



Phenotype Screening

C O R P O R A T I O N

enabling discovery

Service Description

2018 Discovery Laboratory Calendar

Phenotype Screening Corporation offers detailed plant characterization services for the comparative evaluation of the impact of chemical and biological formulations (seed treatments, foliar sprays, fertigation agents, and other production and protection products) on whole-plant (roots and shoots) growth and development.

We conduct seven comparative evaluation trials throughout the year in each of our two Discovery Laboratories. Each Laboratory accommodates up to one hundred and sixty-eight (168) plants per trial. Each trial lasts for six to eight weeks.

2018 Discovery Lab Experiment Calendar

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|---|-----|--|--------------------------------|-----|-----|---------------------------------|----------------------------------|------|---|-----|---|
| Field Trial Candidates Trial (Foliar Spray Formulations) 2/5 – 3/14 | | | | | | | | | | | |
| | | Cold Germination and Emergence Trial 3/26 – 5/9 | | | | | | | | | |
| | | | Comparison Trial 5/21 – 7/5 | | | | | | | | |
| | | | | | | Comparison Trial 7/16 – 8/29 | | | | | |
| | | | | | | | Comparison Trial 9/10 – 10/24 | | | | |
| | | | | | | | | | Field Trial Candidates Trial (Seed Treatment Formulations) 11/5 – 12/19 | | |
| | | | | | | | | | | | Field Trial Candidates Trial (Foliar Spray Formulations) 12/31 – 2/13 |

During the late fall and winter months we reserve two trials to assist our customers with the selection of product combinations, formulations, dose rates, application timing, etc. for the upcoming season's field trial candidates.

Once a year we conduct special cold temperature trials to better evaluate products formulated for early planting conditions. These trials are used to evaluate cold germination and emergence performance. The Discovery Laboratory has the capability to maintain root zone temperatures separate from air temperature.

Service Description

2018 Discovery Laboratory Calendar

(continued)

During the summer months we reserve three trials for custom experiments. Germination and growth conditions are typically optimal and these experiments are used to ferret out specific effects of test formulations.

Detailed Information from Precisely Controlled Experiments

Our trials are used to investigate plant health and vegetative development impacts, the so-called “boost” and “drag” effects of treatments. We offer detailed and comprehensive data on these effects to both below ground and above ground structures.

- ✓ Plant Development Rate
- ✓ Plant Height
- ✓ Stalk Diameter
- ✓ Leaf Area
- ✓ Chlorophyll Content Index
- ✓ Plant Tissue Analysis

Shoot Maturation and Stature

- ✓ Projected Root Area
- ✓ Total Root Length
- ✓ Total Root - Transect Crossings
- ✓ Root Distribution by Depth

Root Maturation and Stature



- ✓ Total Fresh/Dry Weight Biomass
- ✓ Shoot Fresh/Dry Weight Biomass
- ✓ Root Fresh/Dry Weight Biomass
- ✓ Root/Shoot Fresh/Dry Weight Biomass Ratio

Overall Plant Stature and Mass Distribution

- ✓ Early Seedling Vigor
- ✓ Root Exudate Analysis

Custom Measurements & Analysis

The Power of the Whole Picture

We provide the power of the whole picture. Our data provides valuable insights for product registration, gives a more impactful story than just yield benefits and clarifies your product's total value proposition in the marketplace.