
# California/Nevada Section Bimonthly Update September 1, 2007 Tenth Edition

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## * Berry Combine ASABE Historical Landmark

We are glad to report that ASABE will be honoring the Berry Combine on Saturday, October 20th, between 1:30 and 3:30pm at the Tulare County Museum in Visalia. ASABE Historic Landmark #49 recognizes the Berry Combine as the world's first self-propelled combine designed by Mr. George Stockton Berry of Lindsay, Tulare County, California in 1886. ASABE President-elect Dr. James H Dooley is planning on attending and assisting with the ceremony. The Berry Combine joins our most recently dedicated landmark, the UC-Blackwelder Tomato Harvester. If you would like to attend the event, please RSVP to Victor Duraj via e-mail (vduraj@ucdavis.edu) or phone (530-848-6446). The language on the plaque is below.

George Stockton Berry (1847-1917) of Lindsay, Tulare County, California designed, built, and in 1886, operated the first self-propelled combine. He was granted a U.S. Patent (# 374,339) in1887.

The Berry design embodied the following "firsts":

1. Self-propelled combine.

2. Combine powered by a straw-burning steam boiler – it was "fueled from the land".

3. Tractor that traveled forward for plowing and in the reverse direction for harvesting.

4. Traction engine with power turning, using differential gears instead of conventional wheel clutches.

5. "Power Take-Off", using steam from the traction engine boiler to power an independent engine that drove the harvesting mechanism.

In 1888, equipped with a 40 feet header, and using nighttime lighting, one of Berry's combines harvested more than 100 acres per day. Berry built six such machines, establishing the advantages of enhanced performance, reduced costs and good maneuverability for large, self-propelled combines. Many features of these machines were adopted by West Coast manufacturers after Berry went into politics, and have influenced design of later combines, both self-propelled and towed.

## * New District 4 Representative

Victor Duraj has been elected ASABE's District 4 Representative. District 4 covers the southwestern ASABE Sections including California/Nevada, Hawaii, Arizona, New Mexico, and Rocky Mountain (Colorado and Wyoming).

## * 2007 AE50 Product Highlights

The 20th annual AE50 recognition program honors companies offering the best products engineered for agricultural, food, biological and related systems available on the market for the first time in 2006. A panel of experts in these fields chose up to 50 winners. For more information on this ASABE program, see http://www.asabe.org/resource/ae5002entry.html However, here we recognize those winners with California/Nevada Section ties, with the following highlights based on product information and claims found on the companies' web sites.

**Laforge Systems, Inc.** (Concord, CA) – **FLEXIMASS** is a ballasting system for three-point-linkage-equipped agricultural tractors. This quick and easy system for adapting the ballast level of a tractor to the task at hand has the potential for significant fuel and labor savings. Agricultural tractors use tires or tracks to transfer power to the surface traveled on. The amount of weight needed on the tire or track to transfer power is dependent on soil type (pavement type), moisture content, soil firmness, etc., but in general, adding weight increases the power-transfer capability. Adding solid weights is a common solution and preferred over liquid in tires — "suitcase weights" on the front and bolt-on cast-iron rings for the rear wheels. Both systems are arduous and time consuming. FLEXIMASS provides a solution for adding up to 3,000 kg (6,600 lb) of ballast by using a front and/or rear three-point linkage. In addition to being a quick way of adding or removing weight, it also allows the flexibility of what type of weight to use because the method of attachment is a standardized 3-point frame: European mono-block weights, standard tractor suitcase weights, 3-point tank, or any 3-point attachment. A brochure can be downloaded from http://www.fronthitch.com/v3/files/FLEXIMASS3.pdf.

**Rain For Rent** (Bakersfield, CA) – The **Portable Water Quality Monitoring System (PWQMS)** is a 24 hour turbidity and pH monitor that saves money by reducing manpower requirements for monitoring. It is programmable to meet various discharge requirements, operates control valves to discharge or recirculate flow up to 1000 gpm, and includes a fail safe valving system to prevent accidental water discharge due to power failure. The PWQMS meets compliance regulations, can provide local and remote notification for out of range readings, and logs data for sensor readings that download to an Excel file. The system also includes a control signal to adjust the polymer pump based on effluent turbidity. It is a recognized BMP to help meet your NPDES requirements, operates off 110 volts with no special wiring required, and is fully contained and lockable within a 4x6 foot footprint. Further information is available at http://www.rainforrent.com/products/Instrumentation/PWQMS.htm.

**The Toro Company** (Riverside & El Cajon, CA) – The **Groundsmaster® 7200** is a new zero turn rotary mower rugged enough to be called a Groundsmaster. It has a PTO shaft-driven mower deck, high-strength 7 gauge welded steel decks, the industry's toughest spindle assembly, direct drive hydro transmission with a wet disc clutch, a liquid cooled diesel engine, zero turn steering for increased mowing productivity, maneuverability around obstacles and quick turning capability, mow/transport speed around 13 mph, a high ground clearance (able to climb an 8" curb), a low center of gravity for improved hillside stability, and converts from Mow to Snow with the patent-pending POLAR TRAC™ system. More information is available at http://www.toro.com/grounds/mower/trim/gm7200/7200.html.

**Trimble Navigation, Ltd.** (Fremont & Folsom, CA) – The new **AgGPS TrueTracker Implement Steering System** and **AgGPS EZ-Boom 2010** boom switching and spray rate control system from Trimble is designed to help growers cut input costs, ensure the accuracy of spray applications, and reduce stress during peak fieldwork periods. It can automatically control up to 10 separate automated boom sections, deliver precise rate control reducing the application cost of the chemical, simplify installation and reduce equipment costs for spray systems, and produce an exact real-time summary map that shows the sprayed area. The EZ-Boom system automatically performs several critical functions that help save chemicals while protecting crops and the environment. For more information and product graphics, visit http://www.trimble.com/aggps_ezboom.shtml.

*** Cal Poly and UC Davis enrollments**

Cal Poly's BioResource & Agricultural Engineering Department, headed by Professor Richard Cavaletto, expects to start the new school year with 101 Ag Engineering students and 75 Ag Systems Management students, with an additional ten or so students transferring in mid-year, for a total of about 186 students. Last Spring 20 students graduated with Ag Engineering degrees and 17 with Ag Systems Management degrees. UC Davis' Biological & Ag Engineering Department, chaired by Professor Michael Delwiche, expects to the start the year with about 180 undergraduate students and about 40 graduate students, all in the Biosystems Engineering major. Last Spring about 30

undergraduate and 8 graduate students earned their degrees. In the next Update, we plan to provide enrollment information about the other schools in our Section.

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- Bimonthly Update contributors: Victor Duraj, Carolyn M. Jones, respective product websites, Richard Cavaletto, Michael Delwiche, www.asabe.org.
- For previous editions of the Update, please visit www.asabecanv.org.
- If you have questions or comments, feel free to contact Victor at 530-752-1898, vduraj@ucdavis.edu.
- If you have ideas for Update items or would like to get involved in the leadership group, let us know.