



## CHAPTER III A REGIONAL PROFILE OF AGRICULTURE

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## 1. HISTORY OF AGRICULTURE

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### **Assessment Methodology**

Much of the information compiled in this section came from the research of Jim Fitzgerald. His graduate dissertation written in 1982 for the degree of Doctor of Philosophy in the School of Education at the University of Colorado, Boulder provides valuable data, long-term resident interviews and insight into the historical settling of this region. Jim, and his wife Terry, also provided historical and agricultural information for the assessment in an oral interview. The rest comes from farmer interviews and secondary research.

### **SUMMARY**

La Plata County was historically a land occupied by Natives and Latinos. Not until the late 1800s was the area settled by Anglos.

The Ute tribe, a hunter-gatherer society, traveled here from Utah in the 13<sup>th</sup> century to live and hunt in the mountains. In 1877 the U.S. government established the Indian Agency near Ignacio, which later became the permanent home for the Southern Ute Indian Reservation, in 1895. At this time, the U.S. government began to parcel the land into 160-acre allotments for the head of each household and 80 acres for each child of that family. These parcels were allocated to Indian families for the purpose of farming, and could only be sold after a period of 25 years. Once the Utes were each allocated their parcel, the remaining land, 523,000 acres, was sold to non-Indian homesteaders at \$1.25/acre. Historically, in order to help the

Utes transition to production-based agriculture, food rations were given by the government to each Indian family.

Jim Fitzgerald, a respected sociologist and long-term resident of La Plata County, wrote his graduate dissertation in 1982 on the relations between the communities and schools of Ignacio from 1900 until 1982. It provides valuable data, long-term resident interviews and insight into the historical settling of this region.<sup>1</sup> Annie is a woman Jim interviewed for his dissertation. She is a member of the Southern Ute Indian Tribe and was raised in La Posta in the 1930s. In this excerpt from Jim's paper, she recalls the food rations and subsistence agriculture she experienced during her lifetime:

We were very poor, but we were happy.... We didn't have contact with anything else except going to Ignacio for rations and coming home.... We struggled, you know. There were days we didn't have anything, near anything to eat. We didn't starve either. My grandmother had sheep, and if she thought we were on the verge of starving, we she'd kill one of the animals...and they she'd feed us and dry the rest. The rations weren't enough. If my dad hadn't planted... in the summertime he'd plant squash and corn. If it weren't for that, the rations wouldn't last very long. He'd raise his own wheat... take it clear to Red Mesa to have it milled. He hunted, and my grandmother would prepare it.<sup>2</sup>

Mexico once stretched much farther to the north, encompassing New Mexico and southern Colorado. After the Mexican-American War of 1846-48, when under the Treaty of Guadalupe these lands were ceded to the U.S., many Latinos remained in the area. They were traditionally ranchers and subsistence farmers with strong ties to the land. Latino farms traditionally were not heavily mechanized and produced a great deal of food for home consumption. Fitzgerald reports: "In Ignacio, Spanish homes could often be detected by the presence of vegetable gardens, chicken coops, and rabbit hutches in their front and backyards."

In the late 1800s, however, many Mexicans in the area were attracted to employment in the construction of the Denver and Rio Grande railroad and Ute housing projects. During that time many Latinos also began to sharecrop with the Utes.

Anglos first settled the Durango area in the 1880s, when mining, homesteading and ranching operations began to appear and prosper. Easterners or British immigrants traditionally owned the land and cattle companies, two of which were the HD Cattle Company and the Beaver Creek Cattle Company. Anglo farms and ranches tended to be larger in size than Ute and Latino farms and were more heavily mechanized and better irrigated. One interesting observation is that many cattle barns were built in the early 1900s and they continued to grow in size where operations moved into the highlands. The winters in the West were rough, and barns provided shelter for animals in the cold weather and a place to store hay for winterfeed.

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<sup>1</sup> Fitzgerald, J. (1982). *An Ethnographic Description of the Relations between the Communities and Schools of Ignacio, Colorado from 1900 until 1982*. Boulder: University of Colorado.

<sup>2</sup> There is a contemporary Tribal Ration System currently in place in Ignacio. See Custom Farm interview.

Because many of the land and cattle operations used the Ute Reservation for grazing, conflicts arose between the Utes and the Anglo cowboys. The violence ultimately forced some of the Utes farther southwest to the town now known as Towaoc, the current home of the Ute Mountain Ute Tribe.

By the time the towns of Durango, Bayfield and Ignacio were incorporated (in 1880, 1906 and 1913, respectively), the area was scattered with Anglo, Ute, and Latino settlers on diverse small farms and a series of market towns which served the rural areas. At this time it was common to have families who raised wheat, potatoes, oats, milk, butter, cream, wool, meat and eggs. People would travel to the market towns on a regular basis to buy, sell and trade these commodities. Food production and market towns both prospered in the early 1900s.

In a recent talk at the Colorado State University Research Station in Hesperus, Jim Dyer<sup>3</sup> spoke about the town of Marvel and how the town and its inhabitants were extremely self-sufficient in the early 1900s. According to Jim, Marvel history books indicate Marvel once supported three stores, a garage (repair), a shoe repair shop, a blacksmith, The Marvel State Bank, a restaurant, a pool hall, a dance hall, an ice cream shop, a flourmill, two churches and a school.

The 1930s to the late '40s were hard on agriculture everywhere. Hit by the depression of the 1930s, many farmers and ranchers couldn't survive a bad crop year, drought or declining markets and had to sell their land or find work off of their farms to make ends meet. Then came World War II, which changed the face of agriculture for many reasons. Not only did it draw young men off their families' farms and into war, but the byproducts that came from warfare were transformed into never before used chemical pesticides, herbicides and fertilizers that allowed farms to operate on a completely different scale using completely different practices. With the development of a national agricultural market, small farms became more and more a thing of the past. Also, many of the cattle companies that came to the area to build prosperous enterprises had, by the 1930s, folded due to harsh weather and the relative unreliability of the cattle market.

*"What agriculture we're left with here today consists of the survivors of this era, who are primarily the land inheritors and the larger cattle outfitters."*

**Jim Fitzgerald**

In the 1940s, the natural gas market emerged and a new class of Anglo gas workers moved into the area. Because the gas workers were new to the West, there was a large cultural divide and a lack of acceptance between them and the

"locals." At the same time, many local men were drawn away from their farms to the stability of a paycheck from the oil and gas industry.

In the 1950s, Fitzgerald reports, despite 80 years of U.S. government effort to turn them into farmers, most Utes did not engage in full-time farming. Rather, they received cash income from the newly developed gas fields and leased their arable land to Anglo farmers and ranchers.

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<sup>3</sup> Jim Dyer and his wife Pam live in Marvel. They raise churro sheep and sell their wool at the Durango Farmers' Market. Jim is also Director of the Southwest Marketing Network and The Colorado Organic Producers' Association.

