

SQUEALER

A biannual newsletter of the Colorado Pork Producers Council



Summer 2016

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Colorado Pork Producers Announce Annual Meeting

The Colorado Pork Producers Association announce their annual meeting and invite anyone who raises hogs in Colorado and their guests, to attend. The event will be held August 25, at the Colorado State Fairgrounds in the Colorado Building, Pueblo, Colorado, and will kick off the state fair hog shows beginning August 26.

The evening will feature a whole hog BBQ prepared by CSU's own Dale Woerner of the Meat Sciences Department. There will be speakers, election of board members, prize giveaways including Bronco tickets, and an enjoyable evening.

There are four board positions up for election and interested parties are encouraged to turn in their intent to run, and a short biography to be considered. Any member of the Colorado Pork Producers Council is eligible to serve on the board. For complete eligibility requirements, candidates are encouraged to contact the CPPC office for more information.

The evening's events will begin at 5:30PM on the Colorado State Fairgrounds. To RSVP please visit www.copork.org, or call (970) 356-4964 by August 10 at 5:00PM. This event is sponsored in part by your Checkoff dollars and the National Pork Board.

CPPC Seeks Producers to Serve as Board Members

The Colorado Pork Producers Council seeks candidates to run for four vacant positions on the CPPC Board of directors. The election will be held August 25 in the Colorado Building, Pueblo, Colorado, at the CPPC annual meeting. The following is the criteria for membership and to run for a board position.

Class A: OWNER/OPERATOR: Any person who is actively engaged in the production of porcine animals in Colorado if the individual is the actual owner/operator of a pig farming enterprise. This person has voting privileges at the Annual Meeting and is eligible to serve on the Board of Directors.

Class B: CONTRACT GROWER: Any person who is actively engaged in the pork industry as a contract feeder/grower/farrower of pigs. This person has voting privileges at the Annual Meeting and is eligible to serve on the Board of Directors.

Class C: UPPER MANAGEMENT EMPLOYEE: Any person who is actively engaged in the as an employee in an upper management position of a pig farming enterprise and clearly demonstrates a supervisory or management position. This person has voting privileges at the Annual Meeting and is eligible to serve on the Board of Directors.

Class D: FORMER PRODUCER: Any person who was formerly engaged in pork production in Colorado less than ten (10) years ago as an owner/operator or as a contract feeder/grower/farrower. This person has voting privileges at the Annual Meeting and is eligible to serve on the Board of Directors.

Class E: ALLIED INDUSTRY: Any person who, within the state of Colorado is actively engaged in the pork industry and affiliated with a business or academic institution that provides a product or service to pig producers. This person does not have voting privileges at the Annual Meeting, but is eligible to serve on the Board of Directors.

Any person who is a current member of CPPC and meets these criteria, is eligible to run. For more information, and to verify your CPPC membership or to pay your dues to become a member in good standing, contact the CPPC office at (970) 356-4964.

Board terms begin January 1, 2017. More information about the Colorado Pork Producers Council can be found at www.copork.org or call (970) 356-4964.

Growing a Passion for Pork

by Tawni Strachan

The latest trend in food almost everywhere is bacon. Sometimes it is important to stop and think about what one is putting into their bodies. No, this is not another health food article about eating all organic, avoiding GMOs or any of the other health crazes sweeping the nation. This is about where the food actually comes from, and if people want to keep eating this food then *go thank a farmer*.

Many have heard that phrase before, but it is incredibly important to not only thank and respect the farmers that are currently producing, but to also teach the upcoming generations about agriculture and even start instilling a passion for the industry in them.

The United State Department of Agriculture (USDA) expects more than 57,000 job opening in agriculture between 2015-2020, and another statistic shows that only an estimated 35,000 of those jobs will be filled by someone with a minimum of a bachelor's degree. Although agricultural enrollment is steadily increasing, that statistic remains the same. One of the exciting things about agriculture that people rarely recognize, is those jobs do not just include farming and ranching, in fact half of those jobs are in science, technology, engineering or math. Another 15% of those jobs are largely involved in food and biomaterials production with 12% in education, communication and governmental sciences. There are jobs in agriculture in so many more fields than people realize.

