



CORN

PRODUCT PORTFOLIO

biottrinsic[™]
by indigo

 **SATISFACTION
GUARANTEE**
100% with replant policy.

INDIGO'S BIOLOGICAL SEED TREATMENT

Plant for Performance and Grow with Confidence

biotrinsic™ W12

biotrinsic™ W12 is a powerful combination of two live microbes that enhance drought protection during the critical flowering and grain fill stages. These microbes work with the corn plant to optimize root growth and help improve the amount of water the plant can take in and use.

HOW OFTEN DO YOU EXPERIENCE LEAF ROLLING AND TIP BACK IN YOUR CORN DUE TO DROUGHT STRESS?



Effects of drought on leaf and ear development

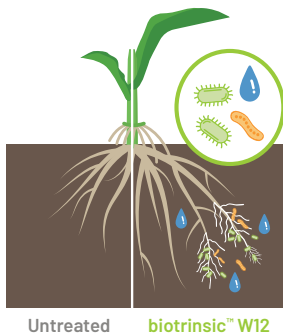
Drought stress during these critical stages is becoming more common leading to decreased yields. What if there was a product that could help your corn plant withstand drought stress during the critical flowering and reproductive stages?

- W12 STARTS WORKING FROM THE MOMENT YOU PLANT THE SEED AND WORKS FROM THE ROOTS TO THE SHOOTS ALL SEASON LONG TO PREPARE THE PLANT TO BETTER WITHSTAND THE STRESS OF LEAF ROLLING, TIP BACK, AND YIELD LOSS.
- WHEN DROUGHT HITS AT THE WORST TIME POSSIBLE, MAKE SURE YOUR CORN IS PROTECTED WITH W12.



By the time leaf rolling is visible, the plant has already reduced its photosynthesis and you've lost a day of yield.

- W12 IS COMPRISED OF TWO LIVE MICROBES THAT FORM A SYMBIOTIC RELATIONSHIP WITH THE PLANT TO PROVIDE DROUGHT PROTECTION THROUGH FLOWERING AND GRAIN FILL MAXIMIZING THE POTENTIAL OF A GREATER RETURN ON YOUR INVESTMENT
- IMPROVED DROUGHT TOLERANCE THAT LEADS TO INCREASED YIELDS
 - Flowering and grain fill are two critical growth stages when more than 1/3 of the corn plant's water use occurs
 - Research spanning 3 years showed an increase in tolerance to drought stress during grain fill and 2 years it showed during flowering
- EASY TO USE FLOWABLE FORMULATION WHICH ALSO IMPROVES SEED FLOWABILITY AND CAN BE APPLIED DIRECTLY IN THE PLANTER BOX, PRO BOX, MINI BULK, OR SEED TENDER



+4.5
Avg bu/a

Drought stress during
flowering and grain fill

5
years

Average combined data

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IMPROVED DROUGHT PROTECTION

Farmers are no strangers to drought. But the past few years have seen extreme lulls in rain at the growing season's critical moments. Every year across the corn belt fields are impacted by drought and heat stress.

What if there was a product that could help your corn weather the weather in seasons like this?

CORN is not a compensatory crop like soybeans. Having one bad day in a water limited situation can impact yield and that moisture or yield cannot be made up the following days.



EAR AND KERNEL DEVELOPMENT

Incomplete ear fill problems resulting from drought stress may also be related to kernel abortion. If plant nutrients are limited during the early stages of kernel development, then kernels at the tip of the ear may abort. Kernels at the tip of the ear are the last to be pollinated and cannot compete as effectively for nutrients as kernels formed earlier. biotrinsic™ W12 works during the flowering and reproductive stages to help shield the plant from drought stress.

<https://agcrops.osu.edu/newsletter/corn-newsletter/ear-development-impacted-drought-conditions>

INCREASED SHOOT VOLUME UNDER DROUGHT STRESS

Making the most of every day from the time you plant the seed is important to maximizing your yield. biotrinsic™ W12 starts working from the moment that seed is planted and on average we see a 12% increase under drought stress in shoot volume after emergence. That means it is improving the plant's ability to optimize yield throughout the rest of the season.

