



# Seeds & Yields

*Innovation In Seed Germination ...*

## ***Invigorating Seeds And Crops Via New Technology***

As seasoned farmers will tell you, seed germination can be a tricky business. Even best practices and use of state-of-the-art equipment can't guarantee that seeds that will germinate successfully and productively. Seeds are living organisms and although they are inert before germination, non-germinated seeds are in a state of "quiescence." Quiescence means that the seeds are at rest until desirable conditions trigger germination, but they are alive and respiring at a low metabolic rate.

What does it take to properly "wake" the seeds so they can flourish? Factors such as soil temperature, soil moisture, storage temperature, management of plant residue, and weather conditions, all have an impact on whether or not a seed will successfully germinate. Ultimately, germination is triggered by absorption of water through the seed coat. Corn kernels must absorb (imbibe) about 30 % of their weight in water before germination begins. Less than optimum absorption of water may slow or stop germination. Repeated wetting and drying cycles can decrease seed viability.



*Magnation's Seed Maximizer<sup>TM</sup> boosts seed concentration, accelerates germination rates, improves root structure, promotes crop uniformity and increases yields.*

Since fast and complete seed germination is an important part of producing healthy crops, growers are always looking for ways to improve this process. Recently, farmers have been experimenting with an innovative method that is proving to be extremely successful. By running seeds through a custom-engineered cylinder that produces a specifically designed magnetic field inside its tube, the dormant seeds awaken, and the resulting growth and health of the crops are measurably improved. The seeds become energized in the process, not only accelerating germination rates, but producing other benefits such as improved crop root structure, disease resistance and increased crop yield have also been demonstrated.



An Oakland, California-based company called Magnation is responsible for the product, designed and manufactured in the U.S. The system is called the Magnation Seed Maximizer™. Among others who are currently discovering great success with the treatment, one Nebraska farmer, Scott Borman, has seen amazing results from using Magnation.

After getting many benefits from using a water irrigation treatment product from Magnation, Borman decided to test out the Magnation method for seed germination. “Last year we split our planter in half and we used Magnation treated corn seeds on one side and non-treated seeds on the other side,” said Borman. “On the Magnation side we saw about a bushel increase per acre. In addition, my neighbor, who has the farm next to ours, tested the Magnation for his soybean seed germination, and we saw an increase of 6.5 bushels per acre on his crops. Right now, the price of beans are about \$9.00 per bushel; that means you’re getting \$58 per acre more by treating the seeds with Magnation. So for 650 acres of soybean, he’s getting over \$38,000 more per growing season by running the seeds through the Magnation system.”

Corn and soybean aren’t the only crops that have been thriving because of the treatment. Gary Dickey, a farmer from Del Norte, Colorado, has been using Magnation on his barley and hay seeds. “By using Magnation, germination is good and quick, with better water penetration and moisture retention. The quality and quantity of our sedan barley was much better at 53 pounds per bushel. We didn’t have to spray for insects which saved us \$3 to \$4 per acre, when you consider time, material and equipment. We also had a .4 to .5 ton per acre increase of our hay in the first cutting, using the Magnation system vs. control crops.

Then there’s Gerry Konen, a farmer from Juniata, Nebraska. Three years ago Konen decided to test a 4 inch Magnation unit by connecting it to his seed tender. The seeds were poured from corn seed bags through the Magnation unit into the planter box. Once in the planter box, each seed is planted individually as the tractor goes through the fields, so the seeds are spaced properly. “I’m really excited about these Magnation products,” said Konen. “Magnation has helped us with both seed germination and our irrigation. I can see night and day difference. The soil stays really moist even through extreme heat conditions. We’ve really had a dry, hot August, so I am especially impressed. Yesterday we did the counts and checked the weights (see photo below). I can say that we are getting a real benefit out of using the Magnation units. It’s the combination of treating the seeds and treating the water.”



On the Magnation Treated we counted **29500** ear count and the recorded weight of **3.865 pounds** for 6 ears above.



On the Untreated we counted a **29000** population ear count with the weight of **3.685 pounds** for 6 ears above.

Farmer Gerry Konen, Juniata, Nebraska  
Corn Comparison, Summer Harvest 2015

When asked if he was surprised at the results shown by Konen's photos, Scott Borman said the following: "I did some computations based on the results that Gerry Konen's photos show. On his non-treated corn, he had 29,000 plants ... but with Magnation he harvested 29,500 plants. That's 500 more harvested ears of corn per acre. All you have to do is some simple math. I have 720 acres.  $500 \times 720 = 360,000$  plants MORE if you use Magnation for seed germination. THAT'S LIKE HAVING ANOTHER 12 AND A HALF ACRES OF LAND! That's because of the extra seeds that were germinated. If that doesn't convince someone to try Magnation, I don't know what will!"



*"Germination is good and quick, with better water penetration and moisture retention. The quality of our sedan barley was much better at 53 pounds per bushel. Didn't have to spray for insects which saved us \$3 to \$4 per acre including time, material and equipment. We also had a .4 to 1/2 ton per acre in increase of our hay in the first cutting using the Magnation system vs. control."*

*~ Gary Dickey, Del Norte, CO*

*"Our results have been remarkable. Where we installed the Magnation unit, the corn out-yielded our other irrigated corn but used 30% less irrigation water. The corn was 11% better than that fields previous best yield, there was noticeably better uniformity across the sprinklers on the pivot, and our pumping costs were lower."*

*~ Lee Fintel, Superior, NE*



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For up-to-date information, connect with us!

