts of these nutrients moving into the plant depends two things: 1. How much of the nutrient is in the soil and, 2. What portion of that nutrient is soluble in the water at that time. If it is chemically inhibited from dissolving, it can’t be moved to the root via water uptake. So what determines how much nutrient dissolves?

Properties of both the soil and water affect the nutrient solubility. For instance, in a high pH soil, the solubility of phosphorus is reduced because there are other chemicals, especially calcium and magnesium, which easily bond with phosphate and make it almost insoluble. The amount getting into the plant may be insufficient. Even if there is a large amount of phosphorus in the soil, the high pH severely limits how much can go into solution. This is why an appropriate soil test is so necessary.

If your test results are based on a very strong, acidic extractant you may see a large amount of the nutrient reported, but your high soil pH will not allow enough nutrient to get into the plant. It pays to know what tests are performed on your soil. No amount of water movement can get nutrients into the plant if they can’t dissolve into the water first. Keeping just the right amount of nutrient in solution for the stage of growth of the plants results in the most efficient use by the plants. That calls for special attention to nutrient and water application practices and results in healthy, productive crops.

Of the elements leached from surrounding bedrock or from other sources, we are most interested in calcium, magnesium, sodium, chloride, carbonate, sulfate, iron, boron and manganese but there are also others. Excessive amounts of these elements can affect other nutrients’ access to plants and can chemically react with soil particles resulting in conditions of poor soil structure, water infiltration rates, and generally a less hospitable environment for plant roots. Hard water characteristically contains high levels of calcium and magnesium, and soft water contains greater amounts of sodium.

Because all these elements are ions (atoms or molecules of elements that carry an electrical charge), the water containing them conducts electricity better than pure water. This can be measured by a test called electrical conductivity, abbreviated EC. This number is high where many ions are dissolved in water, and low where not. A high number indicates that many ions are there, but not what ions are present. That takes a chemical analysis of the water to determine. But why do we need to know the EC and elemental content of our water?

Continued on page 14

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## What's In Your Water

Continued from page 12

Understanding the information on a water test report can be confusing. The performing laboratory should provide some interpretation of the results. Recommendation for action should also be included. If you've provided information to the lab about cropping plans, water usage and history, you should be provided enough actionable information to manage any problem that appears on the test report. We often get frantic calls from growers who have results from another lab that indicates a problem with their water, but nothing in the way of what to do about it. For instance, you received a lab report on your water that indicates it is very high in sodium. What now? What do I do? Will it harm my plants? Let's examine the effects of some of these ions to address some of these questions.

### Sodium (Na)

Excessive sodium causes problems with plant water relations because it can interfere with plant metabolism. High sodium around plant roots tends to kill leaves when absorbed in excessive amounts. It can also dry out the root cells enough to stop root activity. High sodium also causes soil problems. Soil structure is often negatively impacted, rendering the soil highly erodible or as hard as concrete and virtually impervious to water—conditions that are hardly conducive to good plant growth. Sodium is often accompanied by high levels of chloride, and together produce one kind of soil salinity.

### Calcium (Ca)

Calcium is a strongly reactive element in the soil. When hard

water is used on plants, the calcium will begin to react mainly with phosphate and sulfate in the soil, forming insoluble compounds that rob the plant of necessary nutrients. Excessive calcium also causes soil structure problems, collapsing a well structured soil into a hard mass that roots can't penetrate or from which little water can be absorbed.

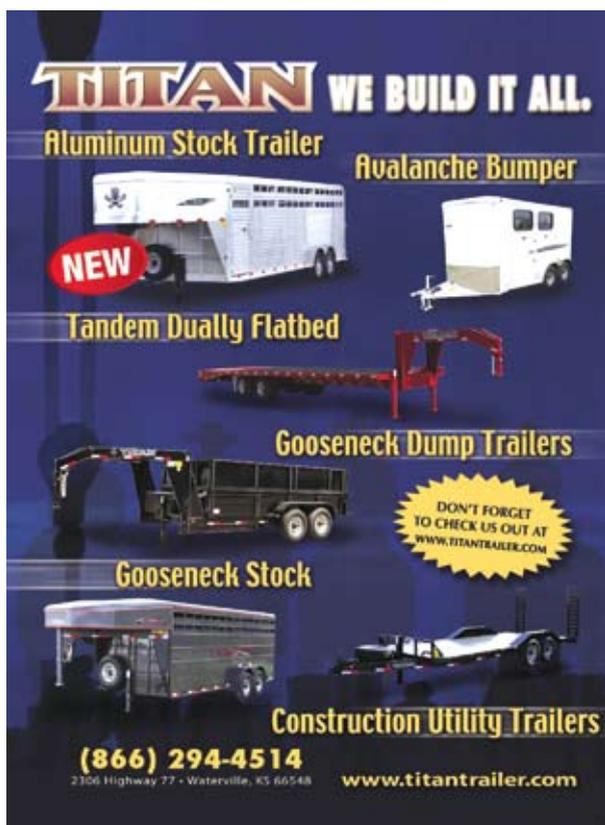
### Magnesium (Mg)

Magnesium is another hard water element that causes soil and plant problems similar to calcium. Affected soils can become unmanageable when wet, clodding terribly and exhibiting the same hardening and sealing effects seen for calcium when soil dries out. Tilling these soils is maddeningly difficult, requiring a lot of horsepower, tractive effort and fuel to accomplish.

### Carbonate (CO<sub>3</sub><sup>2-</sup>)

Carbonate dissolves out of rocks in many areas, but it is mainly problematic in soils west of the Mississippi. Limestone-based soils often carry carbonate into solution, as well as calcium. Carbonate reacts with calcium, magnesium, iron, zinc and other essential plant nutrients, reducing the availability of those essential nutrients to the plants. Carbonate compounds formed affect long term availability of several nutrients because they tend to accumulate in soils where high carbonate water has been used for irrigation. As they accumulate, direct detrimental effects on plants begin to appear. Plants can't take up enough trace metals to meet their needs, so deficiencies appear in the leaves.

However, by the time deficiencies become visible, the plant has already been stressed for some time. This stress manifests as reduced yield and quality, often accompanied by increased disease and insect pressures.



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What can be done if I have too much of these elements in my water? There are treatments for all of these problems, and which treatment is right for you depends on the specific problem and on your use of the affected water. For instance, high calcium and magnesium in hard irrigation water can be treated with sulfur addition. This acidifies the water and the soil so that calcium and magnesium are less prone to form insoluble chemical compounds.

Adding humates to such water also helps buffer the system to reduce their tendency to become plant-unavailable once in the root zone. An important treatment component for many of these problems is soil biology. It might be a bit counterintuitive, but an active soil microbiota keeps the soil open and draining, facilitating the downward movement of ions through the soil, reducing their retention in the plant root zone. In addition, during microbial activity, many organic molecules that provide some additional buffering are released into soil water. Sometimes, however, just strong leaching is the answer. High sodium problems can often be fixed by just leaching the soil with better quality water. If better water is not available, other things can be done. Sodium moves very easily in a moving water front, so leaching it beyond the root zone is often helpful.

Some of these problems arise from improper irrigation practices. Using water of marginal quality can be successful as long as enough is used to wash out salts retained in the soil from the previous watering. This prevents a process called “wicking” in which salts added with minimal watering remain near the soil surface. As the soil dries out by evaporation, the salts move to the soil surface with the evaporating water and accumulate there,

making a white sheet or row at the highest point from where water evaporates. Growing plants in such affected soil is difficult.

Living with water of marginal quality is difficult but it can be managed. By treating the water according to recommendations, you can reduce at least some of the adverse affects of having to use lower quality water. In addition, managing the soil can make a remarkable difference in plant productivity. Further, studies have shown that plants with good nutrition can require often considerably less water.

Soil organic matter is a marvelous buffer. The presence of organic molecules can moderate some of the directly harmful effects of excessive elements. This is another role that spotlights the importance of maintaining soil organic matter levels. By promoting soil structure, organic matter promotes good drainage through the soil. This facilitates moving the excessive ions out of the root zone while maintaining good moisture retention for plants.

Drought continues in many parts of the country. Many growers are being forced to figure out ways to reduce water use and how to manage agricultural production with marginal quantities and qualities of water. Awareness of the issues and attention to the effects on soil and crops are necessary to keep soils functioning and agricultural enterprises in business. Achievement of these goals depends on how much we know about the condition of our soil and water, and on how we manage those resources.

But all these considerations aside, water chemistry can have a very serious impact on the effectiveness of many fertilizers and herbicides. Additionally, hard water can plug drip irrigation emitters and change the geometry of spray nozzles. Salty water can be corrosive to pumps and piping.

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# LAFORGE Technology for Tractor Ballast Adjustment

**M**argins in farming operations are getting tighter. Tractors represent significant assets that need to be efficient and generate a return. GPS, automatic steering, and fancy transmissions grab the headlines. Old fashioned ballasting is not as sexy, but it remains a critical issue for tractor

performance. Even more so as modern tractors tend to have a higher HP/lb. ratio than their predecessors.