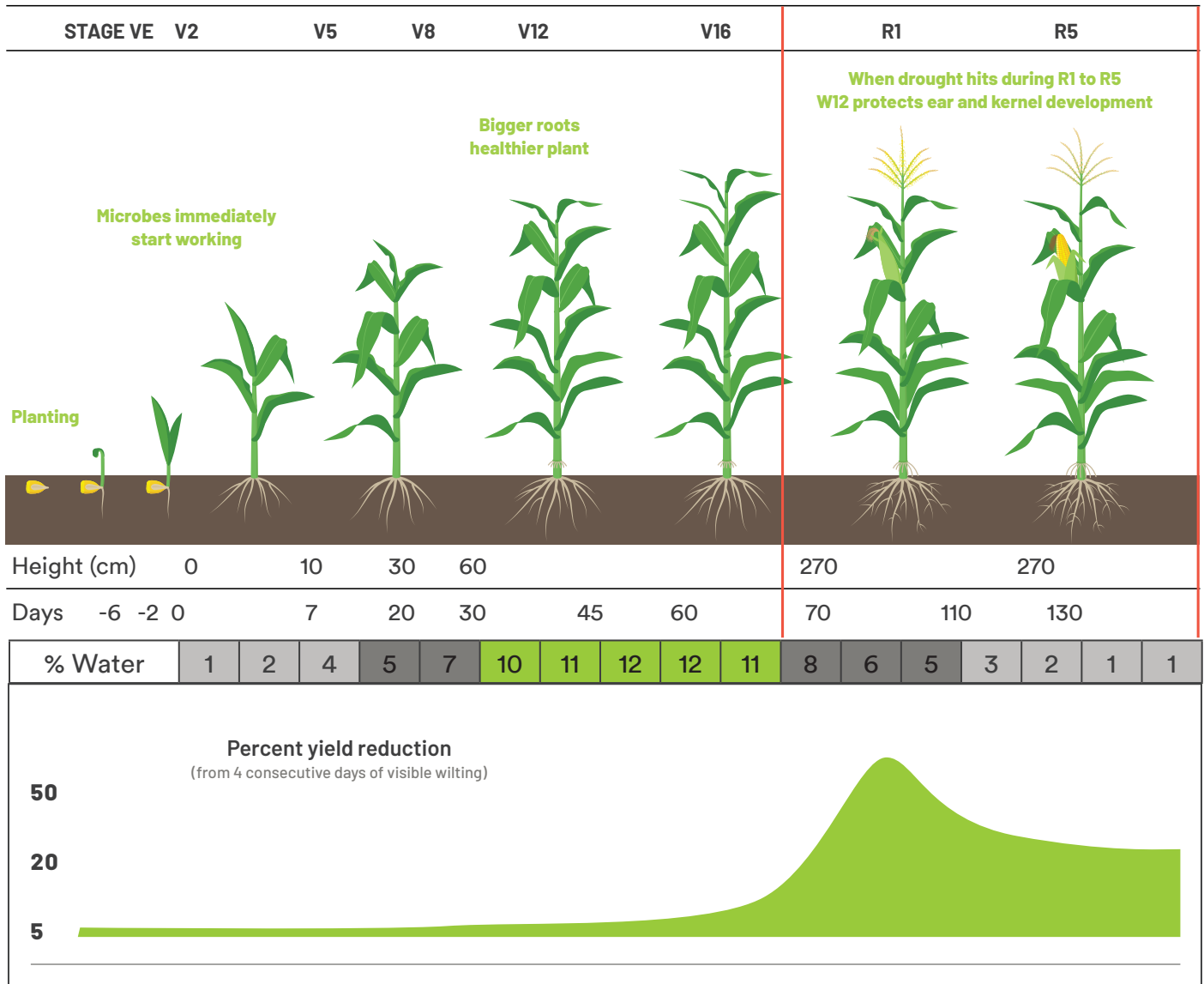
+12%

Shoot volume
under drought

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DROUGHT TOLERANCE DURING CRITICAL FLOWERING AND GRAIN FILL STAGES PROTECTS YIELD POTENTIAL

A farmer's greatest vulnerability to drought stress occurs during the flowering and grain fill stages. Your yield potential during these critical growth stages can be compromised as much as 10–40% during flowering and 20–30% during grain fill. biotrinsic™ W12 is helping to provide drought protection during these stages.