For those still wondering how this effects the pork producers in Colorado and why this article started talking about bacon (because that's really why you kept reading) and now is talking about agriculture economics and job opportunities, well there are job opportunities in the swine industry! Pork is a growing industry and it is hard to find good hogs in Colorado compared to other parts of the country. The Colorado Pork Producers Council indicates that around 1,073,899 hogs are born in Colorado and go to another state to be marketed annually with around 2.75 million head marketed in Colorado. The overall assessed market value of hogs in Colorado is \$127,238,000 and we rank 15th in the nation for hog production. A special shout-out goes to Yuma County for ranking 26th in the nation among all U.S. hog producing counties. Now, many may be thinking that is a lot of hogs and there are plenty more elsewhere, but one of the especially amazing things about pork



Photo Credit: Brandi Becker

marketed in Colorado is that in order to ensure food safety and animal welfare practices are guaranteed, Colorado hog producers are certified through a national Pork Quality Assurance® Plus certification program. This doesn't just include your large-scale operations, but every youth producer in programs such as 4-H and FFA has to take a class and pass a test to get their PQA® certification as well.

So far the numbers have spoken for themselves as far as showing how important agriculture is to the world. Now it is time to take action and do something about it, to help both the legacy and the industry continue to grow. There are organizations out there that do a tremendous job already, such as 4-H and FFA. There are an approximate 6 million total participants in 4-H and over half a million student members in FFA. This number is growing every year and that is great, but it is surprising every day to hear how many people don't know what these programs are, what they offer, and how they can impact children's lives so deeply. It also shocking and a little scary how many people do not know where their food comes from. Agriculture is a dying industry, and that is very scary simply because it is a keystone for so many other jobs and industries. Thomas Jefferson once said that "Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals and happiness." The reality is that everyone has their own opinions, beliefs, and passions which is what makes individuals, however, is it not better to be an educated individual?

In order to cultivate crops, raise livestock, and engineer new technology, people need to be truly educated. Not only by professors and books, but by the old men at the coffee shop who have had the real-world experience. A book is not going to show a person everything that life can teach them. A group of educated and wise people can start instilling their knowledge upon the next generations and growing a passion for pork.



Photo Credit: Tawni Strachan

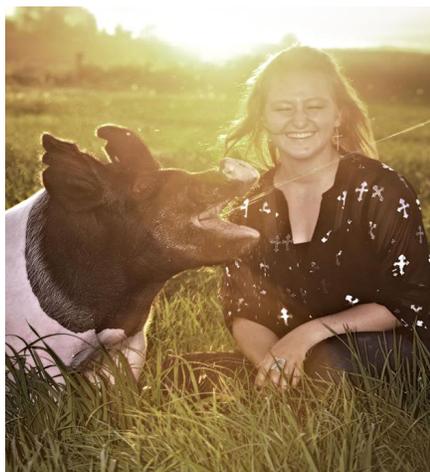


Photo Credit: Morgan Smith

Pork Production for New or Small Pig Farmers

By Chad Franke, Board member, CPPC

I'd like to address this article to new pork producers in Colorado. We live at the epicenter of the local foods movement. More and more people not only want to know where their food comes from, they are willing to pay good prices to have someone meet their needs, or taking action and buying a few pigs to feed themselves. If you are in that latter group, and are looking to feed a few pigs (or have some already), this is for you.

There are some basics that you need to raise pigs. These include a place to put them, a way to water them, feed, some basic knowledge about pigs, where and when to take to butcher, and of course, the pigs themselves. I'll try to quickly hit on these in this article.

Where do you put them? A pen, preferably a strong pen. You don't want your neighbor to call you about a pig eating his lawn...and once a pig gets out once, they will make it their mission to do it again. They need shelter, in summer they need shade, and a breeze to keep cool. Raising pigs in winter will require a better shelter to allow them to get warm or snuggle into bedding.