Front suitcase weights, wheel weights and fluid in the tires are the traditional ballasting methods that have been used for close to a century. Neither one of them is quick or easy to adjust. Being

able to easily adjust the ballasting in relation to the task at hand, is one of the key advantages of LAFORGE's ballasting technology. The two main product lines are:

- EASYMASS® patented one-piece weights with add-on capability
- FLEXIMASS® award winning and



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The LAFORGE group purchased a manufacturing facility in Cedar Falls, IA in 2007, and added a new factory in Waterloo, IA in 2010. These facilities now also house whole goods and spare parts warehouses and an installation shop.

LAFORGE branded front 3-point hitch systems have been available since 1979. The company quickly became a world leader in technology related to tractor-implement interaction, tractor ballasting and weight transfer. LAFORGE is the recipient of a multitude of patents and awards in these areas. Eight AE50 awards are just an example of this.

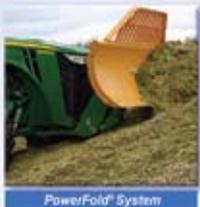
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# Can Cover Crops Solve Nitrate Water-Quality Issue?

“Solve might be too strong a word,” according to Matt Leavitt, a Cover Crop Specialist with Albert Lea Seed, “but cover crops will definitely be part of the solution.”

There are a lot of excellent sources of information about how to get started using cover crops. Here are a few links:  
Albert Lea Seed House:

[www.alseed.com](http://www.alseed.com)  
Practical Farmers of Iowa:  
[Practicalfarmers.org](http://Practicalfarmers.org)  
Midwest Cover Crops Council:  
[www.mccc.msu.edu/](http://www.mccc.msu.edu/)

16



Recently, the Des Moines Water Works threatened to sue three neighboring counties to regulate high nitrate levels in the rivers from which Des Moines pulls its drinking water. (See: “Iowa’s Largest City Sues Over Farm Fertilizer Runoff in Rivers,” Jan. 12, NPR.) This threatened lawsuit would bring to reality a fear that farmers have had for some time, namely that tile outlets may eventually be monitored for nitrate levels.

Setting aside the politics of the issue, how can cover crops help? Basically, by having cover crops growing (or even just holding soil) for months of the year that row-crop fields are typically barren, we slow down the flow of soil as well as nitrates and other nutrients into tiles, waterways, and ditches.

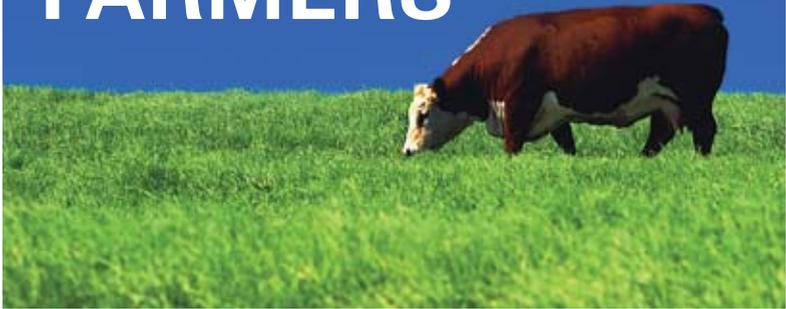
“Our cover crop seed sales have grown over 300% in the last three years,” says Leavitt. “Farmers are taking advantage of government programs that encourage them to plant cover crops. In addition, some farmers who have been using cover crops for many years are beginning to prove that there are long-term economic benefits from using these crops.”

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Phase-A-Matic, Inc. also has available all sizes of transformers: single-phase and three-phase 50/60 Hz, all voltages, step-up and step-down, including custom made for special applications.

### ABOUT US

Product lines began in 1965 with the well-known **STATIC CONVERTER**, the workhorse for tens of thousands of regular shop machines, such as mills, lathes, etc. The **ROTARY CONVERTER FULL POWER** line is a true phase converter jointly developed with Baldor Electric and built to our stringent specifications for high performance and proven long-term dependability. It is the quietest rotary converter on the market, and the best quality available anywhere. It meets your concerns in delivering the critical uptime and reliability that your business requires.

### COMPANY REPUTATION & BENEFITS

Professional, available technical support for proper sizing and installation, consistent product reliability and immediate delivery from stock for most items are core components of the strength of the company and its esteemed reputation.

**Phase-A-Matic, Inc.** phase converters individually range from 1/3 to 100 HP. Greater HP is achieved by adding Rotary Converters in parallel for the combined output needed. We have the right converter to meet your needs in delivering economical, reliable and true 3-phase power of the highest quality, thus providing the dependability and uptime you must have.

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## Steel Constructors, Inc.

**M**ark Larson, president and founder of Steel Constructors Inc. has many years of agricultural and industrial building experience. He was a certified builder for AOSmith Harvestore®, Engineered Storage Product® and has worked as building foreman for over 35 years. When Mark and his wife Debra started Steel Constructors, their initial focus was erecting and dismantling used and new silos and slurrystores for Harvestore® Dealerships around the United States.



Since its formation, the company has diversified to include exporting Harvestore® silos, and building steel storage tanks for commercial and industrial purpose, from agricultural to food by-product.

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is responsible for many US patents but it's his unique "Stake and Wind Lockdown" system that has put Missouri Hay Tarps on the map.

Owners Jeff & Bobbi Limberg purchased the company in

2014. They are committed to continuing the business under the principles of which it was built, offering a quality product at a reasonable price, backed by exceptional service.

In 2013 they improved the quality of an already popular and dependable product by increasing the weight to an even heavier tarp from 6.7 to 7.7 ounces. In addition to the increased weight they beefed up the rope reinforcement on the bottom edge of the tarp which helped to omit any tearing around the grommets and lower edge of the tarp. They didn't stop there, in addition to beefing up the tarp perhaps the most critical and noticeable improvement was the additional UV coating. The tarps are white in color on both sides and come treated with a special UV coating on both sides; both are critical components in combating the sun's damaging UV Rays. With UV coating and white in color on both sides the tarps are fully reversible. Missouri Hay Tarps recommends reversing the tarp each hay season to prolong the life of the tarp. The UV coating and reversing of the tarp will combat the effects of the sun and Mother Nature's elements which make a tarp weak and brittle the longer it is exposed. The improvements of 2013 were a success and Missouri Hay Tarps looks poised for the future.

Tarps will be offered in 20 different sizes guaranteed to cover just about any hay configuration you can dream up.

Order today and see for yourself what has made Missouri Hay Tarps the leader in engineered hay covering. Call 800-514-0258 or visit them online at [www.MoHayTarps.com](http://www.MoHayTarps.com) to place an order or learn more about these tarps. All major credit cards are accepted.

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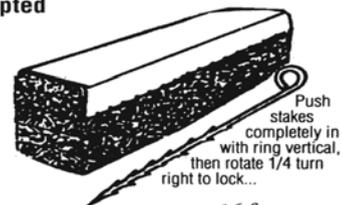
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# Save Money and Increase Efficiency with the Richland Micro Plow

**R**ichland Micro Drainage, located in north central Ohio, has always focused on the best and most efficient way for farmers and custom drain tile installers to install the 2" drainage tiles. This focus resulted in the development of the Richland Micro Plow.



To begin with, Mark Martin, a farmer in North Central Ohio had utilized subsurface drainage for many years on his farm. He understood the benefits but the investment was high to install the tile. Through research Mark found information that in Europe most of the tile installed was 2" in diameter rather than the 4" norm here in the US, and found out about a study at the University of Guelph, in Ontario, Canada. The basic concept is to run 2" tile on closer laterals - typically 20' vs. 40'. The result was more responsive drainage at a more economical price because of the price difference and being easier to install.

Mark contacted his nephew and welder fabricator Elton Zimmerman and in no time at all Elton had a working unit put together and ready to go. A relationship has been formed with A.M.W. for the controls for the plow which works directly from GPS to keep grade. A.M.W. Controls can also control multiple machines like dirt pans dirt blowers and dozers. Initial tests were very promising and Mark and Elton installed their first tile with the unit. Then they started installing tile for their neighbors.

After the success of the unit and seeing the benefit of 2" tile the two decide to offer a tile plow to the public and Richland Micro Drainage was born.

After the summer of 2013, AgRePlan, came into the picture. They are a consulting company specializing in water management, surface and subsurface drainage and its importance in yield impact if not taken care of.

The first step is to get a topographical map of your field with a GPS unit. Then, after running it through special software it is color coded to show the depressions in your fields. After finding where the depressions are then you create waterways to drain those areas, then - using the same topographical map,

you design your tile lines with contour of ground to cut water flow in a perpendicular line.

This is where the Macro to Micro concept comes into play. Surface drainage in main water ways called Macro and small canals to waterways is Micro - like the 2" tiles used for the laterals to cut the micro flows off.

Richland Micro Drainage's focus is to take care of surface drainage first by getting your waterways in first so you can remove the water as quickly as possible. If you try to force the water through the ground it takes forever and after so many hours it seals the top off and the tile is worthless.

The next step is to put tile in more shallow and closer together to get water away as quickly as possible to keep the stalk from getting stressed. That is why Richland Micro Drainage uses the 2" tile with closer spacing. That way you are exceeding much more capacity than what you actually need.

