

**BLUE CHIP SEMINAR**  
**November 9-11, 2016**  
**Lost Creek Dairy, Roggen, CO**  
**Facilitated by Mark Drouhard, LandPro**  
**Owner: Peter & Tammie Eldred**

On Wednesday, November 9 KARL Class XIII boarded a large tour bus in Manhattan at 8 a.m., stopping in Salina, Hays and Colby to pick up remaining class members and drive to Boulder, Colorado for our first tour that evening. We had the unique opportunity to visit "The Farm," an indoor marijuana growing operation that has produced cannabis for retail sale since 2009. Marijuana is a newly legal crop in an increasing number of states and Colorado's regulations and practices are serving as an example for industries ranging from agriculture to law enforcement.

Devin, the CEO and one of the operation's founders said Colorado's extensive regulations put them in the "compliance business first and the marijuana business second." Devin said his product pays an "effective tax" of 50% and Colorado collected \$1 billion in taxes from marijuana this year, with medical hemp taxed much less than recreational cannabis. This tax revenue has helped fund law enforcement, schools, highways and other programs. This revenue likely explains why more states, like debt ridden California, legalized cannabis sales in the recent general election.

Because cannabis is still illegal at the federal level, Devin can only conduct retail cash sales and originally had difficulty finding a bank to use for business matters - leaving him to pay utilities and business costs in cash. Banks won't issue loans for this industry, requiring 100% private investment. "Everything is harder in the marijuana business."

The first room we visited housed dozens of cloned plants in their hand-watered vegetative state, which soaked up 12 hours of artificial light per day before flowering (the part of the plant used for recreational and medicinal cannabis). The entire growing operation at this site is housed indoors.

An organic pesticide is applied only during this vegetative state. Colorado requires zero pesticides applied to blooms. The operation's top priority (after legal compliance) is to create a clean product in a clean facility. After buds appear, plants are transported to smaller "bloom rooms" where plants continue to grow in hydroponic cocoa-based irrigated potting containers. Every plant and gram of product is tracked from seed to sale in a state recorded system and an internal inventory system.

The clone plant to product process takes about six months. The Farm produces 1.5-2 lbs. of product per week and grows over 200 strains of marijuana. Each of the bloom rooms hold about \$240,000 of product.

When flowering is complete, the Farm uses a mechanical clipping process to remove buds for transport to drying and curing rooms. Buds lose about 70% of their weight in the first 7-10 days they spend on drying racks and then 2 weeks curing in plastic oven bags. This is the plants most vulnerable state and these rooms have very limited access. This facility produces 160-200 lbs. of dried marijuana per month and 3,000 lbs. per year in all the company's facilities combined.

Horticulturist and consultant to "the Farm" Joel Reich also spoke with our group and said he personally grows two acres of non-THC hemp used for medicinal purposes in the Boulder area. Joel said the industry is moving toward medically tracking the benefits of particular cannabis compounds and how to isolate these cannaboids in plants, producing specific treatments for unique patient needs. THC is the only psychoactive component of marijuana.

Components of cannabis have been found to medically assist patients suffering from PTSD, seizures, cancer, pain and other ailments. Medical marijuana is administered as capsules, tinctures, patches, roller oils and cream as well as being smoked.

Our hosts were very open and frank in their discussion of this new cash crop and our class was grateful for the opportunity to get a personal look into this growing industry. After the tour, and a bus driver change, class XIII ventured on to Greeley, CO to check in to our hotel and enjoy a late group dinner at Old Chicago.

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**Thursday, November 10<sup>th</sup>**

**JBS Tours**

**Blue Chip // Amy Heinemann**

JBS Meat Packing Facility

The KARL group met with management and watched a video on the history of JBS before touring the Meat Packing facility. JBS began in 1855 with 18 head of cattle. JBS spans 5 continents and 23 countries with more than 200,000 employees worldwide. JBS is the world's largest protein producer including beef, poultry, pork, and lamb. This organization requires a very sophisticated tracking, storage, and

shipping system. The daily processing capacity is approximately 5,000 head in the winter and between 5,200 – 5,500 in the summer. They operate with 2 production shifts, and 1 clean-up shift, which is outsourced to another company. They have a commitment to investing in their people first, in which that common theme was emphasized throughout the day (including the quote on the comments box “You shouldn't have to work for a jerk.”) The Greeley facility employees 3,150 employees including 160 management positions. Community involvement consists of partnering with United Way, Relay for Life, local elementary schools, University of Northern Colorado, and sponsoring meat judging competitions. JBS looks to manage water as efficiently as possible. The goal is to use 550 gallons of water per head. The solids are taken out, the lagoons are treated and then it goes back into the river.