La Plata County still has strong agricultural ties; certain aspects of the industry remain the same, while others have changed dramatically since the 1950s. What remains are the cattle farms and the production of hay and forage. What has changed in the past fifty years, however, is the growing influence of the oil and gas industry on agriculture, the fact that family commercial dairies have decreased from about 50 to zero, and the overall diversity of crops has declined, as has the concentration of food production. A look at the Census of Agriculture gives greater insight into these differences.

## **A HISTORICAL COMPARISON OF FOOD PRODUCTION IN LA PLATA COUNTY: A look at the US Census of Agriculture<sup>4</sup>**

The first agriculture census was taken in 1840 as part of the sixth decennial census of the population. The US Department of Agriculture's National Statistics Service now conducts the Census of Agriculture. To this day, it is the only source of statistics on American agriculture showing comparable figures by county.<sup>5</sup>

**Table 1. A COMPARISON OF THE CENSUS OF AGRICULTURE IN LA PLATA COUNTY, 1945 – 2002<sup>6</sup>**

<b>Year</b>	<b>1945</b>	<b>2002</b>
<b>Number of Farms:</b>	936	923
<b>Farm size<sup>7</sup>:</b>		
<i>Acres</i>		
1-9 acres	87	53
10-49	324	304
50-199 (179)	388	262
>200 (180)	45	304
<b>Crop<sup>8</sup>:</b>		
<i>Farm number</i>		
Apples	336	-
Irish potatoes	168	-
Milk cows	730	55
Chickens <sup>9</sup>	757	58
Vegetables <sup>10</sup>	684	-
Cattle	778	363

### **1945**

Interestingly enough, even after the impacts of the Depression<sup>11</sup> and WWII, agriculture in La Plata County in 1945 appeared to be doing well. The 1945 US Census of Agriculture reports 28,000 bushels of apples, 24,000 bushels of potatoes and 2.2 million gallons of milk produced in the county, showing that amidst all of the obstacles of the time, this area was producing a significant amount of food.

<sup>4</sup> All 2002 Census of Agriculture figures and information can be found at: [www.usda.gov/nass/](http://www.usda.gov/nass/).

<sup>5</sup> For a complete history of the United States Census of Agriculture go to: [www.nass.usda.gov/census/census97/history1997.pdf](http://www.nass.usda.gov/census/census97/history1997.pdf).

<sup>6</sup> In comparing Census of Agriculture data from the years of 1945 and 2002, it must be noted that these are rough figures, as the way data is recorded has changed.

<sup>7</sup> This number is based on the total number of farms reporting acreage. Only 844 out of 936 farms reported this number.

<sup>8</sup> This information is for type of crop grown on a given farm. The numbers indicate which farms, of the 936, were raising any of these crops in 2002.

<sup>9</sup> Broilers and layers

<sup>10</sup> Vegetables raised were for household use.

<sup>11</sup> Although there was still high productivity, the Depression brought low prices for agricultural products. For those who still farmed, WWII brought with it a rebound in prices at continued high production.

## 2002

Since 1945, how data is recorded for the US Census of Agriculture has changed. In 2002 the items under “selected crops harvested” for all Colorado counties are not milk, apples, and potatoes, as they were in 1945. Today they are recorded as corn for grain, corn for silage or greenchop and wheat for grain (all including winter wheat and spring wheat, both for grain). Livestock and poultry are still listed items and measured by farm number, and so they have been included in Table 1.

In 2002 the Census of Agriculture reports the top crop items<sup>12</sup> in La Plata County as forage<sup>13</sup>, oats, corn for silage and apples. It is clear that since the early 1900s until today, this area has remained focused on livestock production.<sup>14</sup> In fact, the total number of cattle and calves raised in La Plata County hasn’t changed much in over 60 years. What has changed, however, is the amount and diversity of food that is being produced.

The number of farms that raise chicken, beef, milk, potatoes, apples and vegetables for household use has decreased since 1945.

## CONCLUSION

Although it is somewhat difficult to compare census information from different eras, what has undoubtedly changed since 1945 is that La Plata County agriculture does not concentrate on food production to the extent that it once did. The number of farms that raise chicken,

La Plata County agriculture does not concentrate on food production to the extent that it once did.

beef, milk, potatoes, apples and vegetables for household use has decreased since 1945. And thus the diversity of what was once grown here has also decreased.

Positively, this information illustrates what *can* be grown in La Plata County. It shows regional potential for greater food production by supporting the idea that agricultural production in the Southwest was once more varied, and that there were simply more people raising food.

## 2. AGRICULTURE TODAY

### ***Assessment Methodology.***

Quantitative data for this section comes mostly from the US Census of Agriculture and the La Plata County Tax Assessor’s Office. The qualitative information was gathered through surveys and in-person interviews. Those interviewed can be classified into three general categories:

- **Farm and Ranch Interviews:** With special attention to include a diverse cross-section of farms exhibiting variations in size, location, and practice.

<sup>12</sup> Planted acreage

<sup>13</sup> Land used for all hay and haylage, grass silage, and greenchop

<sup>14</sup> According to Jerry Zink, owner of SunnySide Meats Processing Facility in Durango, “In the early 1900’s there were vast numbers of sheep in the area. Since the 1960’s, however, many cow-calf and sheep operations were replaced by horse operations.”

- **Agricultural Expert Interviews:** With people working in the private or government sector of the agricultural industry. Examples of the industry include: The San Juan Basin Research Station; San Juan Research, Conservation and Development (RC&D); La Plata County Cooperative Extension and The Southern Ute Custom Farm.
- **Agricultural Focus Groups:** With groups working on issues related to food and farming. Examples include The Farm-To-School Working Group, The Fort Lewis Mesa Planning Group and The Red Mesa Community Food Forum.

## CURRENT AGRICULTURAL ATMOSPHERE

A look at the Census of Agriculture will tell you that the number of farm operations in La Plata County is not going down. In fact, small farm numbers<sup>15</sup> are increasing.

**Trend:** Overall farmland acreage has declined slightly, but the number of farms is going up.

### HOUSE BILL 35

Agricultural land continues to be subdivided, and many of these smaller parcels are now used to raise horses or left fallow. This is a very sensitive subject in the county, because according to some experts, a great portion of farmland in the region has been subdivided to the point where it cannot be made profitable anymore. House Bill 35, passed in the 1970's, allows property owners to subdivide their land into 35-acre or larger parcels without going through the county government for approval. Basically, it gives large landowners the opportunity to sell off parcels of their land, and in La Plata County this has happened all over. What this has created is an area that appears "chopped up" into a large number of smaller farms, some of which may not be very productive.

According to Doug Ramsey, who works with San Juan Research, Conservation and Development (RC&D), "Most people who buy these (35-acre) parcels spend all of their money buying the land, but then can't afford the equipment to manage it properly." Doug worries about the intentions of these landowners and their knowledge of farm practices. "They may put a couple of horses or cows on it, but isn't managed properly. Putting a couple of animals on the land is also sometimes done to keep taxes in the agricultural bracket – it's cheaper. What you end up with is a house every 35 acres."

