

Summer Newsletter 2016

About Us

Since 2004 Phenotype Screening Corporation has been offering plant root system evaluation services to our customers.

In 2012 we expanded our services to evaluate and compare the effects of synthetic and biological active ingredients on whole plant development for seed treatment, foliar spray and soil drench applications.

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*Tasseling rains right on time,
La Niña seems to stall,
Still hot and dry rules the
west,
Will yields withstand or fall?*



Summer Poem
dwm 2016

PSC to Host Small-Sample-Size Statistics in Decision Making Workshop in November

We will host a workshop on small sample size statistics in decision making at our facility in Knoxville, TN, on November 3rd.

Confirmed speakers include: Ronald Wasserstein, Executive Director, American Statistical Association, who will address the motivation and reaction to the recent ASA warning on the misuse of the “p-value” in scientific and business decision making. Stephan Conrady, Managing Partner, BayesiaLab USA on transitioning from statistical inference to probabilistic reasoning. Kater Hake, Vice president Agriculture & Environmental Research, Cotton Inc. on the perspective of commodity growers on research quality and new product acceptance.

This workshop will be of practical value to our existing and future clients. Call us (865) 694-9459 to reserve a seat or express an interest in the workshop.

PSC Offers Droplet Characterization Service for Foliar Spray Studies

One of the important characteristics of a foliar spray treatment is the way that the spray droplets interact with the surface of the leaf. Some formulations bead up and do not wet the leaf well while others spread out quickly but evaporate before adequate absorption into leaf tissue. In each case, expected active ingredient dose is compromised.

Poor wetting is usually dealt with by use of a surfactant or other adjuvant that reduces the surface tension of the formulation.

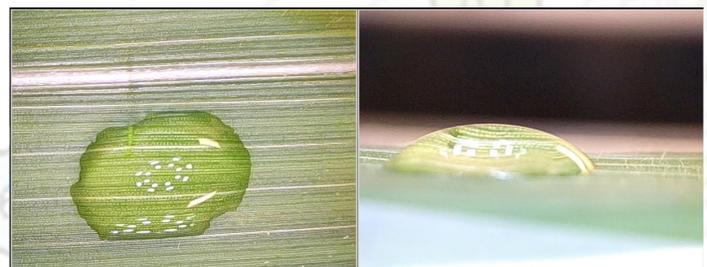


Figure 1. Water droplet on maize leaf as viewed simultaneously from above (left) and from the side (right)

To help our clients better understand the physical properties of their formulations we have devel-

(continued)

oped a droplet characterization system. Two perpendicular video cameras capture the dynamics of droplet spread on leaf surfaces.

One view captures changes in the contact area of the droplet on the leaf tissue surface while the other captures the changes in the droplet height and droplet contact angle.

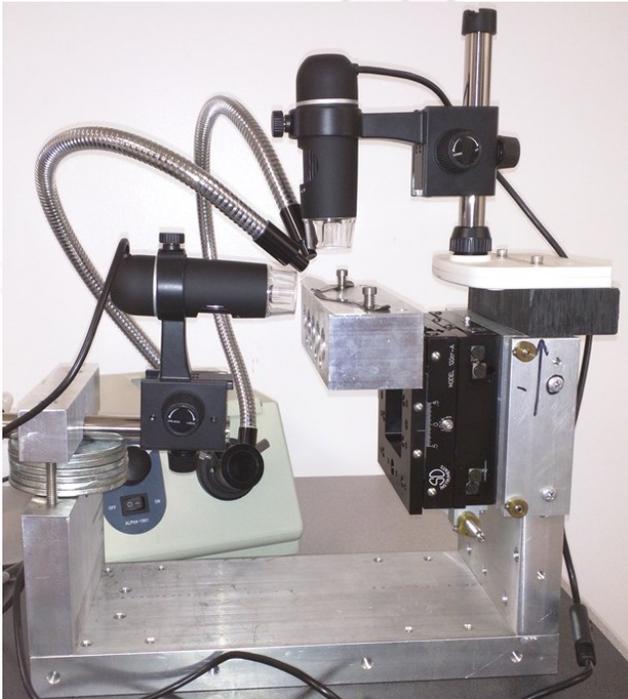


Figure 2. Droplet Characterization systems consists of two perpendicular video cameras which capture droplet spread over leaf surface.

The contact area of the droplet is one of the important determinants, along with dilution and spray rate, of how much active ingredient is actually absorbed into the plant.

The synchronized video allows insight into the rate of diffusion of surfactant to the surface of the droplet, and thereby any time delay effect during which droplet evaporation could become a consideration.

This system along with our camera based leaf intercept area measurement (discussed in our

Spring Newsletter) provides greater insight into the actual effective plant dose rate.

While we offer this capability as a part of our foliar spray projects, we would be happy to characterize your formulation with various surfactants on the plant leaves of your choice. Please call us to discuss this service.

PSC Reduces Service Pricing For Comparative Evaluations

Due to our recent lab expansion, and further processing software automation we are able to reduce our pricing for our Discovery lab trials .

Example pricing for our full featured thirty-two plant, four treatment, six week experiments with data analysis is reduced to \$25,000, a 15 percent reduction in pricing.

Summer & Fall Trial Dates

There are only three trials remaining in our Discovery Laboratory #1 for 2016.

Discovery Laboratory #1 Trial Dates

- * **Environmental Stress Trial**
— August 1 through September 16
- * **Cold Germination and Emergence Trial**
—September 26 through November 11
- * **Evaluations to Help with 2017 Field Trial Candidate Selections (Seed Treatments and Foliar Sprays)**
— November 21 through January 6

Discovery Laboratory #2

Our second laboratory is available for custom trials and new protocol development efforts that are not consistent with our typical six week trials.

Call us to discuss scheduling a custom trial for your needs.