For price of drainage equipment like the GPS system, the three-point and frame-mount plows, front mounted tile auto reels with GPS, tile cutters and feeders, call 419-896-3623 or Elton's cell at 419-908-5696. You can also get more information by visiting their website at [www.RichlandMicroDrainage.com](http://www.RichlandMicroDrainage.com) or email us at [Sales@RichlandMicroDrainage.com](mailto:Sales@RichlandMicroDrainage.com)

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SYSTEMS**

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# All New Q-Power® Crankshafts From Quality Power Products, Inc.

**Q**-Power® Heavy Duty Diesel Engine Crankshafts from Quality Power Products, Inc. are new, all induction hardened, all standard / standard and dimensionally and functionally equivalent to OEM specifications. They are available for the most popular heavy duty diesel

engines manufactured by Caterpillar®, Cummins®, Mack®, Case-IH / Navistar®, Ford®, Detroit Diesel®, John Deere®, and Perkins®.

Q-Power® crankshafts are manufactured by OEM suppliers using state-of-the-art production and quality control systems. These systems

are monitored throughout both manufacturing processes, forging and machining. They are certified by the International Standard ISO 9000.

The manufacturer builds their forging dies and tools and has control over all

raw materials by means of an ARL spectrometer and complete mechanical testing equipment to insure hardness, fatigue strength, impact, etc. All crankshafts are forged from the highest standard industry accepted steel as specified by the OEM and are all



heat treated.

Q-Power® Crankshafts are machined with the latest CNC controlled grinders including the latest generation NAXOS grinders to obtain perfect dimension and surface finish. All their crankshafts are thoroughly inspected throughout the manufacturing processes using the most sophisticated testing equipment including:

- Computerized SPC control on all production operations with online feedback.
- Endoscope to control oil holes.
- Surface measuring instruments.
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Q-Power® Crankshafts provide the high quality and consistent reliability that is expected and demanded. The journal surfaces are induction hardened. This insures crack resistance – even under the heaviest loads. All crankshafts are new so you always have confidence in what you are installing.

Quality Power Products, Inc. is committed to customer service and satisfaction. For more information, call 888-333-3210 or visit their website at [www.Q-Power.com](http://www.Q-Power.com). **Quality Always Comes Through!**

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# Pressurized Exhaust Kills Burrowing Rodents

The H & M Gopher Control PERC® system (Pressurized Exhaust Rodent Controller) uses carbon monoxide from pressurized engine exhaust to kill burrowing rodents such as gophers, ground squirrels, prairie dogs, moles & voles.

PERC® Model 620



According to the company, exhaust gas has long been one of the most lethal and least expensive methods to kill burrowing rodents. But until now there hasn't been an economical, efficient delivery system.

Company owners, Allen Hurlburt and Virginia Massey, said that the PERC® system involves a narrow steel wand that is used to probe the burrow and inject pressurized exhaust that fills the burrow in two minutes with lethal concentrations of carbon monoxide before the rodent has a chance to either escape or block the burrow.

An internal combustion engine generates the carbon monoxide and drives a compressor pump that pressurizes the exhaust gas to 110 psi in a storage tank. An air hose and a hand held probe inject the gas directly into the burrow without any digging.

Brand new to the PERC® lineup is the PERC® 620, a trailer-mounted unit with a 20 hp Kohler motor and six reels - each with a 50' hose and hand probe. The 620 features a tandem axle with turf tires. It sells for \$14995 plus S&H.

The PERC® 412 is a trailer-mounted unit with a 14 hp Kohler motor and four reels each with a 50' hose and the hand probe. The 412 features turf tires and is designed to be pulled behind an ATV. It sells for \$8295 plus S&H.

The PERC® 206 is a skid-mounted unit with a 7 hp engine, two reels with 50' hoses and hand probes. It sells for \$4995 plus S&H.

The PERC® 206T is the skid unit mounted on its own special trailer. It

sells for \$5590 plus S&H.

The PERC® system is simple to use and safe for the operator as well as wildlife since there is no poison bait or explosion involved. Crop stands are not damaged during treatment. No other control method is as effective, efficient and as inexpensive to operate as the PERC®.

A PERC® system can treat moderately infested alfalfa fields at about 3.5 acres an hour with a single operator. Each probed location requires only about 2 to

3 minutes injection time.

Units have been shipped to customers from Southern California to central Canada and as far east as Florida. Though most of the market has been with alfalfa growers, orchard and specialty crop growers have also purchased units. The PERC® system is the best solution anywhere burrowing rodents are a problem.

For more information call toll free (855) 667-5181 or visit the website [www.hmgophercontrol.com](http://www.hmgophercontrol.com)

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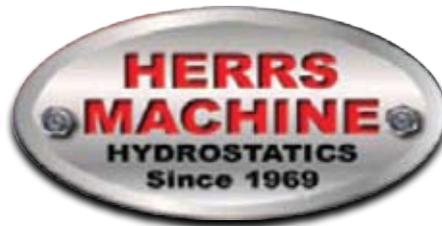
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### Ron's Mfg.

(Please see press release in this issue)

For more information go to

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email: [info@ronsomfg.com](mailto:info@ronsomfg.com)

## Ron's Manufacturing Vertical Tillage Coulter Kit Attachment Gets Even Stronger

**R**on's Manufacturing has added two more bearings to their kits. This makes the kits even more heavy duty. Coulter kits from Ron's Manufacturing converts any chisel plow to a year-round tool to prepare your fields.

In the fall, it can be used to lightly till the soil, incorporate and size residue. It is also a practical way to dry out wet soils. The Vertical Tillage Coulter Kit Attachment works well in no-till conservation tillage, as well as conventional tillage operation, extending the growing season and creating better planting conditions. Vertical tillage prepares the soil to warm more quickly in early spring, energizing the seedbed for maximum growth and yield potential.



The Vertical Tillage Coulter Kit Attachment is a smart investment in that it has multiple uses which will ultimately produce savings in terms of time and money. It also has a low operating cost per acre and can be used in a wider range of conditions than most tillage tools. It operates at a relatively high speed of 6 to 12 MPH which saves time. The Vertical Tillage Coulter Kit Attachment allows for quick mixing of manure and soil to prevent loss of nutrients and control odor. It can also be used for very shallow incorporation of fertilizer and select herbicides.

The Vertical Tillage Coulter Kit Attachment is spaced on 6 inches.

For more information contact Ron's Manufacturing at 40582 187th St., Carpenter, SD 57322; phone 605-266-2177; E-mail [info@ronsomfg.com](mailto:info@ronsomfg.com). (Also, please see their ad in this issue).

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Are you aware there is another option available to the farmer at harvest time?

2013 marked U.S. Custom Harvesters' 30th anniversary. The organization began in May 1983 with a few harvesters around a table discussing issues the industry was up against at the time and the need for a strong voice. The idea quickly turned into reality and continues to gain recognition among other agricultural entities. U.S. Custom Harvesters, Inc. is the only national association working for the custom harvesting industry and provides more than just a resource for the custom harvester.



Equipment failures, labor shortages and inclement weather don't realize the harvest can't wait. A custom harvester can relieve the stress of the most anticipated stage of a plants lifecycle for the farmer. By providing the equipment and the necessary labor, the custom harvester is able to harvest the crops in a professional and timely manner.

U.S. Custom Harvesters, Inc. serves as a strong link between harvesters, the farmers they serve and businesses they work with. We provide a powerful voice for our industry to Local, State and Federal Government agencies. We help create that community through our monthly newsletter, our website (uschi.com), our Facebook page, and even our twitter (@tweets\_USCHI).

Whether you're looking for a forage or a grain harvester, a call or email to the office can help you find someone willing to be there at your most crucial time of the year. Please be sure to visit our website for more information or call 620-664-6297 if you have questions.

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# Natural Insecto Products

**I**NSECTO is an insecticide alternative to chemical poisons used for control of grain insects and house insects.

INSECTO has been registered with the USA Environmental Protection Agency since 1984 (EPA Reg. # 48598-1).

INSECTO is a formulation of a very refined (Micron average size 7) saltwater Diatomaceous Earth (DE) blended with several protein food products which act as baits. DE is the skeletal remains of plankton which feels similar to talcum powder, however when viewed under a microscope, one can see the sharp jagged edges on the DE which basically cuts up and breaks down insects waxy protective coatings. Also, the saltwater DE absorbs up to 175% of its weight in fluids compared to only 150% for freshwater DE. DE is allowed by the Food and Drug Administration (FDA) in Human and Animal food products up to 2% of weight; it is used as an Anti-Caking agent in many food products.

INSECTO kills insects by cutting up the insects bodies, than absorbs their body fluids, which leads to their deaths by dehydration; a physical kill rather than a chemical kill. Insects don't build up a resistance to INSECTO, unlike chemical pesticides. INSECTO is labeled with the EPA "For Organic Production" and is listed with the Organic Material Review Institute (OMRI).



INSECTO has been and is being used by Bunge, Cargill, Consolidated Grain & Barge, ADM and other large companies for several decades, along with on farm storage by thousands for farmers

around the United States and Canada. INSECTO has been exported to Japan, UAE, Israel, Jamaica, Brazil, Nicaragua, and several other countries.