According to the County Tax Assessor, in 2005 there were 272, 930 agriculturally taxed acres in La Plata County, approximately 25% of the total county land base. For tax purposes, agricultural land is classified based on the primary use of the land, which must be raising an agricultural product for sale. This could be anything from a horse to a vegetable farm.

*"Land owners only have to report some agricultural activities to be taxed at a lower agricultural rate, a rate which is considerably lower than residential."*  
**Doug Ramsey**

<sup>15</sup> The USDA defines small farms as enterprises earning less than \$250,000 per year from farm income.

## THE CONSERVATION RESERVE PROGRAM (CRP)

There are also an abundant number of acres in the federal CRP Program in La Plata County. This is a program in which farmers agree to set aside acres for a 10-15 year period to let the land rest. The government in turn pays a rent for this rested land. This program provides agricultural income on land that may otherwise be sold off to development.

## COUNTY TAX ASSESSOR RECORDS

The tax assessor's office keeps the most detailed records of agricultural land in the county based on irrigation type and crop selection.<sup>16</sup> This information begins to assess the types of crops grown in the county, most of which are grass and hay grown for the cattle industry this area has historically supported. Dairy hay, however, sells for a premium, and since there are no commercial dairy operations in the county that require outsourced feed, most dairy hay is now exported to New Mexico and Texas, and in some cases, due to its high protein content, even to Great Britain.

A breakdown of county agricultural lands, as recorded by the La Plata County assessor in 2005, paints a more detailed picture of the current state of agriculture in the county. (Table 2)

**Table 2. LA PLATA COUNTY AGRICULTURAL LANDS BASED ON FARMLAND TYPE & CROP SELECTION**

Farmland Type	Acreage	Crop
Grazing Land	180,240	Grass
Flood Irrigation	38,761	Grass
Dry	30,643	Wheat, oats, canola
Meadow Hay	15,091	Grass
Sprinkler Irrigation	8,147	Alfalfa hay
Orchard Land	48	Apple
<b>TOTAL</b>	<b>272,930</b>	

## THE STATE OF AGRICULTURE

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### INTRODUCTION

To discuss the regional state of agriculture, agricultural experts and farmers were asked to discuss the present challenges and opportunities of the current agricultural system. Throughout the course of the assessment, several themes regarding the current state of agriculture were identified. These themes are addressed below in a format that addresses systematic challenges along with the opportunities they inspire. The sections are referenced by interview and survey data.

*Themes regarding the current state of agriculture in La Plata County:*

- LARGE-SCALE FARMING AND RANCHING IS DECLINING
- THERE IS AN OVERALL LACK OF LOCAL FOOD PRODUCTION

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<sup>16</sup> County Tax Assessor's Office's 2005 *Assessor Report*. There is a state website for all Colorado county property tax information: [www.dola.state.co.us/propertytax/publications](http://www.dola.state.co.us/propertytax/publications), search under "Colorado Assessed Values 1982-2005".

- THE RISING COST OF LAND MAKES LARGE-SCALE FARMING OPERATIONS DIFFICULT DUE TO CASH FLOW
- WATER AVAILABILITY IS AN ISSUE FOR FARMERS
- THE LOCAL CLIMATE CREATES A MARGINAL GROWING SEASON
- THE OIL & GAS INDUSTRY AFFECTS LOCAL AGRICULTURE

## LARGE-SCALE FARMING AND RANCHING IS DECLINING

La Plata County, an area known for land and cattle companies, has lost many of the large ranches it once supported. Development pressure and a lack of youth interested in taking over the family farm drive this trend.

### CHALLENGES

A growing local population has created immense pressure on agricultural land for development. Since agricultural land is found on much of the immediate outskirts of town, this land has been some of the most desirable for new development, and also the most

“The big ranches are declining due to development pressure. The money is too good to pass up.”  
**Beth LaShell**

affordable. This trend has driven up the cost of land in much of the county. For the farmer, the prospect of making more money through development than could be made keeping it in production is reason enough to sell off pieces of land.

Another reason for a decline in production agriculture is that family farms are having a hard time staying in the family. Many children of farming and ranching families now choose to leave the farm for the opportunities an urban life can provide. As fewer and fewer young people choose farming as a way of life, the average national age of the farmer will keep going up. It is now around age 55.

### OPPORTUNITIES

Some of the children of family farms, however, have chosen to stay in the business, and are doing quite well. James Ranch, located on Highway 550 just north of Durango, is now divided into several micro farm operations on one family farm. Although beef is still the primary focus, one of the five James children is now making cheese and sells it at a roadside stand, the Durango Farmers’ Market and to some grocery stores. Another sibling has turned a portion of the ranch into a diverse vegetable and flower garden and is selling her products to the local market.

“Small farms in the region are booming.”  
**Beth LaShell**

Beth LaShell, of the San Juan Basin Research Station and Fort Lewis College, talked about Cole Ranch, located East of Elmore’s Corner, as another example of children returning to invest in the family farm. Traditionally a hay and cattle operation, one of the family’s grandsons returned to the farm and is now growing vegetables and raising pork to sell at the Durango Farmers’ Market. “Their grandson is doing things differently and teaching the grandparents that it can be done,” Beth said. “The grandparents (the traditional farmers) see the money and are attracted to that.”

## THERE IS AN OVERALL LACK OF LOCAL FOOD PRODUCTION

Although there are farms dedicated to producing food for a local market, the overall lack of food production is an issue.

### CHALLENGES

A look at the Census of Agriculture's data from 1945 to 2002 illustrates this point. It shows fewer farms in La Plata County dedicated to producing food crops in 2002 than in 1945. Once an area that supported an array of food crops such as potatoes, apples, milk, beef and chicken, the area now lacks this diversity in the same capacity. Take dairy as

an example: In 1945, 730 farms in the county had milk cows. In 2002 the number was 55. Each food crop has specific reasons for its decline. According to Doug Ramsey, of San Juan

"Local production is primarily hay and alfalfa for forage. You don't see wheat; you don't see row crops."

**Doug Ramsey**

RC&D, a decrease in milk production happened in part due to economies of scale and a lack of support for bottling. "The milk had to be shipped out of the area to be bottled and then shipped back for sale. The price of milk was only \$10 per hundredweight. You would have to have a lot of cattle producing milk in order for the operation to pay you back. Economics of keeping it profitable made it very hard to nearly impossible."

"Forages, dry beans, fruit, and potatoes are some of the more traditional crops known in the area."

**Kevin Mallow**

### OPPORTUNITIES

Positively, this information illustrates what *can* be grown in La Plata County. It shows regional potential for greater food production, by supporting the idea that agricultural production in the Southwest was once more varied, and that there were simply more people raising food.

The demand for local food exists and is on the rise. It has been expressed (via the assessment) by schools, restaurants, by consumers and by retail stores.

