

## COTTON PRODUCT PORTFOLIO





biotrinsic° WT29

## INDIGO'S BIOLOGICAL SEED TREATMENT Plant for Performance and Grow with Confidence

biotrinsic<sup>®</sup> WT29 improves drought and heat protection during critical stages including squaring and boll development. It works symbiotically with the cotton plant to optimize root growth and help improve the amount of water the plant can take in and use for evaporative cooling and growth.

WT29 STARTS WORKING WITH YOUR COTTON AS SOON AS GERMINATION TO OPTIMIZE ROOT GROWTH THROUGHOUT THE SEASON TO HELP YOUR COTTON WITHSTAND THE HIGH TEMPERATURE AND DROUGHT STRESSES THAT COME EVERY YEAR IN COTTON PRODUCTION.



- WT29 WORKS BY ENHANCING ROOT GROWTH, IMPROVING WATER UPTAKE, AND INCREASING PLANT GROWTH THAT LEADS TO INCREASED YIELD
- IMPROVED RETENTION OF 1ST POSITION BOLLS UNDER DROUGHT STRESS
  - > 1st position bolls account for 66-75% of lint yield while 2nd and 3rd position bolls account for 18-20% of lint yield
  - > 1st position boll retention is critical because it helps reduce the plant's dependency on second and third position bolls
  - > When drought stress occurs, be proactive in protecting your crop and make sure it's ready if drought hits.
- IMPROVED DROUGHT TOLERANCE THAT LEADS TO INCREASED YIELD
  - By the time drought occurs you've already lost yield and bolls are on the ground
- IMPROVES SEED NUTRIENT CONDITIONS FOR ROOT AND PLANT GROWTH AND SEED GERMINATION WHICH INCREASES STAND ESTABLISHMENT AND MID-SEASON DEVELOPMENT
- 5 YEARS OF PRODUCT TESTING AND FIELD DATA

<sup>\*</sup>Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or quarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



biotrinsic° WT29

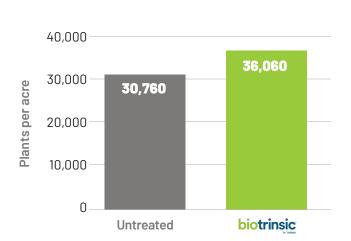
### BIOTINSIC® WT29 CAN HELP IN AREAS WHERE HEAT HAS THE POTENTIAL TO REDUCE COTTON STANDS

WT29 helps by increasing the total yield producing plants per acre. On average, we see an additional 5300 plants per acre (36,060-30,760 = 5300). Resulting in a difference of \$13.25 in additional savings (\$600 per bag / 240,000 sds/bag) x 5300 seeds = \$13.25).

Seeds = amount of plants that germinated under the conditions in the study.

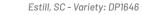
### Early and mid-season establishment supports increased end of season performance

### **POPULATION AFTER EXTREME HEAT - JUNE 2019**



Plants per acre are the number of plants estimated to have emerged using a 1/1000th plant counting scale







<sup>\*</sup>Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or guarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



biotrinsic° WT29

### ARE YOU TIRED OF SEEING YOUR COTTON YIELD LAYING ON THE GROUND AFTER A HOT, DROUGHTY PERIOD?



THEY ARE HEAVIER AND PRODUCED IN HIGHER QUANTITIES THAN BOLLS AT ANY OTHER POSITION. IN COTTON POPULATIONS OF THREE PLANTS PER FOOT OF ROW, FIRST POSITION BOLLS CONTRIBUTE FROM 66 TO 75 PERCENT OF THE TOTAL YIELD OF THE PLANT, AND SECOND POSITION BOLLS CONTRIBUTE 18 TO 21 PERCENT.



### **IMPROVED RETENTION OF 1ST POSITION BOLLS UNDER DROUGHT STRESS**

- IST POSITION BOLL RETENTION IS CRITICAL BECAUSE IT HELPS REDUCE THE PLANT'S DEPENDENCY ON SECOND AND THIRD POSITION BOLLS
- WHEN DROUGHT STRESS OCCURS, BE PROACTIVE IN PROTECTING YOUR CROP AND MAKE SURE IT'S READY IF DROUGHT HITS.