Water is absolutely vital to pigs, especially in summer. Don't expect to give them water in a water bowl morning and night and be ok. Provide plenty of water all day long, like a drinker tank or a barrel with a nipple waterer. Yes, they will spill some and make a mud puddle, that's one of the ways they cool off since they can't sweat.

Can you feed pigs the scraps off your table? Well, you can, but it's illegal and not a good idea. Any "kitchen waste" by statute must be boiled first for meat safety reasons. It is also not nutritionally good for the pigs. It's a much better idea to contact your local feed mill or feed store and get a good, balanced ration. The pigs will grow quicker and be healthier with good feed. A good quality feed will pay for itself over cheap feed. Extra veggies and weeds you might pull from the garden are a great treat, but not a main diet.

Unless you are prepared to butcher your own, you need to know where to take them for butchering. And know in advance! If you need an appointment in August or September, make it in April or May, or you may have a 350-400-pound pig when you finally get to take them in November. There are not a lot of butchers in our area for the demand, so plan ahead. Plan on 6-7 months old being ready to butcher at 250-300 pounds. If you plan to sell packages of meat, you must legally use a USDA-inspected plant. If you are putting it all in your freezer or selling a whole or half to a friend, you can use a custom butcher (they are inspected, just not to the same level).

Where to find pigs? That is a great question. Colorado is a state with lots of pigs, and yet it can be tough to find weaner pigs in the spring. There is always Craigslist and Facebook. There you will be shopping with everyone else, and the price reflects that. You may do research and find the USDA report says weaner price is \$45. Unless you want to drive to the Midwest and buy a load of pigs, you won't pay that. In Colorado, expect to pay around \$100 for a weaner pig in the spring, more some years, less in others. It's best to find a farmer who farrows pigs and buy in one place, year after year. Pigs can have health issues if you buy from multiple sources and mix them.

You may have noticed I skipped over one topic. Knowledge. I saved it for the end so I hope it sticks with you. If you are going to raise pigs, you owe it to them to know the basics. What do you do if one gets sick? The best answer? Have a relationship with a vet who knows pigs BEFORE they are sick. What is sick? Pigs will cough, they get colds, they will fight each other and get scrapes, know what needs treated, and a basic idea

of how. Know that a sunburn can be deadly for a pig (especially a white pig). Know that if pigs run out of water, you cannot give them full access to water or they could die of salt toxicity. Know that if a pig isn't eating, something is wrong. Find a trusted mentor you can bounce ideas off, have a good working relationship with a pig vet, and read everything you can and see what applies here in our great state. Colorado is a great environment for producing pork, but it has its challenges and differences from where most pork in the U.S. is produced.

Pigs are a great, easy (and very tasty) way to raise your own meat. But as soon as you buy a pig to raise for pork, you have the same obligations and responsibilities all pork producers have to take care of your animals and produce safe meat. With a little planning and work, you will have a freezer full of delicious pork for the winter.

Welcome to being a Colorado Pork Producer, and please spend the few dollars to join and participate in our events and learn all you can! The Colorado Pork Producers Council is here for you, the small pork producer just as much as it is for the big producers.

Colorado Livestock Association Elects President Nolan Stone at Annual Meeting

Jessica Lemmel, CLA Director of Communications

At the 2016 Colorado Livestock Association Annual Meeting in April, CLA members elected Nolan Stone to fill the role as President. Nolan, is a fifth generation Colorado cattlemen who was raised near Karval, 17 miles southeast of Punkin Center. For the past 17 years, Nolan has worked for JBS Five Rivers Cattle Feeding, LLC and is the General Manager of the Kuner Feedyard near Kersey.