### THE RISING COST OF LAND MAKES LARGE-SCALE FARMING OPERATIONS DIFFICULT DUE TO CASH FLOW

Large land payments, taxes and the inherent costs involved in getting a large-scale farm operation off the ground are some of the challenges a new farmer must overcome to make an operation profitable.

"Starting from ground zero is totally different than to farm as a hobby or a lifestyle choice."

**Kevin Mallow**

### CHALLENGES

This is especially true for new farmers trying to establish an operation. There are many costs associated with starting a farm operation, the largest being the cost of the land. Depending on its location and water availability, land in La Plata County costs anywhere between \$2,000-\$5,000 per acre. This problem has become so challenging for locals that it is not uncommon to hear comments like Kevin Mallow's. "I

"Getting a true agricultural operation to cash flow will be extremely difficult if you're not already established."

**Doug Ramsey**

don't feel someone could come into the area, purchase land and make a living at it, unless they have \$1,000,000 to buy the land outright," he expressed in an interview.

Doug Ramsey pointed out that commodity prices have changed very little over the past fifty years. In other words, crops are not making more money than they used to at market. What have increased, however, are the cost of living and the cost of farm inputs like fertilizer and diesel to run farm equipment.

All of this makes creating an economically viable large-scale farm operation difficult. For a farm operation to truly cash flow, there must be money left over from the gross income for a person to live on. Doug Ramsey takes a realistic approach to relying on farming as a way of life: "If you really look at numbers and do a business model, if you need \$40,000 to live, you need to sell \$100,000 worth of product to take some of that out to live on."

## OPPORTUNITIES

Locating more affordable land is challenging, but not entirely impossible. Doug believes Montezuma and Dolores Counties (just north and west of La Plata County respectively) are more feasible areas for starting up agricultural operations in the region. "It's not easy, but it's possible. In those areas you can make enough money to live on." It's also true that if a farmer owns his or her land outright, or as in the case of the James and the Coles, has a son or daughter return to a farm that is already paid off, the farmer or his offspring will be in a

"Overall, farming has been a great experience.... We have a successful business that allows us to work outdoors and to work seasonally. We have narrowed down the crops we grow to (include) only those that bring us a good return."

**Rosie Carter. Stone Free Farm**

better position to make the operation a success.

There also exists the opportunity to purchase small parcels of land, one to two acres, and to farm bio-

intensively using practices that increase yields and use less land to grow food. Rosie Carter and Chuck Barry, who own Stone Free Farm in Cortez, are living testament to the amount of food that can be produced on a small acreage farm. Although they own 62 acres, Rosie and Chuck only cultivate three to sustain their farm business. They grow lettuce mix, carrots, tomatoes, beets and other vegetables, and they sell 90 percent of them at two farmers' markets. They sell the rest to area restaurants.

Local ideas for a Land-Link Program, one that would connect regional farm resources (such as available, arable land) with people interested in farming, was also suggested to address the issue.

## WATER AVAILABILITY IS AN ISSUE FOR FARMERS

Although the area is known for water issues, which seem to be on everyone's mind, surprisingly few growers mentioned water issues in detail. The Fort Lewis Mesa Planning Group, however, has spent vast amounts of time tackling this issue. Because the Fort Lewis Mesa District is located on the "dry-side" of the county and is predominantly zoned agricultural, they face many water allocation use and need issues.

## CHALLENGES

Trent Taylor, whose family owns a dry land wheat operation in the Red Mesa District of the county, talked about the challenges he deals with when it comes to water for his farm. According to Trent, “A big issue is that the best water rights service the land with lower quality soil, and the areas with the best soil are left without water.” Doug Ramsey, who raises sheep for fiber and meat near Hesperus in La Plata County, also has concerns about water for his farm operation. Unexpectedly, he had no irrigation water in 2002. This year (2006), he ran out of water by June 1st.

For many farmers in the area who raise livestock, a lack of water means not being able to raise pasture or forage crops for their animals. Some ranchers feel feeding their animals hay makes them smaller, and does not finish them as well as grazing could. Ultimately, it means buying feed, making an already challenging operation harder to afford.

“The Pine River Valley has good water storage.”  
**Sterling Moss, NRCS**

## OPPORTUNITIES

There are areas of the county that do receive an efficient, steady supply of water. According to Kevin Mallow of Tribal Water Resources, “The northwest side of the county receives very consistent irrigation.”

## THE LOCAL CLIMATE CREATES A MARGINAL GROWING SEASON

La Plata County does not support a year-round growing season, at least not one that can be accomplished without a greenhouse and some kind of costly external heat source. Some believe the growing season to be only 90 days, and in some parts of the county this is true. Regardless, it is a short growing season, and the area experiences unpredictable weather with high force winds, hail and drought.

“Farming in a high desert climate is challenging as is the weather: hail, frost, etc....”  
**Rosie Carter**

## CHALLENGES

It is widely recognized that variances in elevation and temperature make it hard to grow crops in the area. Frost dates on the dry side of the county, near Hesperus, are typically recorded as late as June 13 and as early as September 18. These temperatures, however, are extremely variable depending on where in the county they are recorded.

Having a three-month growing season also limits the types of crops that can be grown. According to Kevin Mallow, “The things that you can produce a lot of here you can grow anywhere. We have a short growing season. You can grow radishes, spinach, and squash. Things that don’t need a lot of heat.”

## OPPORTUNITIES

Some farms, located further south in areas like northern New Mexico and in Montezuma County, have less temperature variation and longer growing seasons. These counties supply the Durango Farmers’ Market and other regional retailers. Rosie Carter, who farms near Cortez, said, “Speaking for Montezuma County, we have relatively inexpensive land (for the Rocky Mt. region), abundant water, and not much competition in sales.”

“In this region a difference of 2,000 feet makes a huge difference in how many harvests of alfalfa you can have in a given year.”  
**Kevin Mallow**

But the ones who remain in the immediate area must appreciate the local climate as being both a benefit and a hindrance. Greg Vlaming, former horticulture agent<sup>17</sup> in La Plata County, is most optimistic about local growing conditions. “We can grow most vegetables and many fruits to very high quality (including organically) because of the abundant sunshine that exists here. We can grow both warm season and cold season crops. One hindrance and benefit is the unpredictable freeze and cold weather. This aspect of our climate produces stronger, hardier crops and helps control pests, as long as it does not freeze the crops.”

Greg is also a proponent of season extension practices and built a cold frame that produced greens through the winter of 2005-2006 to prove his theory. “We have such abundant sunshine and enough light to produce throughout the entire winter.” During the winter of 2005 Greg raised greens in a cold frame heated by two layers of plastic, Christmas lights, and a basin of water creating thermal mass. He was able to market his greens to a restaurant in Telluride, which took all that he could produce.

Zane Baronowski, a certified nutritionist and local manufacturer of health food bars, is also an advocate of greenhouse production. He feels greenhouse production is a good idea due to the specifics of the regional climate: low humidity, abundant sunshine, temperature fluctuations and drought. “If we took every acre growing any kind of crop and put that (same crop) under greenhouses,” Zane stated, “we would use ten times less water and produce ten times the food year-round.”