**Untreated** 

**biotrinsic** 

Plants treated with biotrinsic® WT29 show more bolls and more first position bolls than untreated plants - especially under moisture-stress



**Untreated** 



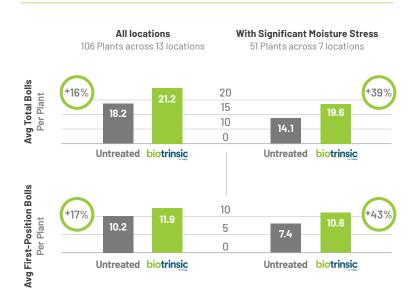
 $1\ http://cotton.tamu.edu/General\%20 Production/Georgia\%20 Cotton\%20 Growth\%20 and\%20 Development\%20 B1252-1.pdf$ 

<sup>\*</sup>Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or guarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



### biotrinsic° WT29

### PERCENT OF ADDITIONAL BOLLS





Untreated

biotrinsic

LOWAKE, TX - YEAR: 2019

Size: 50 acres (25 treated & 25 untreated)
Totals: Indigo – 6,280 lbs. / Non-Indigo – 5,255 lbs.
Lbs./ac: Indigo – 251.2 / Non-Indigo – 210.2
Difference: 41 lbs or 19.5% yield uplift

### **UNTREATED**

Average 6 bolls/plant







### biotrinsic

Average 21 bolls/plant







<sup>\*</sup>Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or guarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



### biotrinsic° WT29

## **DROUGHT**DURING

pre-bloom +
reproductive growth

+34

lb lint/ac

+4.0%

uplift

88%

win-rate

Avg. of 121 data points across 3 years of trialing (2016, 2017, 2020)

# **DROUGHT** DURING

reproductive growth

+26

Ib lint/ac

+3.4%

uplift

100%

win-rate

Avg. of 43 data points across 3 years of trialing (2016, 2017, 2020)

### HEAT STRESS

+26

lb lint/ac

+2.4%

uplift

86%

win-rate

Avg. of 129 data points across 3 years of trialing (2016, 2017, 2020)

## WT29 enhances

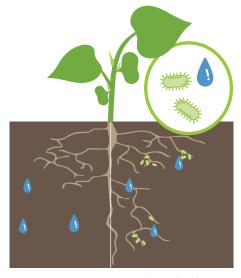
drought protection by improving root volume and surface area which allows the plant to intercept more water in the soil profile by giving the plant more opportunity for the roots to encounter water.



Untreated biotrinsic

+18%

GREATER
ROOT BIOMASS



Untreated

biotrinsic

<sup>\*</sup>Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or quarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



### biotrinsic° WT29

### **GROWTH STAGES**

biotrinsic° WT29 has been shown to improve root growth and retain more first position bolls which results in greater lint yield

REPRODUCTIVE GROWTH -**AVERAGE OF 43% MORE**  VEGETATIVE GROWTH -**GERMINATION Enhanced Drought and Heat Protection & EMERGENCE IMPROVES VEGETATIVE** SOUARING **BLOOM BOLL DEFOLIATION** ROOT BRANCH **DEVELOPMENT DEVELOPMENT DEVELOPMENT DEVELOPMENT** 





<sup>\*</sup>Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or guarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



### biotrinsic° WT29

### **PRODUCT DETAILS**

#### CAN BE USED ON

- > Areas with heat and drought risk
- > Fields where stand establishment is an issue
- Areas where irrigation or rainfall is limited
- Areas where high temperatures between flowering and boll set hinder cotton growth and development
- Dryland fields where rain fed crops are limited by moisture
- > All cotton varieties and traits

### HOW TO USE IT

- Can be applied to cotton seed in the pro box, mini bulk, 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.
- 75 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 to work immediately supporting plant health and nutrition. You don't have to worry about weather events stripping away your investment



Pkg	Pkgs/	Case	Case	Unit
Treats	Case		Treats	Measures
20 units	5	5x1x20	100 units	50 lbs or 240,000 seeds

FP Application Rate: 1 vol oz/CWT



biotrinsic		
WT29	biotrinsic	WT29
	COTTON	BROUGHT I MEAT
W W	NO CHRISTO S E SE COME SON AMERICAN SECULIA.  COM PROPRIO SECULIA SECU	BENEFICIAL MICRORES PROVEN TO INCRE. PRIMATES A ROCINER AND THESE A ROLL FOR THE SECOND AND THE SECOND ASSETS AS A SECOND AS A SECOND ASSETS AS A SECOND

MICROBIAL SPECIES	ISOLATED FROM	ISOLATION LOCATION
Fungus: Cladosporium tenuissimum	Drought-stressed cotton	Texas

\*Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or quarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



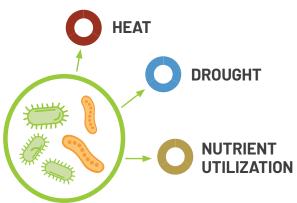
### biotrinsic° WT29

### 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 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.

<sup>\*</sup>Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or quarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.