Classen, M.M., and R.H. Shaw. 1970. Water deficit effects on corn. II. Grain components. Agron. J. 62:652

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CONSISTENT YIELD ADVANTAGES

biotrinsic™ W12 has proven to consistently generate an improved yield response. In trials spanning **3 years**, delivering an increase of as much as **6.3 bushels** per acre, showing the best performance in low yielding environments with drought stress. We have studied the two active ingredients over the past 3 years and have combined them to improve drought tolerance. When you experience drought during flowering and grain fill W12 helps protect your yield, but if you don't experience it your crop can still see a potential yield uplift.

	No Stress	Drought Stress
biotrinsic™ W12 <i>Coniochaeta nivea</i> + <i>Bacillus simplex</i>	0.91 bu/a	4.5 bu/a flowering and grain fill
	1 year average	
<i>Coniochaeta nivea</i>	1.01 bu/a	4.8 bu/a flowering
	2 year average	
<i>Bacillus simplex</i>	0.95 bu/a	2.9 bu/a grain fill
	3 year average	



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PRODUCT DETAILS

CAN BE USED ON

- › Dryland fields where rain fed crops are limited by moisture
- › Irrigated fields where irrigation is limited in amount of water that can be applied or efficiency of applied water
- › Fields where elevation changes make water infiltration into the soil profile difficult
- › Fields where soil texture is limiting water holding capacity
- › Crops that are planted in an ideal or late planting window
- › All corn hybrids and traits. Even hybrids with drought technology

HOW TO USE IT

- › Can be applied to corn seed at any time in the pro box, mini bulk bag, seed tender, or planter hopper (always follow recommended on seed stability guidelines).
- › The low use rate allows additional room on the seed so it can be applied with other products like talc and graphite due to its low use rate.
- › The low dust formulation allows it to be used with equipment and operators where dust off is a problem.
- › No expensive additional equipment is needed to apply and it can be used with any planter.
- › Application to the seed create an immediate team between microbes and plants positively improving plant and root growth with no wasted time. Our seed treatment starts working the moment you plant because it's on the corn seed. With in-furrow treatment the roots must grow to the treatment which could take many days.
- › 90 days on-seed stability provides the flexibility you need during the planting season.
- › Broad chemical compatibility so it can be used with your existing treatments. Always reference Indigo's compatibility guide.
- › By applying it directly to the seed the microbes are adhered to the roots where it starts working immediately supporting plant health and nutrition. You don't have to worry about weather events stripping away your investment.



Pkg Treats	Pkgs/ Case	Case	Case Treats	Unit Measures
20 units	5	5x1x20	100 units	50 lbs
50 units	5	5x1x50	250 units	50 lbs

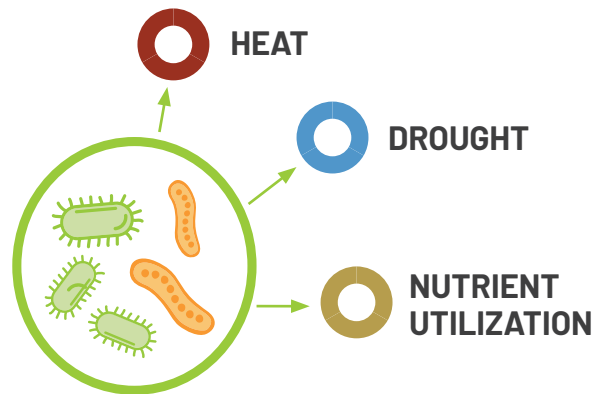


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THE SCIENCE BEHIND THE DIFFERENCE

Microbiomes, or communities of microbes, help maintain internal processes for all living things – Indigo focuses on identifying microbes that have evolved in conjunction with plants over time to optimize their health and maximize their productivity.

At Indigo, we identify which of these microbes are most beneficial to a plant's health through the application of algorithms and machine learning. We further prove their performance at our research laboratories and greenhouses in Boston, Massachusetts, and Research Triangle Park, North Carolina along with extensive field trials throughout the United States. Our resulting seed treatment products complement a plant's natural process to improve health and development across each phase of life, while boosting crop yields.



WHAT MAKES BIOTRINSIC™ DIFFERENT

More Beneficial for Your Crop

Microbes are selected to address the key stresses that limit crop yield potential. This allows you to select the right biotrinsic™ products based on the stresses that have the greatest impact on your farm.

From Plants for Plants

biotrinsic™ is a collection of over 30,000 all naturally occurring microbes that have been extracted from plants thriving in stressful conditions. We isolate microbes that are abundant in plants that are thriving under stress while other plants around them are not. This allows us to tailor our products to a specific crop and set of stresses.

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