## THE OIL & GAS INDUSTRY AFFECTS LOCAL AGRICULTURE

### CHALLENGES

The oil and gas industry, which emerged in the area in the 1940s, pulled many men away from farms as an attractive, off-farm income source. The industry sparks much of what boils down to a love-hate relationship with the county and its inhabitants. Sterling Moss is one who believes the oil industry has done some good for people in the region, namely farmers. According to Sterling, royalty payments and off-farm income from work in the gas fields is what allows people to dabble in farming. He believes the oil and gas industry is providing the opportunity for agriculture to continue in the area, even if it must take a different form than in the past. “If it weren’t for oil production in the county, due to cost-shares that fund various Natural Resource Conservation Service (NRCS) projects, the NRCS would look very different.”

Because most of the land in the county is devoted to production that requires irrigation practices that are less labor intensive, such as rain and flood irrigation, the system allows for off-farm employment. “It’s one thing to be a part time farmer when you are growing grass, but if you are growing row crops it requires so much more time to irrigate and to harvest,” Sterling stated.

“Oil money indirectly has helped fund higher end agricultural projects in the county.”  
**Sterling Moss**

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<sup>17</sup> Greg recently moved to the State of Michigan to farm, selling his farm in La Plata County.

## OPPORTUNITIES

Although gas work provides an income, it is difficult to produce row crops for food production without devoting full attention to the farm. As Sterling sees it, “Agriculture will probably continue the way it has been lately, unless we come up with a huge shortage somewhere else in the country creating demand that is attractive to producers. Everything always changes gradually.”

## CONCLUSIONS

Respondent themes that emerged via the assessment indicate that people feel there are deeply entrenched cultural, climatic and economic challenges that make agricultural operations difficult in the region. There are, however, many suggestions for creating a system to work within the current parameters to make agricultural ventures more successful. And, there is great optimism for the future of agriculture in the region.

## THE FUTURE OF AGRICULTURE

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### INTRODUCTION

Although one person reported, “agriculture is dead in our region,” most were optimistic agriculture will continue to exist as a vital part of the local economy. There are apparent signs that agriculture is important to the community, and there are clear visions on how to take regional agricultural development in a positive direction. To begin to address challenges with identifiable opportunities, community members were asked to name resources of the current system and specific examples of projects that could foster successful agricultural development. These are listed below.

“There are many opportunities for others to go into this business as demand outweighs supply, and there are many niche markets that could still be filled.”  
**Rosie Carter**

### RESOURCES

#### 1. THERE IS GROWING SUPPORT FOR A LOCAL FOOD ECONOMY

There is a growing support for local food produced by local farms and ranches. Schools, restaurants, consumers and grocery stores have all expressed interest in purchasing more local products.

- “*There is a demand for local food. The La Plata county area is very well educated and informed and wants a quality food source. People here are food savvy.*” Peg Redford
- “*People are starting to be more conscious of a locally based market.*” Rosie Carter

#### 2. THERE IS POTENTIAL TO DEVELOP SMALL SCALE SPECIALTY MARKETS

There is a lot of enthusiasm around market potential in the region. Since the number of producers growing food crops is so small, there are many people who believe there is great opportunity for people to sell what they grow, as demand seems to greatly outweigh the supply in the region.

- “*Right now direct market opportunities are extremely underused. There needs to be local empowerment through education, and more backyard and small-scale farms and gardens. We have the benefit of local food and agriculture sensitivity.*” Greg Vlaming

- “Hay for straw-bale, flax for cloth and seed for oil are all ideas for alternative products that could do well here.” Ron Englander

### 3. THERE ARE OPPORTUNITIES FOR AGRICULTURE IN THE LIVESTOCK INDUSTRY

There are examples of area livestock producers successfully marketing what they raise. Two examples are James Ranch, which, sells the animals raised on the ranch to local buyers, and Fox Fire Lamb, located near Ignacio, which raises, processes, and sells its organic lamb locally.

“If farmers could see that small farms are viable in this area, they would be flooded.... If they only knew how much money I made they would be totally surprised.”

**Area farmer**

According to Sterling Moss, the livestock industry currently has more potential than any other sector of agriculture in our region. He suggests, “If we converted 80% of the horses out here to cattle, then we could get a lot more value out of the land. Feed is already being raised here, but is mostly being given to horses. We could improve the livestock situation here. We do have a lot of pasture, but it’s not being used most efficiently to produce beef. We have Sunnyside Meats to do the processing.”

### 4. THERE ARE SPECIFIC MARKET OPPORTUNITIES FOR LOCAL AGRICULTURAL PRODUCTS

Public and private schools, restaurants and natural food stores have all expressed a desire to carry more local foods. Consumers have also indicated they would like to see more farmers’ markets, farm stands and Community Supported Agriculture (CSA) programs. It was also identified that farmers need to know the specific products people are looking to purchase.

## PROJECTS THAT COULD FOSTER SUCCESSFUL AGRICULTURAL DEVELOPMENT

### 1. SUPPORT FOR THE MARKETING, STORAGE AND DISTRIBUTION OF LOCAL FARM PRODUCTS

Many farmers and retailers expressed the need for a distribution system. This project would address a lack of dependable delivery systems for receiving or delivering local products, and could offer support to farmers who don’t have time to do their own deliveries.

- “A community storage and distribution center for local goods is needed. The small farmers, and even the larger ones, cannot afford to have their own marketing, storage and distribution services.” Trent Taylor
- (We need) direct marketing to restaurants. Participant, Red Mesa Forum

### 2. CONSUMER EDUCATION TO SUPPORT LOCAL FOOD AND AGRICULTURE

It is clear from farmers that there is a need for an educational campaign that would increase community awareness on the benefits of buying local. This would build on existing momentum and increase support for local agriculture.

- “(We need) an education program so local people will start purchasing local.” Dave James
- Farm tours. Participant, Red Mesa Forum

- *“Come home” campaign.* Participant, Red Mesa Forum
- *Build agricultural production efforts into our organizations’ think tanks like local community development/ economic development plans and chamber activities.* Participant, Red Mesa Forum
- *Provide presentations to organizations.* Participant, Red Mesa Forum
- *Having the farmers’ markets accept WIC and Senior and Food Stamp coupons.* Participant, Ignacio Food Forum

### **3. TRAINING AND SUPPORT FOR NEW FARMERS**

More technical training for new and inexperienced farmers is needed. This would create a bridge between agricultural development and the need to foster new farmers.

- *More education on “what you can grow” given the type of land and amount of water.* Participant, Red Mesa Forum
- *Demonstration gardens.* Participant, Red Mesa Food Forum
- *Season extension.* Participant, Red Mesa Food Forum
- *Education on food resources including wild foods, storage, season extension, preservation, how to eat seasonally and how to grow.* Participant, Ignacio Food Forum

### **4. A LAND-LINK OPPORTUNITY**

A network between landowners and non-owners or small-owner producers to make use of land, production and water is needed. This would be a system that could connect those with agricultural resources to those without resources who are interested in putting land into production.

