NCERA-101 Station Report from Syngenta, 2014

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1. New Facilities and Equipment

In May 2013, Syngenta inaugurated the Advanced Crop Lab in the Research Triangle Park innovation center. The objective of this new site is to improve controlled environment capabilities to conduct high-precision and high-throughput plant phenotyping.

At the 2014 NCERA-10 Annual Conference, we presented two posters that describe two technologies contributing to these enhanced capabilities: (i) a precision irrigation based Whole Plant Phenotyping System (WPPS) (Figure 1) and (ii) a sealed precision chamber system (Figure 2). The WPPS was developed in collaboration with Argus Controls, Advances Control Solutions (?), and Marc van Iersel (University of Georgia). The Precision Chamber technology was developed in collaboration with Mike Stasiak and Mike Dixon (University of Guelph).

2. Unique Plant Responses

3. Accomplishment Summaries

4. Impact Statements

5. Published Written Works

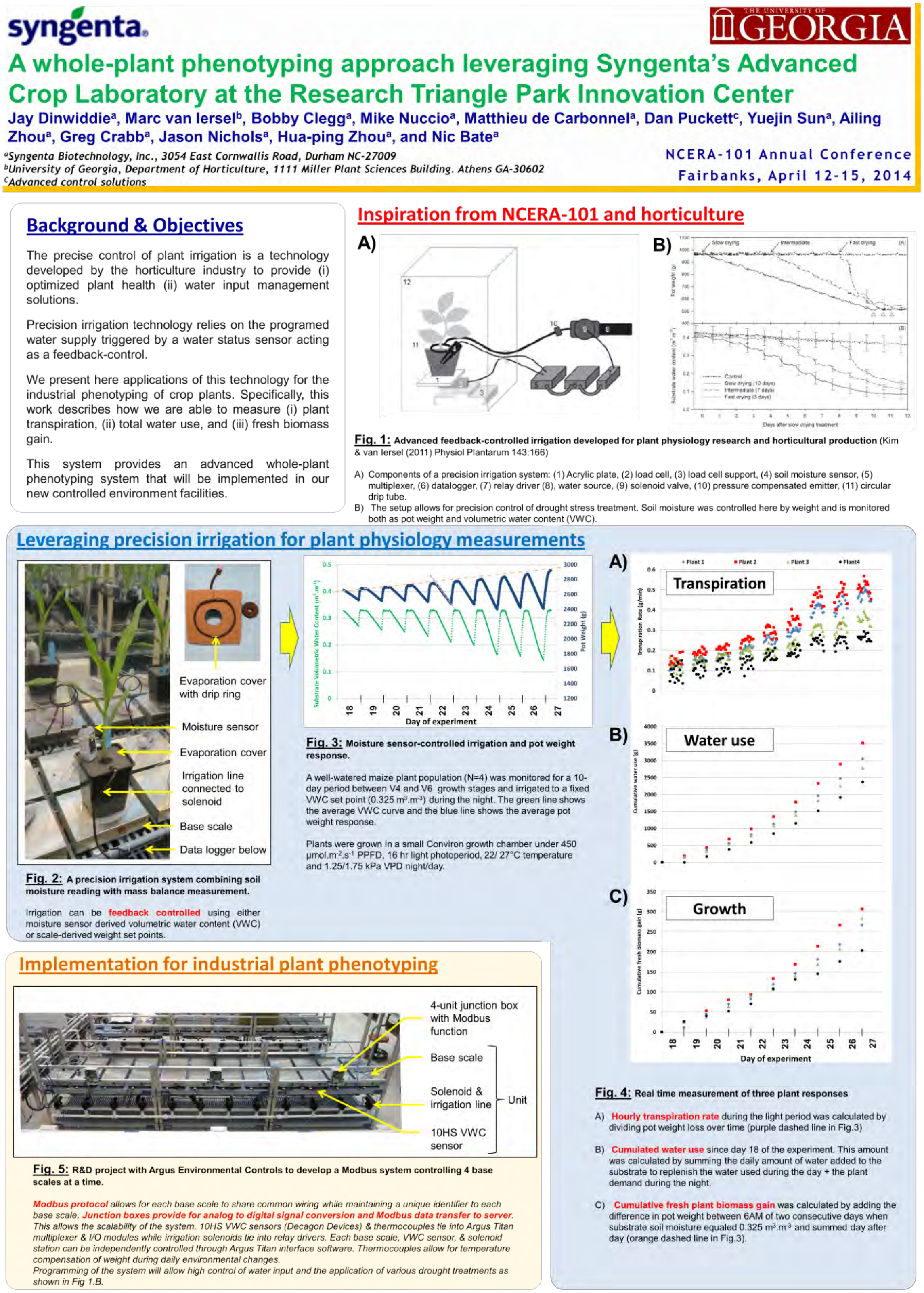

Figure 1. Syngenta poster presented to the NCERA-101 2014 conference describing the development of a new whole-plant phenotyping system that combine load cell, moisture sensor, and feedback controlled irrigation technologies for detailed studies on plant water use.