INSECTO is now being used in Poultry Housing for control of Mites, Darkling Beetles, Lesser Mealworms and other insects which plague this industry. Insects in poultry houses are destroying the insulations as well as adversely affecting the health of the birds. INSECTO should be blown in at a rate up to 4 pounds per 1,000 square feet of surface area.

INSECTO was originally developed as an alternative to the chemical poisons which were in wide use in the 1970's and 80's, and has become one of the few registered insecticides on the market today. Control your insect problems today and in the future with INSECTO.

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# Unique Heart Formula Saves Countless Lives

Over 25 years ago, Jim Strauss suffered a major heart attack and was told he would need bypass surgery or he would die.

Jim was born into a family of herbalists stretching back to the 17th century. He learned his craft in his childhood – gathering medicinal herbs in the Austrian countryside with his grandmother. He was taught to taste herbs in order to detect their medical value. Balance and proportion were the keys to producing formulas that were effective and almost instantaneous.

Jim's heart attack was not a fluke. He admits to having lived in the fast lane, ignoring the healthier lifestyle of his parents. He considers himself fortunate as nearly one half of first time heart attacks end in death. Relying on the knowledge acquired over the years, he refused the recommended surgery and in a few weeks put together an herbal formula which he immediately applied to himself with outstanding results. In three months,

his 2"arterial blockage was cleared. Since that time, Jim has shared his formula with thousands around the world who are living testimony to the curative powers.

One of many clients recently wrote, "I would like to tell you that after three months of using Strauss Heart Drops, I am a new man. I am 86

years old, no more of the tired feeling I had, my swollen feet are normal again, and my bowel is working normally. Two specialists had told me 'we can't help you'."

Free Strauss Heart Drops information packages are available by phoning toll free to Performance Medical Plus Inc. at 1-877-281-1312. 

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*"I feel so much better all over."*

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*"I used about half a bottle and the chest pain went away."*

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## Deaton Nutrition Inc. How Multi-Sile II Inoculant can save your money

**A**fter generations, farming is still a margins game. Profit or loss can base on a big gamble or just a little bit of bad weather. Waste is always a concern. Farmers and ranchers have done the best they can, but everyone needs help from time to time.

25 years ago, Deaton Nutrition, Inc. started out as one-person company doing rations to improve feeding. They have expanded to include crop specific inoculants sold in 28 states and 2 countries. Every employee has either worked on or grown up on a farm. They work with everyone from hobby farms to custom operators to thousand+ cow dairies. They also have a line of custom made applicators. "We are a customer service based company. If our customers aren't happy, then we aren't happy."

"As I nutritionist, I saw a growing need for high quality forage." We have perfected a formula that is both effective on crops and easy to apply. Treating feed and crops with a high quality inoculant is one of the best investments you can make. With an average return rate of at 6:1, this is a gamble most would say is worth taking. Returns include:



New Pro-Siler 1000 applicator

- 1) **Better Protein Value and Palatability.** With tests done with Multi-Sile II Dry Hay Inoculant vs. propionic acid, all animals preferred the feed treated with the inoculant.
- 2) **More Silage to Feed.** When using silage inoculants, as much as 15% of loss could be saved due to a more efficient ensiling process. This could mean that for every 100 acres ensiled we have an additional 1 to 2 acres of more feed.
- 3) **Better Milk and Beef Production.** Trials showed that when inoculant treated silage was fed to beef steers, it improved ADG to the equivalent of feeding an additional 2.2lbs of concentrates/cow/day.

Multi-Sile II- The one that's Guaranteed to Improve Animal Performance.

All products are made in the USA. For more information you can call 715-273-3739 or go to [www.multisile.com](http://www.multisile.com)



# NOW Fehr Cab Interiors has “Anyone-Can-Install” KITS

Hey, now your job just got easier! **Fehr Cab** is excited to introduce the “Anyone Can Install” cab kits to their ever-expanding product line. The John Deere 2 wheel drive 30, 40, 50, 55/60 series sound guard cabs are available finished onto molded plastic for much easier installation now! The IH 86 & IH-88 headliners are also available as a pre-formed “Anyone Can Install” new kit. These new panels will save you up to 4 hours in installation time and you will no longer have the nuisance of having wrinkles develop and adhesive drying too quickly. Since spray adhesive is no longer needed, you do not have to wait for warmer temperature to complete the installation.



JD 55/60 Srs on Plastic

If you have a tractor over 15 years old, the interior has started to show its age and is falling apart. The vinyl gets saggy, and the foam lining in the cab loses all acoustical properties and starts to harden and deteriorate. In house testing done by **Fehr Cab** has shown a significant difference in decibels when comparing new and old acoustical foam panels. By replacing the acoustical foam, it silences the high pitched sound decibel's that causes damage to your hearing.

As new tractors continue to be offered in the ag-market, the cost of equipment has soared, and it can be hard to update to the latest and the greatest. However, when the time does come to update or trade in, you want to get top dollar out of your trade in. By installing a **Fehr Cab** kit, it gives the purchaser the assurance that you cared about your tractor and have kept your equipment in the best of shape. By freshening up the cab, the value of the tractor can increase up to 15%. **Fehr Cab** installs these interior kits in local customers' cabs to insure that each part fits and every kit is easy to install. Quality materials and superior service is what makes a **Fehr Cab** kit the best value.

Most farmers can install these parts into his or her tractor, using **Fehr Cab** do-it-yourself kits for over 700 different model cabs. **Fehr Cab** kits are available with pre-cut, pre-sewn, pre-

formed panels and complete instructions and whatever is necessary to install kits. Check out our “installation video” on our website, [www.fehrcab.com](http://www.fehrcab.com). **Fehr Cab** strives to replicate the original vinyl, foam thickness, quality custom fit and overall appearance in all interiors offered. The new interior kits make the cab atmosphere so much more pleasant, clean, and quiet.

Currently, we are adding new items to our growing product line. Some of the newer items recently introduced are: Complete Seal Kits for Doors and Windows (pre-mitered and contoured to fit); Construction equipment interiors; Cat Challenger interior components, John Deere 6120-8530 model interiors and John Deere newer model S series Combine sound dampening kits. **Improvements are consistently introduced and customer comments are taken seriously.** Over the past 25 years, we have learned to listen to our customers' requests and concerns to contribute to continued quality and affordability to stay competitive. To make a difference in sound control in your cab, contact **Fehr Cab Interiors Co.** anytime for information or to order.

**Fehr Cab Interiors Co.** 10116 N. 1900 E. Rd. Fairbury, IL 61739 ph: 815-692-3355 or fax: 815-692-2574 sales@fehrcab.com [www.fehrcab.com](http://www.fehrcab.com)

## NEW CAB INTERIORS



JD 55/60 Srs on Plastic

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## Area Diesel Service Continues To Grow Online And Offline

**F**ounded in 1973, Area Diesel Service has become a premier source for knowledge, parts, and services for all types of diesel applications.

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performance module products, AGRICULTURAL DIESEL SOLUTIONS and TRUCK EDITION, will help you gain horsepower and MPGs – with ease – on a huge range of agricultural, light, medium, and heavy-duty diesel applications.

Support of these performance modules is visible across the marketplace with companies across North America becoming distributors. Those distributors have grown their own dealership networks out of retailing the AGRICULTURAL DIESEL SOLUTIONS and TRUCK EDITION module lines.

Quality replacement parts for diesels are a passion of Area Diesel. And their MAGNUM Quality Replacement Parts offer one of the best parts' warranties in the industry!

Just released for 2015, and accessible through Area Diesel's recently redesigned website, is a catalog of the MAGNUM products.

In addition to purchasing products direct from their website, it is also a great resource for news, information, testimonials, special event information, and tradeshow schedules.

Area Diesel is online at [www.arediesel.com](http://www.arediesel.com), active on Facebook, Twitter, Google+, and Instagram social media and has two physical locations in Carlinville, Illinois and Pleasant Hill, Iowa. 🇺🇸



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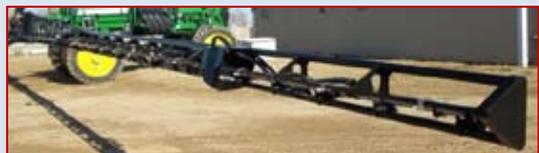
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# Walinga Bulk Feed Bodies & Grain-Vacs

From concept, design and through production, Walinga meets the customer's needs at every step. Creating outstanding products that are innovative and durable, with some client's vehicles being passed from generation to generation.

Walinga is a leading North American manufacturer of transportation equipment and portable pneumatic conveying systems for grain, feed, seed... virtually any dry bulk material. Walinga is still a family owned and operated company. The total commitment to quality is not only our inheritance - it's our foundation for the future.

Walinga products represent the best in manufacturing excellence. Our in-house engineering and design teams utilize the most current computer technology available. State of the art equipment, combined with over 60 years of experience, ensures that our customers receive unsurpassed quality.

Comprehensive engineering capabilities allow us to offer sizes, capacities, features and options that are specifically job-matched according to individual requirements. The services of our Engineering Department are available to our customers to assist in the selection of the properly specified chassis. Every Walinga vehicle is designed and produced to best fulfill its designated function.

