



**California/Nevada Section
Bimonthly Update
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Forty- Seventh Edition**

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* **Engineers to Entrepreneurs – Bob Coates, UC Davis BAE**

Many engineers are great at brainstorming and putting ideas into practice. But taking a research device or a single prototype and turning it into a successful commercial product is more difficult. Superb ideas frequently fail in the process of trying to build companies around them. What many engineers may lack is a good understanding of how to build and grow a business. This includes understanding the competitive marketplace, gauging the needs of varied customers, protecting intellectual property, making a business pitch, and raising capital. Defining uncertainties and meeting milestones requires interaction with your team, customers, competitors, suppliers, investors, and lawyers. Put simply, "It's not about the idea; it's the Network." These were the words repeated dozens of times during a three day Food, Ag, and Health Entrepreneurship Academy on the UC Davis campus in October. Hosted by the Child Family Institute for Innovation and Entrepreneurship, the Academy sought to teach engineers and others how to put "ideas into action."

Whether you already have a great idea or hope to later in school or during your career, now is the time to start assembling your entrepreneur's toolbox – your network! As members of ASABE, you've taken a great step toward that goal. Next, take a business class or join a student group or an organization that promotes business networking opportunities. At UC Davis, the Engineering and Technology Entrepreneurship Club is one example. Also check out Regional Technology Alliances such as SARTA (Sacramento), LARTA (Los Angeles), and BARTA (Bay Area). Get involved and good luck!

* **50 Years of SMV (Slow Moving Vehicle) – Victor Duraj, UC Davis BAE**



That fluorescent orange triangle you usually see on the back of tractors, implements, forklifts, and other equipment on public roads is called a Slow Moving Vehicle or SMV emblem. It is intended to alert drivers of following vehicles to slow down for the SMV-signed vehicle in front that is travelling at 25 mph or much less. Tractors and forklifts typically may be going only 5 to 15 mph, presenting a real hazard on roads where other traffic may be going up to 55 mph.

Invented exactly 50 years ago in Ohio, the sign came about due to a documented high number of slow moving vehicle rear-end collisions leaving people dead or badly injured. The SMV sign is a US national standard, a Canadian standard, and is currently under review to become designated as an International Safety Standard.

But, more specifically here in California, it is part of the California Vehicle Code, with unique requirements of use and placement. Here are the key things to

know:

1. Required on tractors, forklifts, "Gator" and "Mule" type ATVs, harvesters, farm trailers, and more.
2. Must be clean, unobstructed, and not faded.
3. Must be mounted with bottom edge between 3 and 5 feet from the ground (CA rule).
4. Must be mounted with triangle pointed upwards.
5. Must be mounted in the center or on the left side as close as possible to the center.
6. Must be covered or removed when the equipment is on a trailer (thus likely to move >25 mph)
7. Must not be used on stationary structures (gates, mailboxes, etc.)
8. Must not be on the front of a vehicle.

For California-specific rules, see <http://www.dir.ca.gov/title8/3340.html>

For Dept of Motor Vehicles, see <http://www.dmv.ca.gov/pubs/vctop/d12/vc24615.htm>

For ASABE's info, see <http://www.asabe.org/awards-landmarks/asabe-historic-landmarks/smv-28.aspx>

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*** SCE 4th Annual Water Conference held Nov 5 – Traeger Cotten, Southern California Edison**



Southern California Edison proudly sponsored the 4th Annual Water Conference held at the Energy Education Center in Tulare on Tuesday, November 5th, 2013. They held a frank and relevant discussion of California's water-energy nexus and a practical educational program on methods to reduce energy use, save money, and improve the environment. This free event qualified for CEU and PDH hours. For more information about next year's event, call 559-625-7126 or visit

www.sce.com/workshops.

*** "CNMP First" Policy Met with Reluctance, But Founded in Reason! – Kristin Jean, Agricultural Engineer, USDA NRCS Nor-Cal Nutrient Management Team**



Our NRCS "CNMP-first" policy mandates that we write a Comprehensive Nutrient Management Plan (CNMP) before cost sharing on Animal Feeding Operation (AFO) infrastructure practices. Working this way makes sense but it can really make some people feel they are getting in the way of progress. Farmers are busy and want to get things done. A recent experience, however, gave me a new insight into our policy.

Farmer Mike Correia operates Jose Correia and Son Dairy in Escalon, Calif., for his grandfather. When NRCS CNMP Agronomist Kabir Zahangir, of the Dixon Service Center, and I started our CNMP resource inventory, we initially agreed with Mike that it seemed likely that the only way to balance the abundant manure on his 113-acre land base was to haul away 100 percent of the solids.

So Mike applied for a separator to get more solids out of his waste stream. I recommended adding manure-irrigation water mixing boxes for each field and a tailwater return system. Kabir and I promised to complete Mike's CNMP as soon as possible. It was a "cart before the horse" scenario, but who couldn't use better solid separation or a tailwater system?

So Kabir and I did our best to make sure all resource concerns were being addressed. With the inventory already handled, we were confident Mike could begin his pipeline and tailwater systems.

All in all, Mike installed a total of 5,200 feet of pipeline, three mixing boxes with backflow prevention valves, and a tailwater reservoir with pump.

We discussed with Mike the four R's of agronomy: right place, right time, right rate, and right form. He was clearly achieving these on one phenomenally successful pasture, the only one that was receiving a good manure-water mix. This pasture, a 12-year old ryegrass/orchard grass/clover mix, was cut and found to be yielding more than 38 tons per year! Using the CNMP, Mike had two pleasant surprises: by extending manure water to all of his fields, he could increase the value of his pasture feed by more than \$90,000 per year and he did not need to separate or cart off any manure after all; and he would need every drop of nitrogen (a.k.a. liquid brown gold) to sustain his yields.

Mike not only protected surface water, he also improved his manure distribution and addressed his storage capacity issue. The separator has been modified to a more feasible pump, saving Mike another \$70,000. Mike left for Escalon's local coffee shop with his latest chopper weight tags in hand to claim his bragging rights, and Kabir and I gained a new respect for the value of our "CNMP First" policy.

*** A Note**

Your officer team apologizes for not delivering a September 1 Update.

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- For previous editions of the Update, please visit www.asabecanv.org.
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- If you have ideas for Update items or would like to get involved in the leadership team, please let us know.