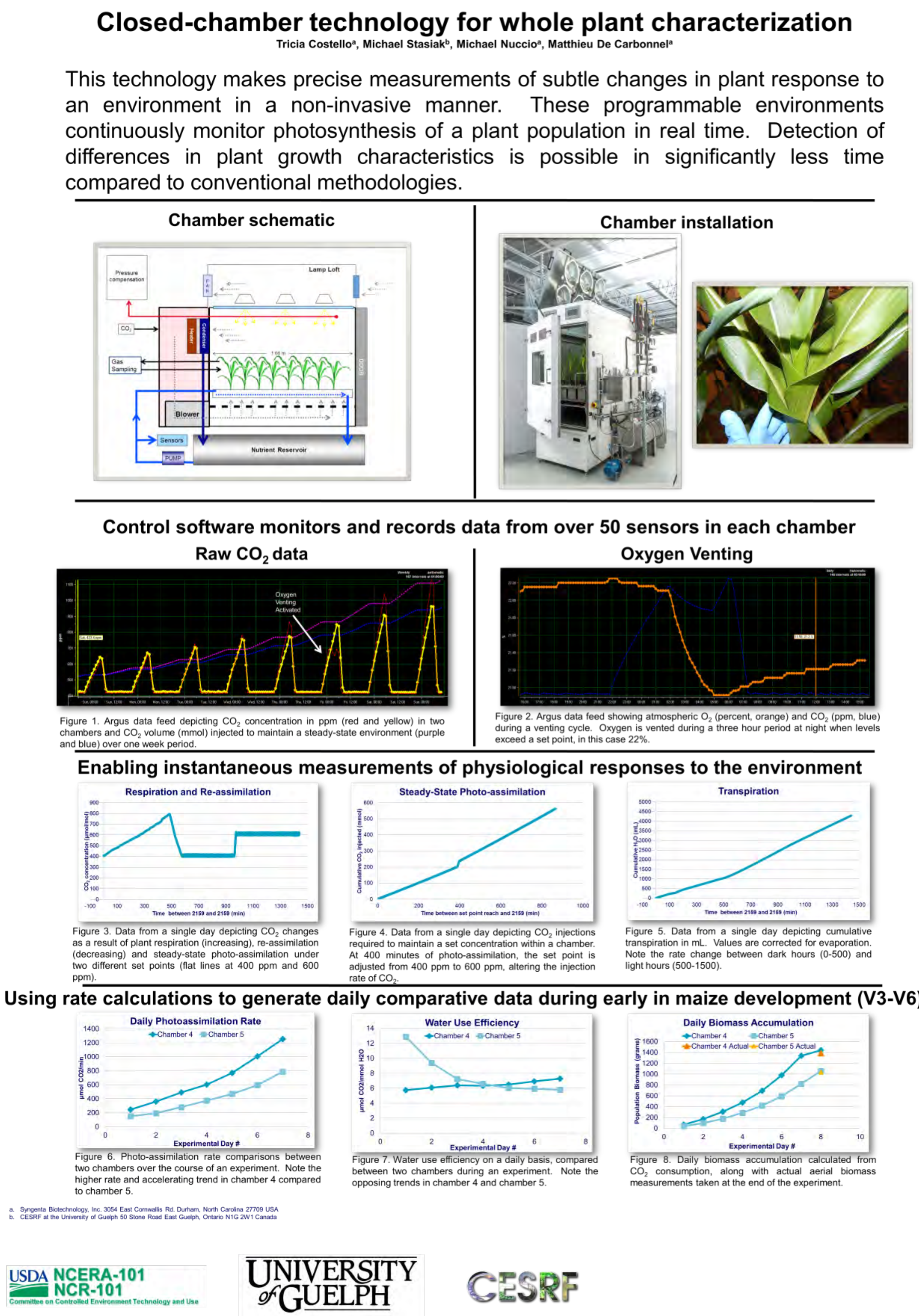

Figure 2. Syngenta poster presented to the NCERA-101 2014 conference describing the Precision Chamber technology.