Custom-built aluminum feed bodies and trailers, pneumatic conveying systems, recycling trucks and bodies, aluminum and steel dump bodies... each built according to exact stan-

dards. Every stage of the manufacturing process from design to completion is performed by Walinga. The result - a cost effective, durable product line that responds to any challenge with premium.

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## Bulk Feed Trailers and Bodies

Walinga Inc. has been manufacturing bulk feed transportation equipment for more than 60 years. In this time we have become committed to an ongoing program of research and development. In response to the increasingly diverse needs of our customers Walinga is and will continue to be on the forefront of technological evolution.

The options and features of the Walinga Bulk Feed Delivery Units are numerous. Walinga Bulk Feed Delivery Units can help you in your quest to increase production, performance, and efficiency.

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# Sunny D Mfg., Co. Inc – *The Oregon Roadrunner*

The Oregon Roadrunner, manufactured by Sunny D Manufacturing Company, Inc., is the all purpose machine when it comes to loading and unloading blocks of hay, everything from a stack of bales in the field to a six-pack of 3x4 bales. What used to take several people hours to buck the hay, whether loading trucks, unloading trucks, or moving the hay from one truck to another, now takes one person just minutes to accomplish. There is no other machine that can match it.



## Humble Beginnings

In 1971, Art Davina – then a rancher in Bonanza Oregon – saw the need, designed and built the first Oregon Roadrunner.

That machine is still being used today.

While struggling through the hard times, redesigning to incorporate new ideas and improving on old ones, and building a strong customer base one customer at a time, Art managed to build his back-yard business to a point where he was able to open his first shop. By 1985 the business was large enough that he began the process of incorporating it. Later, needing more space to meet customer demand, he bought a larger property, and moved the business to its current location in Klamath Falls.

When health problems forced Art to take a step back and de-stress his life, he wanted to find the perfect person to take the reins. Ed Majors took over as GM in 1998 and in 2003, began the process of buying the company from Art. Today, Ed officially owns it.

## Sunny D Today

From those humble beginnings in 1971 to the 21st century, Sunny D Manufacturing Company Inc. has grown to a business totaling 15 employees. Welders, fabricators, mechanics, a painter, and various support personnel create from bare metal the machine that called “The Oregon Roadrunner.” What used to be only available in white with your choice of stripe, a customer can now choose their color and design. For more information, call 1-541-884-2361, or write 4343 Highway 39, Klamath Falls, OR 97603. 

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# The Importance of Grain Temperature Detection

Temperature is the key to safe grain storage. When grain goes out of condition, regardless of the cause, there is always an unusual increase in temperature. Temperature is the only truly accurate indicator of grain quality for those who manage grain.

Knowledge of the causes of deterioration and spoilage in grain is essential to the grain manager. Although more is yet to be learned, grain workers and scientific researchers have jointly given much sound information with which to work.

Grain is a living organism. Like other living things, it breathes (respires) and it may become sick. Excessive moisture, high temperature, and poor grain condition (damaged kernels) are generally considered the most important factors that lead to trouble in stored grain.

The use of moisture tests in receiving grain is an indication of the great importance given moisture as a criterion for storage ability. Some tend to over-emphasize moisture content to the exclusion of all other factors, but low moisture content is not enough to ensure trouble-free storage. In fact, deterioration from excessive moisture can occur in grain which is placed in storage at a uniform moisture content below that considered safe for long term storage. Temperature and atmospheric changes can cause certain areas within a mass of stored grain to rise in moisture above the critical safe moisture level.

Grain condition refers to the soundness of grain. It has been demonstrated that unsound grain (grain with a high percentage of damaged kernels, greater number of microorganisms, and with deteriorative chemical changes) is much more likely to heat in storage than sound grain of the same moisture content. Both grain respiration and the growth of microorganisms are thought to be affected when grain is unsound.

**The three specific causes of heating are respiration of the grain itself (metabolism of viable grain), microflora (microorganisms such as fungi and bacteria), and insect infestation.**

All three contribute to total respiration and heat production below 135° F. One type of heating alone can cause trouble, but one type of heating can also serve to trigger another problem which will contribute to total heat production.

The increased temperatures are likely to excite the other two causes of heating. When grain respiration alone is the cause of heating, visual inspection of the trouble area, while turning, will show little evidence of cause. If moisture translocation has brought about the increased rate of respiration of the grain, aeration can be employed to correct the situation.

The important thing to note about microorganisms is the fact that they respire and tend to increase the rate of respiration of the grain. Thus a rise in temperature can mean microorganism growth. If the temperatures of the grain mass are low, such growth can be slow and temperature rises relatively small.

Slowly rising temperatures warrant investigation of the causes. When indications appear, look closely for growth of microorganisms as you inspect your grain.

During the last 70 years, many factors have made accurate temperature knowledge even more important than before. For example:

1. Grain is stored longer and in larger bins, making the risk in holding it greater.
2. Damage from insect infestation is great.
3. Grain is harvested and often stored when it has high moisture content.
4. There is a greater demand for top quality grain.
5. The cost of handling and moving grain has increased. It costs from 2-1/2 to 5 cents per bushel to move grain. Accurate temperature information allows an operator to turn his grain only when it must be turned.
6. Buyers today want assurance that grain purchased is of uniform quality throughout. Unless a grain manager has temperature records, one cannot be certain of the condition of purchased grain.
7. With the use of aeration systems, temperature knowledge is essential. The grain manager must know if and when hot spots are forming before the aeration system can do a thorough and economical job.

These are the reasons why temperature information is important to a modern cost-conscious grain manager. No matter what type of grain is stored, the same basic principle holds true: **You must know the temperature of your grain to know the condition of your grain.** It is imperative that the grain manager has accurate, complete, and up-to-date temperature information for good grain management. Monitoring the temperature of grain on a regular basis gives the manager the best chance to make a correction when a temperature change is occurring. Knowing the temperature of the grain makes it possible for the fans to be run only when they are needed, saving money in utilities.

Now, there are several ways to obtain this temperature.

- 1) You could use the **"Feel and Smell"** method. All that is required here is for the grain manager to feel the side of his bin and smell inside the bin in an attempt to detect heating. Obviously, this method has its drawbacks.
- 2) The **"Thermometer Method"** is another way to read temperatures. With this method, pipes are inserted into the grain mass and a thermometer lowered into them. After a time, the thermometer is raised and the temperature read for that point. This method also has several serious drawbacks and is very time consuming. (A thermometer is not designed to furnish quick readings).
- 3) A third concept is the **temperature cable method.** One type of temperature cable utilizes thermocouples to read temperatures. A thermocouple is nothing more than two dissimilar metals soldered together to make a heat sensing point. TSGC, Inc cables have thermocouples made of copper and constantan (an alloy of copper and nickel), the most sensitive combination made for grain bin temperature scanning systems.

Thermocouples are the most widely used temperature sensor for several reasons. They are rugged, low-cost, dependable, and accurate. The measurement is a point measurement with fairly quick response to temperature change. Watching the trend of the temperatures provides a clear indication of unusual temperature activity.

TSGC, Inc. is one of the largest suppliers of grain temperature monitoring equipment in the world. Headquartered in America's Heartland, our administration, fabricating, sales and service divisions are located in Spirit Lake, Iowa. We have an extensive network of contractors representing our products and services nationwide and in over forty countries.



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# Corn Stalk Guide By Kaler Farms

"I don't want to lose my corn" is the response Joel Kaler of Kaler Farms gives when asked if he has done a "test" study to see how much corn he is losing. "That would be the point...I don't want to lose any, so I watched the problem and made the Corn Stalk Guide. It started just for my farming operation, but others wanted them so we started making them."

The aftermarket attachment is placed on the snout above the front of the idler chain and sprocket to guide the corn to pass smoothly and to be grabbed more efficiently. The corn stalk is not being jerked, shook, or flung. The farmer now has his corn safely in the combine rather than on the ground. Plus, the Corn Stalk Guide is meant to be used in both standing corn and leaning corn....it helps move the stalks into rows more smoothly.

Kaler has also found that because of the material the Guides are made from, the poly snouts are not wearing as fast. "More money saved," indicated Joel. In addition to those savings, it has also helped save the snouts from bending and cracking because it will add some strength. These American-made products are an added benefit to the agricultural world.

Kaler Farms will be attending several farm shows in the Corn Belt area this summer. The Kalers encourage you to stop and visit with them. If interested in the Corn Stalk Guide, contact Kaler Farms at [kalerfarms@gmail.com](mailto:kalerfarms@gmail.com) or visit their website, [www.kalerfarms.com](http://www.kalerfarms.com)

# Machine Service, Inc.

Machine Service, Inc. a steel fabrication business owned and operated by Jay and Jane Luthi, located in East-Central Kansas at Madison, is continuing to provide quality products for the ag industry. The venture into the overhead storage business began with a request and has continued to grow, building upon that same desire, "To meet the customer's needs".

Machine Service, Inc. sells a line of Overhead Bins with capacities ranging from 14-60 ton to 550-2200 bushels. The bins are designed for any dry, flowable material such as seed, feed, or range cubes; but also accommodates heavier weight materials such as fertilizer, mineral, sand, or cement. Features include: a ground operated top door, external as well as internal ladders, external ribs to prevent side bowing and to allow for interior freedom of material flow, 42 degree slope on top for complete fill and 48 degree slope on hopper for good clean out. All bins are prime coated inside, primed and painted white outside for years of neat appearance.