"As society evolves, it is becoming more important to have a unified voice representing our message to the public and in the government arenas. CLA

does a great job of opening doors and allowing its members to deliver their message wherever it might matter the most," President Stone stated. "As a group of diversified protein producers, we might not always agree on the detail of every message, but we all understand that a message coming from our broad membership packs a harder punch than each of us individually. I hope to continue to grow membership and seek more opinions and ideas from the producers of Colorado."

When he isn't working, family time for Nolan and his wife, Jodi, means watching their two kids Shae and Dylan play softball and baseball, watching Shae show steers and spending time managing their family's cattle business; a diversified spring and fall calving cow herd and stocker operation on leased ranches throughout Colorado. Nolan will complete his term as President at the 2018 CLA Annual Meeting in Loveland and will become CLA's Immediate Past President.



Nolan Stone, President CLA

The New Colorado Water Plan and What It Means for Colorado Agriculture Producers

By Phil Brink, CEP

One week before Thanksgiving, 2015, the Colorado Water Plan (<https://www.colorado.gov/cowaterplan>) was released by the Colorado Water Conservation Board (CWCB). The water plan was two years in the making and involved stakeholders from around the state as well as citizen input from several thousand residents.

The events leading to the development of the state's first water plan started in 2004, when a Statewide Water Supply Initiative (SWSI) was prepared at the direction of the Colorado General Assembly. The SWSI established *basin roundtables*—which brought diverse stakeholders together from each basin to discuss water supply issues and develop basin implementation plans which describe how each basin will meet future water needs. In 2005, the Water for the 21st Century Act was passed by the Colorado Legislature, creating an Inter-basin Compact Committee to facilitate conversations between the basin roundtables, and aggregate information for statewide planning purposes (source 2010 SWSI).

In 2010, an updated Statewide Water Supply Initiative report was released, which estimated Colorado's population could swell to as much as 10 million people by 2050, nearly doubling our current population of 5.3 million. The demand for water driven by the increasing population could result in a municipal and industrial water supply gap of between 310,000 and 560,000 acre-feet.

The 2010 SWSI report was an eye-opener. It indicated that as much as 700,000 irrigated acres could be dried-up statewide by 2050 through the purchase and transfer of water rights from irrigated agriculture to urban areas. The projected reduction in irrigated acreage in the South Platte River Basin was estimated at 30% of agricultural land under production. Such large-scale dry-up of irrigated agriculture would have adverse economic, environmental and food security impacts.

In 2013, the Governor issued an executive order directing the CWCB to develop the Colorado Water Plan to address the projected gap. The plan emphasizes water conservation, increased storage, and alternative agricultural transfer methods (ATMs) as the primary means for closing the projected water gap.

The water plan recognizes the economic, environmental and cultural value of Colorado's agriculture industry. It promotes alternatives to "buy and dry" water transfers, where cities purchase agricultural water rights and transfer them to supply new housing developments. Instead, the water plan encourages sustainable approaches that enable irrigated land to stay in production while helping supply water for other uses. Rotational fallowing, deficit irrigation, and planting lower

consumptive use crops are the main practices being looked at for "creating" consumptive use water that would otherwise have been used by crops. Consumptive use water is water retained by the growing plant plus the amount lost through evapotranspiration.

Rotational fallowing involves fallowing irrigated land for at least one growing season. Deficit irrigation may include reduced irrigation throughout the season or ceasing irrigation part way through the season. Crops like alfalfa, which can offer an early season cutting along with survival during dormant periods, may be well suited for deficit irrigation. Planting lower-consumptive use crops, such as substituting sorghum for corn, is also a way to realize consumptive use savings. The 'saved water' can be leased to municipal, industrial, recreational, environmental or agricultural interests. All alternative ag transfers, or "ag water sharing" agreements must be voluntary, temporary and compensated. A variety of state laws have been passed over the last decade to ensure that a participating landowner's water right(s) are not negatively impacted as long as the terms of the lease agreement comply with state law.