### JBS – Kuner Feedlot

JBS is the largest cattle feeder in the world, employing over 750 people at 12 different facilities. The Monfort family started the Kuner facility. JBS bought it in 2008 and invested \$18 million. Kuner employs 60 people in 5 departments. They feed twice a day. The facility design includes a pen slope, runoff holding capacity is less than 300% of EPA requirement. Last year they recycled 62 million gallons of water. Kuner Feedlot has much of its design influenced by Dr. Temple Grandin, including angled back gates. The feed alleys have a drive through design. They offer a Natural Beef program since 2011, which means that there is “never ever” hormones, antibiotics, or animal by-products given. The producer signs an affidavit attesting to these requirements.

### JBS Corporate

CEO Andre Nogueira welcomed KARL Class XIII as an introduction to an Executive Leadership panel discussion. The growth of JBS has occurred mostly in the last 20 years. In 1953, José Bautista Sobrinho started in Brazil with 2 head of cattle per day. Now it is the largest animal protein company on the planet. They have a strategic global distribution in the Middle East and China. Issues affecting business in the following order of importance are: #1 Labor, #2 Government (EPA, OSHA), #3 Markets. 2014 was very unprofitable, 2015 was okay, and they are now making money again in 2016. As world incomes rise, people tend to improve their diet adding in more protein. JBS anticipates growth. Currently the consumption in China is approximately 3-4 pounds of meat per person in a year, comparable to 65 pounds of meat consumption per person in a year in the U.S. Currently 20% of beef produced is exported to other countries, but in 10 years that is projected to be 35%. Trans Pacific Partnership was discussed, stressing that closed borders will not help agriculture. JBS depends on trade. The change that has occurred in the last 50 years of people moving off the farm, has left people very detached from how their food is supplied. They fight the philosophy that has come about that ‘big corporate’ is bad and that they do really bad things to the food. JBS looks to

communicate better about how the food is fresh, wholesome, and nourishing. Some strategies towards this have been to invite journalists to plants to see how food is processed. This helps to gain more credibility in the media. JBS is also responding to consumer demand of organic and are opening their first organic plant in North Carolina in March, with the projection that it will be immediately 20% of the market. The JBS culture has a goal of listening to consumers to give them what they want in order to grow market share. In 2050, the population is projected to be between 9 and 9.5 billion people, with global incomes rising. It is projected that 3 billion will be in middle income growth, increasing global consumption. The demand on agriculture is to produce 70% more food by 2050. JBS seeks sustainability through an outcomes based model, rather than process based. JBS seeks continuous improvement, looking to do better today than they did yesterday. A company value is that attitude is more important than knowledge. Some creative ways that JBS looks to develop future leaders in the business are through a JBS training program and an internship program. The training program places university students in 12-18 month rotational programs within one facility, giving them exposure to each department. They will be hiring 60-70 trainees in the upcoming year. The internship program is a 10 week program aimed at getting young people inside the business. There wasn't any of the executive leaders that started at the administrative level directly out of college, but rather they learned the business through working the various jobs. One unique and beneficial morale booster that JBS provided for the employees was the "JBS Cultural Experience", where the founder José Bautista Sobrinho was brought in to speak to 6300 team members. He shared why he founded the company, his values, his vision. They then went deeper into mission statement and beliefs during breakout sessions.

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Lost Creek Dairy is a 5,000 head mature cow operation, with a separate facility for 4,000 head of heifers and calves (750 hutches for calves up to 8 weeks of age). Peter and his wife Tammie were looking to expand their NY States dairies, but there's wasn't enough land available for such a facility. So, with the help of Mark Drouhard, LandPro, they searched for three years to find the ideal location. In searching they identified four key components that were necessary for picking the spot they're in:

\* Cow comfort, weather (lower humidity), lifestyle/quality of life, level of available education/schools. Additional considerations were community acceptance (600 – 800 people in community), land and water availability. The current location provides all these components.

They have four dairies in NY State, with 14,000 acres of crop ground and are partners in the Cayuga Milk Ingredients company, which allows for greater control of product pricing and sale since there is more competition for milk. In Colorado, DFA is the only

handler, so there is no other competition and they can dictate the number of dairies allowed in the state. At this time, no additional dairies are being allowed in.

Key operation strengths:

\* Family owed operation, so fewer decision – makers.

\* Very efficient and low input dairy. How much milk can each cow produce at least cost.

o Pretty inexpensive to produce milk at this location. Average about \$15.50/100 weight

o Efficiencies of large dairy allow for greater ROI. Economies of scale allow for a good return on a pure commodity based dairy.