Some operators have the same requests, but many operations approach their grain and feed handling differently. Therefore bins are made when ordered to allow for customization. Any structure can be divided into 2, 3 or 4 compartments. The customer know his needs best and thus the options on each bin are open to the customer's request. For more information, call or write to Machine Service, Inc. at 3430 EE Road, Gridley, KS 66852, 620-427-4200.

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The Corn Stalk Guides are made to use on most poly snouts with 30" and 22" rows, including some twin rows. Kaler Farms also has products for metal snouts. All sets are easily attached with the included hardware and directions.

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# Tebben Enterprises – 50 Years of Helping Farmers

In 1964, John Tebben saw the need for a better row crop cultivator and began designing. That was the birth of Tebben Manufacturing. He started with a cultivator along with rolling, tunnel and open top shields



John's next step in helping farmers produce was to design a fall tillage machine used to break up hardened and compacted soil – the deep till. Tebben Manufacturing's deep till utilizes an automatic reset shank assembly that trips over rocks and

other obstacles without the need to replace broken sheer bolts. In 1975, the first Tebben Deep Till rolled off the assembly line, and to this day many of the original-design units are still in use.

In 1993 John's son, Michael, formed Tebben Enterprises Inc., keeping the family owned business just that – a family owned business.

Throughout the 50-year history of Tebben Enterprises, they have been committed to building quality products and adding to their line of products that continue to help the farmers. Tebben Enterprises now also offers a full line of 3-point rotary cutters along with other 3-point and skid loader attachments. Their most recent product offering is the Tebben Land Roller. This implement levels a field after planting by pushing rocks and root balls into the ground allowing for increased harvesting efficiency. The Tebben Land Rollers are available from 7 feet through 21 feet in single section widths. Their 3-section folding land rollers are available from 31 feet through 62 feet.

For more information on Tebben Enterprises and how they can help you, call (320) 847-2200 or visit their website at [www.tebben.us](http://www.tebben.us). And if you happen to be in the area, you are welcome to stop by for a visit at 10009 Highway 7 SE, Clara City, MN 56222. They'll be happy to show you around. 

			
<p><b>LAND ROLLER</b></p> <p><i>Models Available In: 7', 15', 17', 31', 33', 41', 42', 45', 52', 62'</i></p> <ul style="list-style-type: none"> <li>▼ The Tebben Land Roller Levels Fields By Pushing Rocks, Root Balls, and Residue Evenly Across The Surface For Harvesting</li> <li>▼ Efficiency Resulting In Higher Yields.</li> <li>▼ 42" Diameter Drum</li> <li>▼ Rear Wheel Hydraulic Steering</li> <li>▼ Optional Hydraulic Floating Hitch Available</li> </ul>	<p><b>DEEP TILL</b></p> <p><i>Models Available In Widths From: 7'-6" To 27'-6" On 15", 24", Or 30" Spacing</i></p> <ul style="list-style-type: none"> <li>▼ Automatic Reset Beams</li> <li>▼ 30" Under Frame Clearance</li> <li>▼ 3 Point And Pull Type Models</li> <li>▼ Optional Leveling And Shovel Attachments Available</li> </ul> 	<p><b>ROTARY CUTTER</b></p> <p><i>15 Models Available: In Three Point &amp; Skid Steer Mount From 40"-120" Widths</i></p> <ul style="list-style-type: none"> <li>▼ 10GA Formed &amp; Welded Deck</li> <li>▼ 3/16" &amp; 1/4" Sides And Deck Support</li> <li>▼ Slip Clutch Standard On HD Models, Available For Others</li> <li>▼ Chain Guards Available</li> </ul> 	<p><b>TREE &amp; STUMP SAW</b></p> <p><i>Available In Skid Steer Or Three Point Mount (Cat I, II, &amp; III)</i></p> <ul style="list-style-type: none"> <li>▼ 75HP Gearbox Rated For 30-120 HP Tractor</li> <li>▼ 3/4" Thick By 40" Diameter Blade With 12 Replaceable Carbide Teeth</li> <li>▼ Optional Heavy Grapple Directs Falling Trees And Is Used To Pick Up And Move Downed Trees</li> <li>▼ 15" Cutting Depth</li> </ul>
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American Agriculture Products are a small family owned and operated business located in the Oklahoma Panhandle. Gerald has been involved in farming and ranching for approximately 65 years. He grew up on the family

farm north of Guymon and has spent his entire life on the farm.

Our products are the result of the need for better/improved products to help with the farming operation and were conceived in day-to-day operations and activities of a farmer working in the field.

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# C&R Supply, Inc.

## Birth of a Sprayer

After carefully listening to customers who were disappointed with the performance or lack of features in ATV sprayers available, C&R Supply set out to design a series of sprayer to meet their needs.

"Instead of taking an off the shelf tank and attaching features, we needed to get all the input we could from customers and ATV manufacturers", said product manager Dusty Miller. "With a good vision of what features and options were required, it became obvious that a completely new tank design was needed".



Spray 30 feet wide with no boom

The EZ ATV Sprayer was designed with the operator in mind for ease of operation and functional ability and safety. With the sleek design brings the weight forward and more to a center of gravity for better machine balance. Allowing the legs of the tank to wrap around the fenders of the ATV gives the sprayer dual sumps to give maximum drainage and the ability to run on side hills without losing its prime. The pump, strainer, and main shut-off are mounted underneath the tank in a protected cavity, which also serves as a dual slosh baffle. The top of the tank is designed with a fill catch area to prevent chemical from getting on the operator. The EZ is fitted with a 4 gpm Shurflo Pump and a quality Tee-Jet trigger style handgun in the convenient control panel at your side. All brackets and boomless nozzle or boom accessories are attached to the tank for quick and easy mounting. The EZ ATV Sprayer has several different options and accessories to meet your requirements and needs.

C&R Supply, Inc. is a distributor and manufacturer of agricultural and roadside spray equipment located in Sioux Falls, South Dakota. For over 40 years, C&R Supply, Inc. has been a leader in the distribution and servicing of many quality products from Raven Industries, Spraying Systems, Banjo, and more. They also lead the way in designing and manufacturing new and advanced products such as their C&R Foam Marker, Spot Sprayer, and the EZ ATV Sprayer featured in this ad. C&R is a provider for precision ag products such as GPS guidance systems, variable rate controllers, mapping, steering assist systems, and chemical injection units. C&R prides themselves on the knowledge and experience that is required to keep up with today's technology. 🌾



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**FEATURES:**

- Center of gravity low and forward
- 4gpm Shurflo Pump
- Controls at your side for easy and safe operation
- Quality Tee-jet trigger handgun
- Dual sumps and baffle



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# Evergreen Implement Expands its Potato Equipment Services

**E**vergreen Implement has served production agriculture, as a John Deere dealer, in the Columbia Basin (Eastern WA), since 1966. We share our customer's pride in our region's transformation from sagebrush to highly productive farmland with four stores located in Othello, Moses Lake, Coulee City and Ritzville. Additionally we carry the IMANTS spader, a one-pass cultivator, and the Krone BigPak baler, which

produces the heaviest large square bales.

We at Evergreen Implement saw the continued expansion of the potato industry and readied ourselves to become the leading potato equipment dealer in the State of Washington. In the late 1990's we were instrumental in working with Lockwood to develop the Airecup Planter. Since then we have grown our potato business to include Milestone, Harriston/Mayo and Spudnik/Grimme.

We recently moved our Pasco, WA potato equipment warehouse into the former Spudnik facility and expanded our reach to Northeastern Oregon. We have potato equipment specialists in sales, parts and service.

Because we are a John Deere dealership, we can also provide Precision Farming services for the potato equipment including Active Implement Steering, which causes the implement steering mechanism and tractor to operate on the same guidance path in straight, circle and curve track modes. This helps in reducing the bruising of the potatoes during harvest.

Check out our website at [www.eiijd.com](http://www.eiijd.com) or call us at 800-572-0391.

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# Auger Jogger Work Smarter, Not Harder.

The development of the Auger Jogger was out of necessity. In 2008, family farmer Greg

Grengs was going to the chiropractor with increased frequency. Added to that his teenage son suffered from asthma and allergies, and thus the conception of Auger Jogger.



A year of development went into scientifically pitching the wheels in the perfect arc to decrease drag, formulating the motor size and placement to best suite a multitude of augers, and making a product that never requires a farmer to compromise the integrity of the original equipment- yet is simple and quick to put on. After applying the knowledge of all these things, Greg and his family set about development. From there, the Auger Jogger was born.

The Auger Jogger is a remotely controlled auger mover. This mover runs off the 12-volt tractor battery, thus avoiding messy hydraulic systems; however, the tractor does not have to be running to operate this system. It mounts easily with the existing holes on the hopper, so there's never a need to drill into your equipment. Their super lug, scientifically pitched, heavy duty tires follow a precise arc every time, so as you move your auger forward and back you can clearly see if you're lined up.