- *Talk with landowners who are interested in leasing their land. Preferably those landowners with water.* Participant, Red Mesa Forum
- *Leasing partnership between people who want to farm and raise livestock and people with land.* Participant, Ignacio Food Forum

**AN EXAMPLE OF LAND-LINK:** Jerry Zink, who owns a ranch and meat processing facility near Sunnyside School, has noticed an interesting trend on his county road that he never thought he would see. He thought that when residential development came to his neck of the woods, the three-acre lots would only be used for residential use. But what he is seeing instead is small-scale organic plots put into residential sub-divisions. The cost of the land seems to be relatively low. The owner of the land will lease out the land for very little to the farmer.

*“A single lot owner can put in organic production on their place, half of their neighbor’s place, and then skip a plot and put in on the next plot of land. There are many lots that don’t have water, and don’t have good soil, but in his area this works well. This would never work on large scale, but works well on a small scale. The residential property owner would rather see their back acre used to farm organically than have it grow into weeds.”* Jerry Zink

### **5. SUPPORT FOR MORE GROWING SPACES**

The need for more food production could be addressed and encouraged by individual community members, agencies and organizations, as well as by seasoned practitioners.

- *Better food access for low-income families.* Participant, Ignacio Food Forum
- *Community gardens.* Participant, Ignacio Food Forum

- *A recreation center with growing spaces.* Participant, Ignacio Food Forum
- *Seed exchanges.* Participant, Ignacio Food Forum

## **FORT LEWIS MESA PLANNING GROUP: *Ranching & Land Use Planning; New Prospects***

*A Contribution from Erick Aune*

*“Despite their embrace of the community’s moral claims, agrarians have generally been reluctant to transform moral duties into binding legal ones. Land-use laws in particular are often suspect, given their perceived use by outsiders as tools to disrupt and restrict local life. Outside the land-use realm, individual agrarians can successfully resist outside pressures they dislike – by home schooling and religious worship, for instance. But there are many other pressures, economic and land-use related ones in particular, that can easily crush an unorganized people.”*

**The New Agrarianism: Land, Culture and the Community of Life, Edited by Eric T. Fryfogle, 2001**

For over 12 years a dynamic group of community members have been engaging local government with the challenge to provide leadership backed by policy that reflects the unique values of the local community. The group is organized on many levels, but in many ways it is distanced from the decision-making that occurs in Durango City Hall.

This may be changing, with the recent adoption of a District Plan that is truly a product of the local community. For over 18 months, members of the Fort Lewis Mesa Planning Group have quietly and not-so-quietly debated the finer points of water scarcity, land development, agriculture/ranching, rural atmosphere and the opportunity that is their future.

It is not the plan that demonstrates the significance of the work this group is engaged in, but the establishment of an ethic or culture that looks at local land use tools as a means of preserving the agrarian character of the district.

### **OPPORTUNITIES**

The Fort Lewis Mesa District Plan lays the foundation and establishes a capacity to begin putting in place substantive policy that offers resources for the agrarian community.

**Scope:** Derived from the willingness to “plan for agriculture” the Fort Lewis Mesa Planning District is committed to expanding the resources available to La Plata County government and the community. In order to develop these tools and resources, engaging the appropriate organization that has broad-based experience in agricultural preservation is required. The following methodology frames the willingness to plan and the opportunity to use tools previously overlooked.

- Help communities build support for land protection, and create effective land protection programs. Training and outreach programs will be established to garner support.

- Work with existing efforts and groups such as the Growing Partners Community Assessment, Farm-to-School and the USDA’s Resource Conservation and Development Council.
- Raise awareness about the economic, environmental, cultural and other benefits farms and ranches provide to individuals and communities.
- Develop a countywide assessment of all stakeholders within the agricultural industry and subsequently outline an economic and social framework that is geo-politically appropriate for La Plata County. This will add value to all efforts for the preservation of agriculture. Surveys and focus groups, feasibility studies, agricultural economic development program assessments, funding assessments, drafting and reviewing ordinances, strategic land identification and task force facilitation should be the tools utilized in this process.
- Create a customized approach to local preservation utilizing a combination of the policies, tools and practices listed below:

**Land Use Policies and Programs** – Purchase of development rights, transfer of development rights, agricultural districts, zoning, right-to-farm and tax relief, and conservation easements.

**Economic Development Tools** – Agritourism, direct marketing, branding of local agricultural products, value-added processing and product diversification.

**Conservation practices** – Integrated pest management, nutrient management and grass based farming, water conservation, dry land farming, etc.

If the planning process continues to be successful, the end product could be a customized *Farm and Ranchlands Protection and Conservation Program* for the district and possibly the greater agricultural community. This will allow diverse groups to capitalize on the strength of local, regional and global resources.

### **3. A PROFILE OF AGRICULTURAL ENTREPRENEURSHIP**

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#### ***Assessment Methodology:***

These profiles were compiled with interview and survey data, site visits and secondary research. Although approximately 20 farms were surveyed, only four are included in this section. The other interview and survey data from other farms and ranches was included previously in this chapter.

#### **INTRODUCTION**

For the purposes of this section, each profile exhibits a different sector of the regional agricultural industry, providing a diverse cross section of regional agricultural entrepreneurship and opportunity. Each is written as a personal account, experienced by the researcher, and presented as an educational piece.

- JOHNSON RANCH: *Creating Healthy Rangeland & Healthy Cows*
- ADOBE MILLING: *The Anasazi Bean Revival*

- AN INTERVIEW WITH STONE FREE FARMS: *A Diverse, Profitable Vegetable Enterprise*
- SAN JUAN BIO-DIESEL: *A Possible Opportunity for Area Producers*

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## PROFILE

### **JOHNSON RANCH - CLYDE, JANICE, & JOEL JOHNSON<sup>18</sup>:** *Creating Healthy Rangeland and Healthy Cows*

In mid-September, as the first wet snowflakes of the season fell onto the “dry side” of La Plata County, Clyde Johnson and I met his cattle on a section of rented land where his animals can graze on healthy, native grasses.

Clyde and his wife Janice purchased their first cows in 1996 and now have a sizeable herd, which they attempt to maintain at 35 head. “Living on the dry side and trying to raise your cattle on grass has its challenges,” Clyde said, as he began to explain the intricate system he has developed to holistically manage the livestock he and his family raise.

A man of strong principles, he strives to raise his cattle closely in sync with the natural world. The animals he has currently, 9 heifers, 22 calves and 1 bull, feed off the land (he only supplements what they forage with occasional bales of hay and salt licks). They procreate naturally without artificial insemination; one bull eventually gets to all of the heifers in a given year, and he encourages them to travel across the landscape, only grazing on the land as long as it can sustain them before moving on to greener pasture.

The pasture on the dry side isn’t your typical green grass pasture of heavily irrigated alfalfa. The landscape looks more like rocky desert than a place where cattle would comfortably make their home.