\* Strong overall management – owner knows costs down to the penny, parlor put through, mortality percentages, etc. These key ingredients help to enhance management practices and allow for tweaking where needed to get the desired results. Peter is a very keen businessman.

o The rotary parlor has 100 stalls and is very efficient. Cows are milked 3X/day. Every 4.7 seconds a cow enters the parlor; 700 cows go through each hour and time spent can be measured down to 11.6 cows/minute. Each minute reflects labor costs, etc. Peter is a GEA dealer in NY State and was able to transfer his knowledge and experience to Co when building the dairy facility.

o There are 44 people on payroll, which translates to \$1.68/100 wt. The goal is to reduce this to \$1.50/100 wt. of milk.

o SCC is well above average at 110,000.

\* Have their own veterinarian, nutritionist and manager on staff. They also have a full time maintenance man, so if anything breaks the down time is significantly reduced.

\* They raise all their own replacements, so there is no additional cost to buy them.

\* Cow comfort and health are paramount. They pay key attention to conception and mortality rates, which in each case are well below average.

o Feet issues are few and cow turnover is good. They typically have 90 cows in the sick pen at a time and the year round average for treated cows is 1.5%

o On the calf & heifer side, they have a 20% cull & death loss from a 600-700 calves born each month scenario. All colostrum is collected and a key component in ensuring early calf health.

\* Continue to measure mortality of calves very closely. 4% stillborn, 1.5% death loss in hutches, results in less than 7.5% total calf mortality which is below the industry average.

\* They have been able to gleaned experiences from the NY dairy industry and relay those to the CO dairy. Along with this, high quality registered genetics from the NY dairy were transferred and used as a base in building the CO dairy. The difference being, the cows with NY genetics average 90lbs, while the cows with CO genetics average 80lbs.

\* They have their own waste management system in place, so waste water goes into the ground and the separator allows for recycling of the sand particles.

#### Key operation weaknesses:

\* Don't grow all their own feed and another dairy is being built very close by, so this will increase competition for feedstuffs.

\* Dairy cows need high quality feed and not growing your own reduces the ability to better manage quality. They currently feed 85,000 tons of silage.

\* High debt from building a state of the art facility from the ground up.

\* \$3.5 million in parlor alone; \$1.4 million for dirt removal. Barns are 2,280' long and cost per stall was over \$2,000 each.

\* Competition for labor

\* Not enough free stalls for all cows to be under roof during bad weather.

\* Currently losing \$.20/100 weight.

\* Lack of water availability and water rights. Both a weakness and a challenge.

\* Feedyard location can be a weakness due to dust caused by traffic. The calf & heifer facility is dusty which is difficult to manage, so pneumonia due to inhalation of dust is a problem.

#### Key operation challenges:

\* The greatest challenge is and will continue to be lack of water; water is gold.

\* Labor is huge. There is a lot of competition with oil and gas, feedyards. They currently pay \$12/100 plus transportation and it's not enough to be competitive.

o They even offered a management package that was \$150,000, plus benefits, plus a house, vehicle and the applicant declined.

o Because of the severe labor challenges, plans to expand the current dairy, or build another are on hold indefinitely.

\* Immigration issues will continue to be a concern. All help is Mexican or Guatemalan.

\* Legalization of marijuana. Since there is no required testing for it, or a good way to test for it, it's a challenge to deal with.

\* Dairy farming is a very volatile industry. The current price of bob calves is only \$20/head.

#### Key operation opportunities:

\* Dairy is replacing beef in CO, so more feedyard facilities are becoming available and can be purchased at reasonable costs.

\* Purchasing the feedyard has allowed opportunity to raise more heifers for selling back East. The goal is to be able to sell at least 1,500 head/year and create an additional revenue source. They also currently sell about 100 cows/month back East.

\* There is more good irrigated land available in the current area at \$8,000 – 8,500/acre, where front-range ground is valued at more like \$20,000/acre.

\* One unique opportunity for the area is a corn silage grower. Securing additional water rights will obviously enable this process, along with buying leased returns.

\* Build a centrifuge to further clean waste water to be used in dry land development. This will increase crop acreage and reduce dependence on outside purchasing of feedstuffs.

\* Seed oil & gas lines. Seed from NY to CO

\* They currently have a trucking company back east and want to start one in Colorado because there's a big demand for trucking.

\* Would like to become a vertically integrated dairy company and brand/source milk for sale back east.

One of the greatest opportunities for Peter and Tammie is in advocating for agriculture, dairy farming and educating the average consumer. They're transparent in their community and operation and have opened their barn doors for several tours, and even some executives from Domino's Pizza!