The state water plan puts forth a goal of 50,000 acre-feet per year to come from alternative ag water transfer mechanisms (ATMs). This objective appears viable, however, while the concept of ATMs is simple, the implementation is likely to be challenging as the myriad details are worked out. Saved consumptive use water must be delivered or credited to the lessor. Delivery to a distant, upstream user requires cooperation from other parties, and it must not injure other water rights, including junior water rights that may, for example, rely on the lessor's irrigation return flows. The quantity must also be accurately measured and verified.

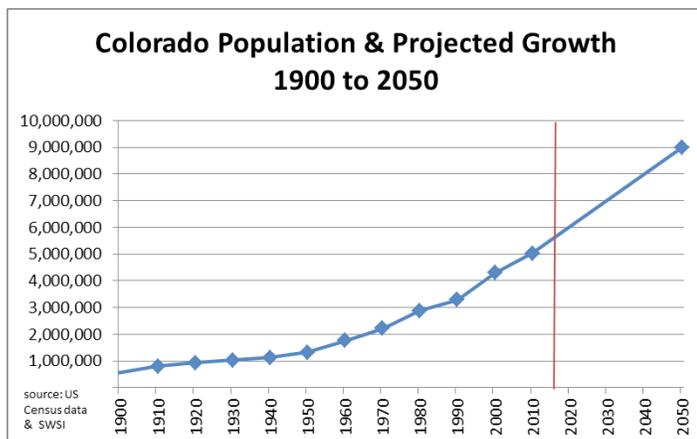
It is unlikely that any one method will be universally accepted statewide (SWP, 6-116). Alternative ag water transfers will have to be tailored to conditions specific to each basin and will require collaboration among farmers, land owners, ditch companies, lessees and state agencies.

A few ATMs already exist. One example is the North Sterling Irrigation Company, which for the last decade has been guaranteeing water for the Xcel power plant near Brush. Xcel pays the irrigation company an annual base fee plus a delivery fee if water is actually needed and delivered. So far, no water has been needed, so the irrigation company has simply received the annual base fee, much of which is passed on to the participating landowners.

Another example is the Catlin Canal project—a ten-year municipal leasing pilot project in the lower Arkansas River Valley which began in 2015. In its first year of operation, the project delivered a total of 409 acre-feet of consumptive use water to three municipal water providers, the city of Fountain, town of Fowler, and the Security Water District. Consumptive use agricultural water was 'freed up' through rotational fallowing of approximately 1,000 acres of land on six farms served by the Catlin Canal. The participating farms received an average of \$1,030.94 per fallowed acre.



Irrigation in Route County; 1908. NPS, Journal of Heritage Stewardship, V.3, N.2. 2006.



(continued)

The Colorado Cattlemen's Association created the Ag Water Network in September, 2015, with the goal of helping to preserve irrigated agricultural in Colorado. The idea of ag water leasing is to enable agricultural water right holders to diversify revenue from their water rights and keep their land in agricultural production now and in the future. This will enable agriculture to show it is helping to meet growing water needs from the municipal and industrial sectors, while at the same time keeping irrigated farmland intact.

Phil Brink, CEP, is the consulting coordinator of the Colorado Cattlemen's Association's Ag Water NetWORK, a grant-funded initiative designed to help keep agricultural water connected with agricultural land by facilitating ag water leasing. Contact Phil at 720-887-9944 or phil@brinkinc.biz, if you have questions about ag water leasing, or to discuss your interests.

Update on EPA Challenge to Help Hog Farms Recycle Nutrients

By Hema Subramanian, Office of Wastewater Management, Water Permits Division, Rural Branch U.S. Environmental Protection Agency

In November 2015, the U.S. Environmental Protection Agency partnered with USDA, pork and dairy producers, and environmental and scientific experts to launch the Nutrient Recycling Challenge—a competition to develop affordable technologies that recover nutrients from livestock waste and generate products that farmers can use or sell. As profiled in CPPC's Squealer January Newsletter (<http://copork.org/squealer-january-newsletter/>), innovators in this challenge will turn their concepts into designs, and eventually into working technologies piloted on farms during a four-phase competition.