“Contrary to popular belief, we have a wealth of native grasses out here that, when properly managed, can make for good forage,” Clyde said. “We have yellow grass, blue gramma, Indian rye grass and galleta grass here. We also have sage and rabbit brush that the cattle love to chew on and, I’ve found, is considerably high in protein.”

As a land specialist with the Bureau of Land Management for 32 years, Clyde has many years of experience monitoring livestock grazing on public lands. This experience has taught him many valuable techniques that he now uses in his own livestock operation. He mentioned how properly grazing animals on areas prone to noxious weeds can eventually eliminate them from an area.

“If you get livestock on knapweed, yellow toad flax or even thistle before it flowers, they will chew it down to the ground, preventing it from ever flowering and thus spreading more of its seed.”

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<sup>18</sup> Clyde and Janice Johnson. (970) 588-3470. 3611 C.R. 100. Hesperus, Colorado 81326. [cj@johnsonranchcolorado.com](mailto:cj@johnsonranchcolorado.com)  
Profile researched and written by: Katy Pepinsky

Clyde and his cows have created a system based on self-reliance and adaptation. He believes his cows are less apt to predation because they breed in sync with the deer and elk in their area, and they develop thicker skins, so to speak, because they must forage for their food and become more independent.

As we drove around through Kline, Hesperus, and out to U. S. Highway 160, Clyde pointed out parcels where his cattle grazed during the past year. “Moving my cattle every two to four months, depending on the amount of rainfall dictating how fast the grass grows, is critical for healthy cows and healthy rangeland,” he said. This is a practice Clyde promotes through living example, with grazing permittees (people issued permits) via the BLM, and by educating his customers on how their food was raised.

Clyde sells most of his beef in bulk, instead of individual cuts, because this way he can keep down the price of the end product. He prefers to sell whole, half and quarter animals, which he receives orders for (with deposits) in the year. In many cases, these orders provide a year-long beef supply to a given family.

Clyde used to market a portion of his beef nationally through a mail order system. Recently, however, he has turned his focus to the local market, which he greatly prefers. He believes in producing food that his neighbors can afford, that is healthy and nutritious, and is raised in a way that takes care of the land that surrounds them.

Because Clyde sells all of his beef -- and a few chickens he raises each year -- directly to his customers, he uses the opportunity to educate them on how the animals were raised. He has given the books [The Grassfed Gourmet](#), by Shannon Hayes, a cookbook and guide to the benefits of grassfed beef, and [Holy Cows & Hog Heaven](#), by Joel Salatin, which also promotes grassfed livestock and local food options, to customers when they pick up their orders. The Johnsons take a holistic approach to producing food in the region. They believe in a system that offers real economic profits to the producer, and at the same time encourages sustainable land management.

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## PROFILE

### **ADOBE MILLING:** *The Anasazi Bean Revival*

Adobe Milling was started in 1983 to locally process the abundant supply of dry beans grown in the Dove Creek area. It is an area well known for dry bean, corn, and grain production. It is also an archaeological center, located on an agricultural plateau that was once home to thousands of ancestral puebloan indians who lived there for centuries and cultivated corn, squash and the Anasazi bean. These people built cities at Hovenweep, Chaco Canyon, and Mesa Verde.

The Anasazi bean was one of the few crops cultivated by the ancestral pueblos. Presently the beans are grown at 7,000 ft. of elevation on the same land the ancestral pueblos inhabited. Once a staple for natives, Anasazi beans are presently recognized as an heirloom, gourmet bean variety, and are sold as such.

## HISTORY<sup>19</sup>

In the 1980's, a member of an archeological team from UCLA was looking for remains of pygmy elephants that roamed the earth thousands of years ago in the area now known as New Mexico and came upon these beans. The beans were in a clay pot sealed with pine tar and were determined by radio carbon dating to be over 1,500 years old. When planted, some of the beans germinated. The beans were simply called "New Mexico Cave Beans" after the discovery of the half dozen or so found in a cave once inhabited by native people.

## DESCRIPTION<sup>20</sup>

The Anasazi bean is a member of the *Phaseolus* family and is related to the pinto bean. Fresh Anasazi beans are white with brownish-purple markings, while the dried ones are browner. When cooked, the beans are about half an inch (1.25cm) long, and their color fades to pinkish-beige.

Adobe Milling  
1-800-542-3623  
PO Box 596  
Dove Creek, CO  
81324

The Anasazi bean provides a good example of a native food crop variety that has been revived and planted in an area where it was once a staple to the native population. It is also a crop adapted to the local environment, and even centuries later, produces well in the area. This bean is what Gary Nabhan of the Center for Sustainable Environments at Northern Arizona University refers to as a “heritage” variety, and gives insight into the types of food once enjoyed in the area. According to Gary, heritage foods exhibit exquisite historical flavors and provide a cultural legacy for future generations.

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## PROFILE

### **AN INTERVIEW WITH STONE FREE FARM<sup>21</sup>:** *A Diverse, Profitable, Three-Acre Vegetable Farm*

## INTRODUCTION

Rosie Carter and her husband, Chuck Barry, are the owners of Stone Free Farm in Cortez. Since 1995 they've been producing over 20 different varieties of vegetables and herbs for local customers. Although they own 62 acres, they only cultivate three of those for their business.

Every week from mid-May thru October they harvest their crops by hand and deliver them directly to customers at area farmers' markets and fine restaurants. They grow as nature intended, without the use of synthetic amendments of any sort. Instead, Rosie and Chuck utilize sustainable practices including crop rotation, water conservation and cover cropping. In this interview, Rosie provides insight as to how to run a successful farm operation, with examples detailing the growing and selling of agricultural products locally.

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<sup>19</sup> Story provided by Ellen's Kitchen: <http://www.ellenskitchen.com/recipebox/beanspeas2.html>

<sup>20</sup> [http://www.pcnaturalmarkets.com/health/Food\\_Guide/Anasazi\\_Beans.htm](http://www.pcnaturalmarkets.com/health/Food_Guide/Anasazi_Beans.htm)

<sup>21</sup> Rosie Carter & Chuck Barry. 14481 CR 21, Cortez, CO 81321. (970) 565-4170.  
Interview conducted by: Elisha Herb

**Q.** How long have you been farming? What brought you or your family into farming?

**Rosie:** *I've been working on small-scale organic farms for 18 years and got into it when I was going to school in Santa Cruz, Calif., where there's a huge organic farm scene. Both my husband and I grew up with large, extended family gardens.*

**Q.** Please describe your farming practices.

**Rosie:** *We follow organic methods – crop rotation, cover cropping, drip irrigation, monitoring soil fertility, mechanical weed control, row covers to protect from insects, very few organic pesticides – encouraging diverse insect, bird and animal populations.*

**Q.** Which of the crops, or value added products, are the most profitable for your farm and why?

**Rosie:** *Lettuce mix, carrots, tomatoes and beets are our top four because they are popular items that we sell a lot of at a good price.*

**Q.** How would you describe your experience farming in the Southwest, and what changes have you made seen since you began farming?