As farmers, Greg Grengs and his family know how important it is for equipment to be easy to operate and reliable. There are remotes, and they've put switches on the control box for ease of use. Add two worm drive motors (one for each side) and tires that grip even the loosest terrain, and you can see why the Auger Jogger is the number one

[www.farmranchdairy.com](http://www.farmranchdairy.com)

selling mover on the market. For more information call 701-263-

7397 or visit their website at [www.augerjogger.com](http://www.augerjogger.com).

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## Second Case of Vesicular Stomatitis in Texas Detected in Horses in Reeves County

The second case of Vesicular stomatitis (VS) in the State has been confirmed in horses in Reeves County, near Orla, Texas (West Texas). This is the first case of VS in Reeves County this year.

On May 19, 2015, the Texas Animal Health Commission (TAHC) announced the State's first case of VS involving three horses in Pecos County. The newly identified infected premises

is currently under quarantine by the TAHC. Affected horses will be monitored by regulatory personnel until all lesions have healed and a decision is made to release the quarantine (a minimum of 14 days). There is no known exposure to other horses around the state, or at any equine events. It is believed that the virus overwinters in the sand and black fly population in northern Mexico and then moves northward in warmer weather.

Some states and other countries may restrict movement of, or impose additional requirements for susceptible species moving from states with active cases of VS. It is important for shippers or haulers of livestock to contact states of destination well in advance of scheduled movements to determine their entry requirements. For international export information, the USDA Veterinary Services office in Austin, Texas should be contacted. 

## R&R Machine Providing Value to our Animal Feeding Customers

R&R Machine has served the animal feeding industry since 1976. We are the leader in the field of manufacturing of Roller Mills, Steam Chest, High Moisture Grain mills as well as providing complete service for all feed mill needs. For over 38 years we have provided quality service to customers. We have established a reputation for quality in the product we manufacture and the service we provide.

The majority of R&R's customers are in the US and have grown substantially in providing equipment and service to places like, Brazil, Australia, Europe, Poland, Africa, Russia and Mexico.

Known worldwide as a leader in production of Roller Mills, R&R Machine is the most respected name in the industry for its Manufacturing of grain Roller Mills and quality service after the sale.

R&R are Experts in the manufacturing

of Steam Flaking Technologies, Quality Roller and Cracker Mills, Efficient Steam Chest, High Moisture KanRoll Mills, as well as providing superior service to Mill Processing, Mill repair, Roll Changes, Grind and Corrugation. We work with valued Mill Wright groups to provide a quality installation and help provide turn key projects.

Technology is a great way to gain efficiencies and save money. R&R provides multiple alternatives utilizing technology. We are the only ones in the industry that provides a true Automation Control that can control the Roll Gap side to side with a push of a button. The RR1000 controls start/stop rolls, start/stop and variable feeder speed, open/close rolls, steam modulating, and safety auto shut off capabilities. The RR500 is a downsized version that takes care of the most utilized functions. The R&R Steam Loop System can save in energy and help provide a consistent cook of grain in the Steam Chest.

Contact R&R Machine Works for your next Roller Mill, Steam Chest or Cracker Mill.

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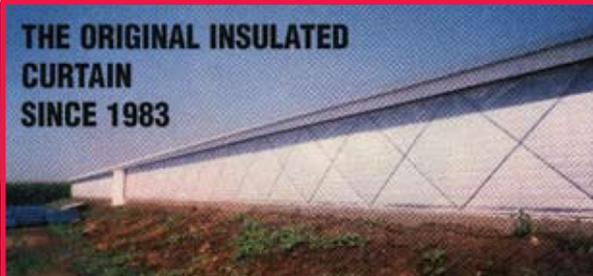
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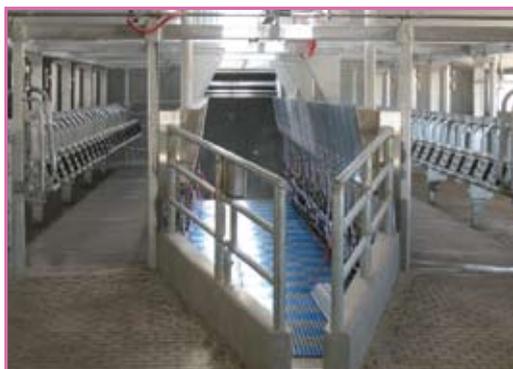
In the early eighties, virtually all of the "Farrow-to-Finish" swine confinements were single story buildings with make-shift ventilation systems constructed as the individual builder saw fit. In the attempt to improve ventilation, standardize construction, and cut costs, an automated insulated curtain system was designed.

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# The Bale Smart System

**W**hat is the Bale Smart System? The Bale Smart System is a series of “steps” using the most efficient methods for one person to handle large round bales from being left behind the baler to being stacked in the hay yard. It is possible for one person to group 100 bales/hour, load 30 bales in 10 minutes, un-load and stack 30 bales in 12 minutes using the Bale Smart System .

**The First Step** of the Bale Smart System is to gather and group the bales in the field. The bales are gathered into groups of 30 and are equally spaced up the center of the field as shown below. The bales are grouped in an L shaped configuration with a Haukaas Bale Cart which sets the bale rows the right distance apart (136”) for a semi trailer to drive between the rows to be loaded. The group of twenty bales are for the bottom rows and the group of ten are for the top row.



**The Second Step** of the Bale Smart System is the loading of the trailer.

The trailer most suited to the Bale Smart System is the 53’ High-Boy which will hold 30 (three bale cart loads) 70” diameter x 60” long round bales “Pipe Style”.

The Haukaas Bale Rack Kit can outfit your trailer with side rails and bulk-heads to contain the bales being hauled.

The Haukaas Double Standard Bale Grapple will allow the operator to pick and set two bales at a time on the trailer. The grapple’s jaw pipes will not damage the net-wrap when gripping the bale.

**The Third Step** of the Bale Smart System is the un-loading of the trailer and the stacking of the bales.

With the Haukaas Double Rotating Bale Grapple two bales at a time can be removed from the trailer and rotated from the horizontal position to the ver-

tical position to form a three row high mushroom stack.

The advantages to the three row high mushroom stack are:

- less room is taken up with the stack
- most of your hay is up off the ground
- 2/3 of the bales will have no ice or snow on them
- the net-wrap will not freeze to the ground
- no wildlife damage

When it is time to feed the bales, two bales from the top are set on the ground. Then with the grapple or bucket placed on top of two stacks, with a little pressure down and by backing up they can be tipped over. In two moves you will have six bales ready for the processor.

For more information on the Bale Smart System see [www.haukaas.com/smartbalesystem](http://www.haukaas.com/smartbalesystem)

**HAUKAAS**  
BALE SMART SYSTEM

**BALE CART**

- Fast and easy gathering
- Built to outlast a new baler 5:1

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## THE GRAPPLES

- 90 degree bale rotation
- Mushroom stack 2 high
- No net wrap damage
- 4 different models available



## LEVELING SHOVELS

- Designed for leveling mounds in hay fields
- Easy installation



## BALE RACKS

- Safe secure bale transport
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- Available in kit form

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# xForce

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### New from Pearson Livestock Equipment!

Our bolt-on xForce squeeze and head control kit gives you all the convenience of hydraulics without electric power. The xForce kit can be added to any Pearson chute (1993 or newer).

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[www.pearsonlivestockeq.com](http://www.pearsonlivestockeq.com)

## Pearson Livestock Equipment Introduces New Products

Pearson Livestock Equipment has a long history of innovation, beginning over 50 years ago with the first self-catch head gate. Pearson's also introduced the first straight-sided chute, both of which are industry standards today. Since that time many new ideas and designs have flowed from the company, all the while keeping our commitment to quality, strength, and simplicity in everything we make. It is these core principles that have led us to introduce the xForce and XL chutes to our line of quality livestock handling equipment.



### xForce

Using the power and convenience of hydraulics, you can multiply your effort with absolutely no electric power. The new xForce line consists of the xForce Squeeze and the xForce Head Control. Both can be added to a new manual chute or any Pearson chute built in 1993 or later.

- **Calm animals** in the chute with a safe but firm squeeze, previously only attainable with a hydraulic chute.
- **Easier to use** than a traditional squeeze by multiplying manual effort with hydraulics.
- Set up anywhere and **operate quietly**, no electricity required.
- Add **effective head control** on a manual chute.
- **Bolt on kit** makes it easy to upgrade a current Pearson chute.
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### XL Chute

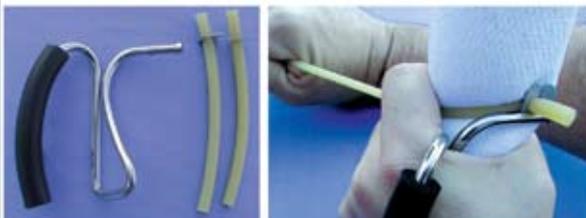
Our new Extra Long Chute combines Pearson's proven design with built in palpation doors, leaving more than 10 feet of working space inside the chute. The palpation section squeezes with the rest of the chute resulting in no place for calves to turn around. The extra length is also convenient for longer animals. The XL chute is available in manual, xForce and hydraulic models.