This project is an example of how EPA is working with animal agriculture stakeholders to protect water quality through voluntary partnerships. Through this effort, EPA seeks to create a "brain trust" of thinkers that can design affordable technologies to help farmers manage nutrients, create valuable products and protect the environment.

"The Nutrient Recycling Challenge is a great example of EPA partnering with farmers to find solutions that benefit everyone," said Ellen Gilinsky, senior policy advisor for the EPA's Office of Water. "Through competition, together we are driving innovation to achieve environmental results."

Phase I of the challenge (a call for concept papers) closed in January 2016. EPA received 75 submissions from around the world and selected 34 to continue on to Phase II of the challenge (a call for design papers). EPA awarded \$30,000 in prizes to the top 10 submissions at a two-day summit in Washington, DC in March. Details about Phase II of the challenge are to be announced in late Summer 2016.

EPA's partners in the Nutrient Recycling Challenge are:

- American Biogas Council
- American Society of Agricultural and Biological Engineers
- Ben & Jerry's
- Cabot Creamery Cooperative
- Cooper Farms
- CowPots
- Dairy Farmers of America
- Innovation Center for U.S. Dairy
- Iowa State University
- Marquette University
- National Milk Producers Federation
- National Pork Producers Council
- Newtrient, LLC
- Smithfield Foods
- Tyson Foods
- U.S. Department of Agriculture
- Washington State University
- Water Environment & Reuse Foundation
- World Wildlife Fund

To learn more, please visit
www.nutrientrecyclingchallenge.org.

Summertime in the Rockies: A Chef's Guide to Pork Adventures

Chef Jason K. Morse, CEC | 5280 Culinary Spices | Rocky Mountain Ace Hardware Grilling Expert

Colorado is in full swing with Agriculture this time of year. From Animal Ag to Fruits and Vegetables, we are all starting to enjoy the wonderful bounty that our producers, farmers and ranchers work so hard to put on our table. **#NoFarmersNoFood** has never been as important as it is today.

From demos at Ace Hardware to cooking classes to media appearances and more, we work hard to do one thing: Connect consumers back to their food. We teach them how to buy pork, how to store it, how to prepare it, how to cook it, how to enjoy it and most importantly how to understand it. That interaction on a daily basis really opens the door to some powerful conversations. Our responsibility as chefs and foodservice professionals is to work with our customers and tell the story of the food we serve. Our food culture is amazing these days, consumers crave the knowledge and when we are able to have open and honest dialogue, as well as some learning sessions, we all win!

Pork demos this year have focused on loin, tenderloin and belly, three popular cuts that are on the grills and smokers of many. We talk through location of the cut, purchasing specifications, brines, seasonings and more, all in the spirit of ensuring the pork that hits their plate is the best it can be. When it comes to pork belly, we all know someone who can't seem to get enough of it. Our classes have been on Makin Bacon, teaching the skills needed to make their own bacon and

really control the flavor from the Pig to the Plate.

On our new website we have been featuring Pork 101 as well, giving consumers yet another chance to see some pork info, find their favorite cut and get some grilling tips. The more we expose them to new ways to think about pork, the more reasons we give them to buy it.

Thank you for your support and trust, we appreciate the opportunity to interact with consumers and help promote pork and provide resources and answers to and for their questions and concerns. We are off to Chicago in August for the National Ace Hardware Buying Show. Stay tuned for photos of the Truck Wrap and CPPC Logo proudly displayed for all to see. It's going to be awesome.

This month we have a fun recipe for you featuring Pork belly. Super fun and easy to make, this recipe will make you the talk of the town.

If there is anything I can do to help support or provide any answers you have, please let me know. I am an email or phone call away

For more information, be sure to check out our new website at www.5280culinary.com or email me at jason@5280culinary.com

Head over to www.grillyouraceoff.com and check the 2016 demo/class schedule, we have another fun year of grilling fun and cooking classes in store.