**Rosie:** *Overall it's been a great experience – we have a successful business that allows us to work outdoors and to work seasonally. Since we began farming, the primary changes we have made have been to narrow down the crops we grow to only those that bring us a good return, and to hire more employees so that we don't have to kill ourselves.*

**Q.** How do you sell your products?

**Rosie:** *We sell about 90% at farmers' markets and the rest to restaurant accounts. All locally.*

**Q.** If you have ever sold your products through a CSA, please tell us about your experience, the benefits and challenges.

**Rosie:** *Yes, we had a small CSA for 8 years. It was a good way to market our produce and build our customer base when we started out, but we realized that it required a lot of extra work organizing people and we didn't make any more (money). Also, we had to grow a wider variety of produce – vegetables that weren't very good moneymakers otherwise – so that people would have a good variety.*

**Q.** Do you currently sell to any local restaurants, businesses or schools?

**Rosie:** *Yes – Rico Hotel and Jose de Mancos.*

**Q.** Do you have suggestions for food projects?

**Rosie:** *Yes, farmers' markets, farmer education/training, and cooking classes*

**Q.** In what ways could you, or are you currently, participating in these programs? What resources would make participating in one of these programs easier for you as a farmer?

**Rosie:** *We sell at two farmers' markets, and I do the organization for one of those (Cortez). I've had talks with people about the idea of a farm-training program at the San Juan Basin Tech College, but it's still talk. I do not participate in cooking classes, although I like the idea. My main hurdle with all of these is lack of time.*

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## PROFILE

### SAN JUAN BIODIESEL: *A Possible Opportunity for Area Producers*<sup>22</sup>

*Through construction of a locally and cooperatively owned bio-diesel production facility in the Four Corners area of southwest Colorado, San Juan Biodiesel (SJB) seeks to promote a strong agricultural sector, improve national security, produce air quality benefits and promote access to renewable fuels for a sustainable economy.*

Jeff Berman, director of the San Juan Biodiesel (SJB) Project, became interested in the regional availability of biodiesel when he worked with Colorado Wild<sup>23</sup> to encourage area ski resorts to use biodiesel to run their fleets of vehicles. At the time he learned biodiesel was hard to find, and that was when he began working with farmers to grow oil seed crops. He also began to think about what kinds of quantities could be grown in the local area.

Jeff knew he had to get farmer buy-in, and so he began to talk about his idea with area producers at the Durango Farmers' Market. Two of the producers he approached initially were Trent Taylor and Greg Vlaming, who both became involved in the project.

Initial research to find available agricultural land for the project led him to Montezuma and Dolores counties, whose mainstay is agriculture, where he believed the project would be more feasible. This area could support the quantity of seed he would need, at a price he could afford. At this time, Jay Allen, the mayor of Dove Creek, also a farmer, became interested and involved in the project.

Jeff knew he also needed the support of area fleet owners, who would be the buyers of his product. So, he went to the fleet leaders (the potential biodiesel users) to do a feasibility study and began talking with a lot of farmers. The Colorado State University Extension Office in Dolores County, NRCS, Basin Cooperative and Farm Service agency staff all became involved at this point. In order to determine how much land needed to be put into production for the project, SJB completed a feasibility study of sunflower, safflower and soybean for oil.

**"There is a lot of farmer interest because in the region farmers are struggling with wheat and bean prices. Their overall cost of inputs has gone up."**

**Jeff Berman, Director, SJB**

According to Jeff, there are added benefits to growing oil crops beyond economics. "Sunflower is another value added crop that provides growers with more diversity in crop rotation. It allows them to spread out harvest and planting times."

To make a Four Corners oil press and bio-diesel production facility a reality, SJB needed to assess the acreage that growers are likely to produce. Last winter, with the support of Dolores County Cooperative Extension and Basin Co-op, SJB sent 1,000 letters to farmers asking them for their support in the project and encouraging them to attend a workshop

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<sup>22</sup> Information for this profile came from both an in-person interview conducted by Katy Pepinsky with Jeff in June of 2006, and from SJB's website: <http://www.sanjuanbiodiesel.org/>.

<sup>23</sup> Colorado Wild works "to keep homes safe from naturally occurring forest fires, sustainably use forest resources without degrading the land, and to preserve the natural splendor of the Colorado Mountains for both native wildlife and a robust economy".

sponsored by Extension and Basin Co-op. The workshop served to teach growers about SJB, basic oil seed production techniques and to solidify grower interest and commitment.

Surveys were used to help SJB gauge how much acreage and on-farm storage could be available for production, and which of the oil seed crops (canola and sunflower) growers were likely to plant, given anticipated yields and oil seed rates<sup>24</sup>. They began contracting for crops in April of 2006. SJB currently has 23 farmers signed up on 3,300 acres of land. In the contract they are offering a guaranteed price for products, and to pick up the crop from farmers.

**Table 1. SUNFLOWER GROSS RETURNS COMPARED AGAINST OTHER CROPS IN THE FOUR CORNERS**

KEY: Crop, Yield, Basis, Price, Gross (\$/acre)

<b>Sunflower – Dry</b> 1200 lbs/acre, Current Projection, 11.0 ¢/lb.= \$132.00
<b>Beans – Dry</b> 500 lbs/acre, 10 Year Ave., 19.20 ¢/lb.= \$96.00
<b>Wheat – Dry</b> 16.5 bushel/acre, 10 Year Ave., 3.24 / bu = \$53.43
<b>Sunflower – Irrigated</b> 2600 lbs/acre, Current Projection, 11.0 ¢/lb.= \$286.00
<b>Oats – Irrigated</b> 90 bushel/acre, Current price, \$2.06/bu = \$185.

**Bio-diesel as a food resource?**

According to Jeff, when you press oil seeds only one third of what comes out goes to makes the fuel. The rest comes out as meal, the remains of the seed. The meal (since it is such a considerable amount of what the plant will produce) needs to be sold to make the enterprise work. Jeff claims that when the plant is up and running, SJB will have the potential to produce two semi-truck loads of meal per day.

Because it has a high level of protein and fat, the meal is being considered as a livestock feed for area dairy cows, cattle, horses, poultry and hogs. Jeff feels that having a local livestock feed source could in turn create the opportunity to get a local dairy up and running again. There is also the possibility of making fish food with the meal. Jeff is also interested in whether the meal could be fed to humans. He is looking into what local industries exist that could use it in a food product, such as an energy bar.

<sup>24</sup> Initially, SJB anticipated offering 11.0¢/lb. Local sunflower test crops yielded an average of 1266 lbs/acre, resulting in a \$139.26/acre gross. Based on CSU sunflower trials in eastern Colorado, SJB expected between 2,200 and 3,000 lbs/acre sunflower irrigated. SJB anticipated being able to offer 11.0¢/lb for canola as well. Summer irrigated canola trials at the CSU Yellow Jacket experiment station yielded between 1,589 and 2,988 lbs/acre.