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# De Dell Seeds

## Family Owned And Operated Since 1999

**D**e Dell Seeds is a Family owned and operated Seed Corn Company that specializes in Non-GMO seed! They have seen tremendous growth since the inception of the business in 1999, and are continuing to pursue new territories. Alternatives and choices are the foundation of the philosophy at De Dell Seeds. They believe that farmers should be able to make decisions that are best for their farm, environment, and most importantly,



their families! That is why De Dell is proud to offer 35 leading edge Non-GMO corn hybrids, including 5 silage specific hybrids and 6 certified organic hybrids. These hybrids are proven in the market place as in the example of DL 1960 which makes up almost one third of De Dell's total sales with its excellent yield potential, strong drought tolerance and great nutritional value. It is an all-around good hybrid that excels at both grain production and silage capabilities. Another choice that De Dell is proud to offer the farmer is which type of seed treatment they would like. While most of the industry adopted the controversial neonicotinoid based insecticide seed treatments, De Dell offers the treatment as a choice to farmers who have insect problems but continued to use a fungicide seed treatment as their standard. They believe that the decision whether or not to use the insecticide should be left up to the individual farmer because they will know which fields have a problem with insects and which ones do not. It's all about choices and alternatives!

## Become A De Dell Dealer

With a growing community of "GMO Free Farming" De Dell Seeds is looking to expand our team of dedicated Sales Representatives.

De Dell Seeds is an independent, family owned and operated seed corn company established in 1999 in London, Ontario.

Becoming a dealer for De Dell will allow you to expand your knowledge of the conventional seed markets, and enable you to network within the agricultural community. With a passion for agriculture and awareness of the seed industry these qualities will enable you to advise customers on making the most profitable and health conscious decisions resulting in better yields, cash crop premiums and sustainable farming.

### De Dell Seeds, Inc.

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## PRO SERIES Model 375

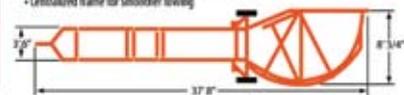


For-Most is now offering a fully portable all-in-one Pro Series Tub/Talley/Chute combination with the popular 375 model squeeze chute. This model offers all necessary features of a top-of-the-line squeeze chute along with state of art design to allow for the unit to stand up to everyday cattle handling and loading. The PRO SERIES MODEL 375 allows for the convenience of you to bring equipment to the animals, which promotes low stress cattle handling.



### Features:

- Powder coated • 10' adjustable alley • 8" radius tub
- 375 Squeeze chute with floor/pulp cage/headgate
- Easy to use access gate and cut-gate
- Double pivot swing gate
- Tub can be setup to work from either right or left side
- Centralized frame for smoother towing



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SELLING ANGUS AND RED ANGUS  
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SELLING SHOW HEIFERS, BRED HEIFERS,  
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# Silveira Bros.

Silveira Bros. is a seedstock operation located in the central valley of California operated by Darrell Silveira, Rick and Allison Blanchard and their son Garrett.

They strive to produce cattle that are multi-trait performance seedstock for that work for the commercial producer. We strive to produce Angus bulls that are low enough birth to use on heifers, but still excel in efficiency and growth to use on mature cows as well. Carcass value is extremely important as well in the genetic selection and strive to produce bulls that will help our customers achieve CAB status with the cattle they in-turn produce. We emphasize balanced-trait cattle that are in the top 25% of better for every measurable EPD and \$ Value index. We sell approximately 120 bulls through our "Partners for Performance" Bull Sale the first Wednesday in September every year.



We utilize a very intense embryo transfer and A.I. program to speed up our genetic turnover, using proven sires and donor dams that have built up proven genetics and production. Along with the collection of performance and ultrasound data, we are one of the first programs on the West Coast that incorporated Zoetis HD50K DNA testing for every heifer or bull we produce, increasing the reliability and accuracy of the EPDs of every animal with a Silveiras prefix.

Although we put major emphasis on genetic predictors, we also select heavily on phenotype. Attractive, sound-moving, stout-made cattle with volume, capacity, muscle shape and expression are what we strive to produce when doing visual evaluations. This emphasis has helped achieve national success in the showing across the United States. Our cattle have won some of the most competitive shows in the country including the National Junior Angus Show, the National Western Stock Show, The American Royal Stock Show, as well as R.O.V. Angus shows and some most prominent junior shows throughout the U.S. Our females are marketed in our "Partners for Performance" Female Sale the second Saturday in October every year and our Online Fall Show Heifer Sale, the first Saturday in April every year. For more information go to [www.silveirabros.com](http://www.silveirabros.com) or call Rick Blanchard at 559-217-1502.



# PBI Parlor Systems Leading the Way in the Dairy Industry

Operating from their office in Portales, New Mexico, PBI Parlor Systems is a leading manufacturer of milking stalls and equipment for dairies around the world. The owner, Steve Peacock, has a strong dairy business background, and an even stronger pride in his company's products. His commitment to improving dairy profits and delivering excellent customer service is unmistakable. And each of the company's employees shares his dedication.

Of course it all starts with an efficient stall design - their stalls are engineered to be the best solution for maintaining cow safety and dairy efficiency. In fact the company came into existence in the late 80's after designing a parallel stall at the request of a local dairyman.

His stall design was a winner! Good news travels fast, and word of this design spread quickly from person to person, which led to more parlor business.

Building on his design and engineering experience, the entire PBI crew continues to produce and install innovative parlor stalls all over the world. To ensure the quality of the final product, they control every stage of production. Dairies of all sizes, from small family-dairies to large mega-dairies have been fitted with PBI stalls.

Because PBI designs and builds the stalls, they are custom fitted to your unique requirements. They use heavy duty galvanized and stainless steels to provide a durable yet sleek stall with no rough edges to hurt cows and profits. Performance excellence is ensured

by their expert project installer and crew, which they make available for every installation. You will assuredly receive a quality, hassle-free installation, and on-going support.

Value is built into every PBI stall design. Low installation and maintenance costs make PBI stalls a valuable investment for dairies of all sizes. Plus their durable construction, smooth operation and labor saving design provide ongoing increased profits.

Innovation is what started PBI. Their stall designs are adaptable to suit the needs of dairies of all sizes, no matter the environment. They are compatible with all brands of milking equipment. And though innovation started PBI, service is what maintains and grows the company. PBI Parlor Systems takes pride in its continued commitment to meet and exceed their customers' needs. From the free quote they give you, through the completed installation, they maintain a hands-on approach that delivers unrivaled customer service.

But their customer support doesn't end with the sale. PBI's on-going personal contact with their clients and easy accessibility cater to meeting your needs now and later. They choose to maintain close relationships with their clients. Client feedback about stall performance is essential to PBI's commitment to developing and refining products that satisfy the needs of dairy farmers all over the globe.

For more information, call PBI Parlor Systems at 800-295-5677 or visit [www.PBIParlorSystems.com](http://www.PBIParlorSystems.com)



## PBI PARLOR SYSTEMS Elite Stalls

The Elite Parallel Stall is our signature stall

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- Lowering of headstalls can be adjusted to your specifications.
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- This stall is offered on 26" centers for jersey cows only, 27" centers for mixed herds or holsteins, or 28" centers for holsteins.

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Phone: 1-800-295-5677 • Fax: 1-575-359-6810 • Email: [pbiparlor@yucca.net](mailto:pbiparlor@yucca.net)

# Rawhide Portable Corral's NEW PROCESSOR

**R**awhide Portable Corral, Inc of Abilene, KS has been in business for the last twelve years and we are proud of our premiere portable livestock corrals. We are extremely excited about our latest model: The Rawhide Processor by John McDonald.



We offer 3 sizes ranging from the **Standard:** 40-50 cow/calf capacity, **Large:** 80-100 cow/calf capacity, and our **Super Large:** 140 cow/calf capacity. Our corrals offer the most versatility in pen size and configuration. John McDonald is the original designer of the Rawhide Portable Corrals and has really outdone himself with this new design.

The Processor has a permanent sheeted adjustable alley to aid with working your livestock on site and in the field. The adjustable alley can be sized from 30" down to 16" either manually or hydraulically. We offer the option of mounting a head gate to the end of the alley for easy, on site cattle processing. You can even add a self contained loading chute to the system.

If you like to lure your cattle with feed, a pickup can be driven completely through and out the opposite end of the Rawhide Processor. Each panel section has its own solid rubber wheel, resulting in no flats. Our corral has several man/pass gates to aid in human movement about the system. The Rawhide can form 2, 3 and even 4 pens to aid with sorting your livestock.

The Rawhide Processor is easy to set up, utilizing electric over hydraulic cylinders on the back end and the front of the unit: The 16" transport wheels are permanent, retracting up and down with the flip of a switch. No more unpinning the wheels and sliding them off the axels and rolling out of the way. This model comes as a gooseneck only and there is a self contained power unit with long life marine battery and a solar panel mounted atop.

Please check out our website for more information and to view our video: [www.rawhideportablecorral.com](http://www.rawhideportablecorral.com) or call 785-263-3436.

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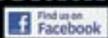
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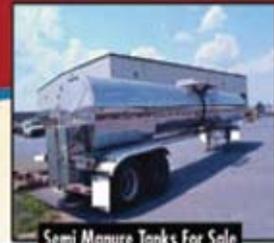
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