Until next time... Happy Cooking!

Smoked Colorado Pork Belly "BARK" COOKING TIME: 1-1½ HOURS (APPROX)

Ingredient
1 Pork Belly, Skin On Fresh (9-11 lbs)
1 Brine (5280 Culinary Bayou)
½ cup RUB A DUB (5280 Culinary Rub)
¾ cup OINK (5280 Culinary Rub)
1½ cups BBQ Sauce, High Altitude (5280 Culinary Sauce)

PREP INSTRUCTIONS:

1. Remove pork belly from the package and rinse with cold water.
2. Cut belly into 3 sections and place in bucket or pot large enough to hold 4 gallons.
3. Follow brine directions, cool the brine and add to the pork belly bucket.
4. Brine 12-18 hours – Cover and brine under refrigeration.
5. Remove from the brine – DO NOT RINSE.
6. Mix OINK and RUB A DUB together, set aside for use.
7. Pat dry with paper towels, allow the belly to rest about 30 minutes.
8. Next, turn the belly over so that the meat side is facing up.
9. Using the rub blend, rub the meat side and let sit for 5 minutes,

then flip the pork belly over, sprinkle this side with rub and let sit for 5 minutes. Sprinkle the rub heavier for a stronger flavor, or lightly for a lighter flavor.

10. Wrap the belly in plastic wrap and place in the fridge. Allow the pork belly to "marinate" for at least 24 hours.

COOKING INSTRUCTIONS

1. Preheat your smoker to 225°F (cooking time and temps will vary based on the smoker/grill, Big Green Egg or Traeger recommended).
2. Choose a nice fruit wood and soft wood combo for smoking. We suggest a combo of Maple, Apple and Cherry.
3. Cut the belly into 1 x 1 inch squares, toss with some more rub and smoke in aluminum disposable pans (to catch any fat drippings), drain fat during the smoking process to keep the bark dry.
4. Smoke the pork belly pieces for about 1-1½ hours or until desired doneness is reached, ideally the internal temperature should reach 165-170°F.
5. Remove from the smoker, season more rub and toss in High Altitude BBQ Sauce.
6. Place back into the smoker to set the sauce, once glazed remove and enjoy. Serve with BBQ Sauce on the side for dipping.

Reducing Nutrients in Water: What's in it for Colorado Pork Producers?

Erik Wardle, CSU

Larger pork producers in Colorado are already familiar with what it means to be regulated. Amendment 14 and Regulation 61 have placed numerous controls on the industry. These measures have become part of the complex management decisions that are made every day at hog and swine facilities. Feed and crop production, which are closely tied to pork production, have enjoyed a more voluntary approach to nutrient management decisions. This may change if the state's agricultural community doesn't get more involved. Colorado agricultural producers have a great opportunity to influence what happens next with the state's adoption of nutrient criteria for surface water.

Voluntary measures now may stave off future regulation

Many of the best management practices available to agricultural producers to improve their bottom line are also good for water quality. Colorado State University and the Colorado Department of Public Health and the Environment (CDPHE) are undertaking an information campaign to encourage wide spread adoption of these measures.

Many agricultural producers have already adopted water quality protection measures to reduce agricultural nonpoint source pollution. These best management practices (BMPs) often have economic and agronomic benefits and are being adopted by producers for a variety of reasons. Colorado agriculture needs to tell its story of conservation and stewardship.

Background

Across the U.S. and in Colorado, agriculture is being cited as a potentially significant source of water pollution. Nutrients such as nitrogen and phosphorus run off farmlands and build up in waterways, causing water quality issues in surface waters. Nutrients are essential elements for plant growth. When lacking in soils, nutrients may be supplemented with commercial fertilizers and manure. If, nutrients move to water bodies in excess concentrations, they can cause issues such as: algal blooms, reduced dissolved oxygen content in water, and harm to aquatic plants and animals, including fisheries. Most agricultural nutrient pollution is from "nonpoint sources"¹, hard to trace to a particular origin.

Starting in 2012, Colorado increased regulatory focus on "point source" nutrient dischargers like wastewater treatment plants. Nonpoint source contributors including much of agriculture were not included in regulation at that time, but face the potential of future regulation if voluntary, proactive steps are not taken now to quantify and reduce nutrient contributions.

Regulation 85

Regulation 85, adopted in Colorado in 2012, established numerical effluent limitations for point source dischargers such as wastewater treatment plants. But for potential nonpoint sources of nutrients—including most of agriculture—numerical limitations were not set. Instead, nonpoint sources were encouraged to adopt voluntary measures to address the nutrients problem.

The regulation sets a 2022 deadline for reevaluation of this approach. Nonpoint sources and their contributions to nutrient levels will be discussed, and additional regulatory approaches may be considered, depending on how successful voluntary approaches have been.

What are Best Management Practices that can help?

Best management practices can include improvements in soil, water use, crop selection, equipment, and fertilizer application and handling. A few examples:



- Optimizing fertilizer rate, placement, timing, or source
- Minimizing runoff through conservation tillage, irrigation water management, or other methods
- Installing physical BMPs such as buffer strips and upgraded irrigation systems

What is the benefit to the agricultural community?

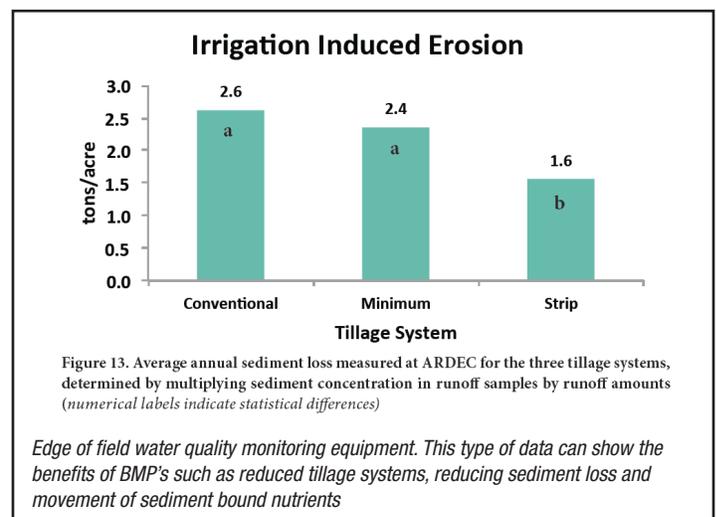
A widespread adoption of these best management practices can have numerous benefits to Colorado's agriculture. It will allow landowners to make the most of their soil and water resources without government intervention. BMP's can increase the efficiency of fertilizer application, including manure, and reduce input costs. They will help sustain or improve the land's productivity by reducing runoff and erosion. BMPs can reduce nutrient concentrations in water supplies, thereby negating the need for imposed restrictions or regulations on agricultural practices related to crop production and nutrient management.

How else can producers help?

Producers are encouraged to take an active role by adopting practices and getting out the word to their fellow producers. Each operation can participate in the discussion and take action by:

- Planning and carrying out tailored nutrient management plans and implementing BMPs
- Participating in projects to monitor and collect water quality data
- Attending Water Quality Control Division meetings on the topic
- Spreading the word among other producers on the importance of being proactive
- Talk to your commodity or industry groups about getting involved

This is a great opportunity for Colorado producers to help keep farm management decisions where they belong, on the farm. For more information, please look for our Regulation 85 website, videos and factsheet coming soon or contact: Erik Wardle at 970-491-0447 or erik.wardle@colostate.edu, or contact Troy Bauder at 970-491-4923 or troy.bauder@colostate.edu



¹A point source is a single, easily identifiable source of pollution, such as; pipe or drain, industrial discharge, waste water treatment plant. A nonpoint source is diffused and harder to pinpoint, such as; cropland, livestock, urban storm water runoff, forestry operations