Economic Development Alliance of Southeast Alberta

Agricultural Impact Assessment (2007)

Assessment conducted by:

PLAN 2000

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Executive Summary

Enclosed is the 2006 Agricultural Impact Assessment for the Economic Development Alliance of Southeast Alberta (EDASA) region including Cypress County, the County of Forty Mile and the enclosed communities. The assessment concludes:

- The agricultural base; dryland farming, irrigation and livestock in the region are considered relatively stable.

- The number of farm units in the region is declining and there is a significant increase in larger farm units; both in acreage and gross farm receipts.

- The movement towards larger farming units is placing more economic power in the hands of fewer agricultural producers. This has implications for the agricultural service industry in terms of service and competitiveness.

- There has been a significant improvement in farm practices. Use of fertilizer and chemicals has increased on an acreage basis and land conservation practices; no till production and chemical weed control, have greatly expanded.

- The primary agricultural industry appears to be well serviced by the agricultural service industry although there is pressure in this service sector to increase service and competition.

- There is not any significant value-added agriculture or value-added processing in the region and this is not expected to materially expand. Individual entrepreneurship may produce modest growth.

- The Village of Foremost has taken actions to stabilize its agricultural support base, previous unused facilities in the County of Forty Mile are in production and the Town of Bow Island continues to develop its agricultural related infrastructure.

- There are some disquieting issues; residual effects of BSE, water, bio-industrial development, the Canadian dollar and competitiveness that may have a dampening effect on the agricultural economy.

- The continuing role of EDASA is seen as advocacy on behalf of agricultural producers and associated industries, nurturing of current entrepreneurship and productive agricultural trends, creating awareness and education to assist producers in coping with ongoing positive and negative agricultural developments.

Introduction

The Economic Development Alliance of Southeast Alberta (EDASA) is located in the southeast portion of Alberta and contains the County of Forty Mile, Cypress County as well as a number of communities within the counties. The area, primarily from conventional agriculture and a greenhouse industry in the Town of Redcliff, is a large agricultural income generator. In early 2004 EDASA, wishing to gain a better understanding of the agricultural impact in the area and also search for opportunities to increase this impact, commissioned an Agricultural Impact Assessment. This assessment, based largely on 2001 Census of Agriculture data, was completed in May 2004. In mid 2007, coinciding with the release of the 2006 Census of Agriculture, EDASA requested an update of the assessment. The update is the subject of this report.

The primary statistical source for the update is the 2006 Census of Agriculture. Comparative data was also obtained from the 1996 and 2001 Census. Additional information was also obtained from the St. Mary River Irrigation District, Alberta Agriculture, Food and Rural Development and Public Lands. Interviews and/or meetings were held with the staff and Council of Forty Mile, staff and the Reeve of Cypress County, staff and elected officials of Foremost, Bow Island and Redcliff, and a number of businesses in the area.

In examining the agricultural impact and potential opportunity for improvement the direct impact was assessed i.e. gross farm receipts, farm operating expenses and net farm income, all on a cash basis. Conventional economic multipliers were not used as these are final demand multipliers and are not applicable on a regional basis.

This current assessment is in two parts. First, an overview of the situation and second, a review of agricultural and agricultural related change in Cypress County and the County of Forty Mile during the period 1996-2006. Also enclosed is a brief discussion of issues;

residual effects of BSE, water, bio-industrial development, the Canadian dollar and competitiveness. Also enclosed is a recommended approach for EDASA.

Overview

The 2004 Agricultural Impact Assessment concluded that the agricultural base in the EDASA region was relatively stable. The 2006 Census of Agriculture and comparative data from 1996 and 2001 confirms that conclusion. While there are individual differences between the Cypress County and the County of Forty Mile the comparative data also indicates significant trends in changes to the primary agriculture base. These are and will impact value-added agriculture, value-added processing, the agricultural services sector and ongoing agricultural development activity. The key indicators are:

1. There has been and continues to be a general trend towards a smaller number of farming enterprises and within this trend a growing number of larger farm units. In Cypress County between 1996 and 2006 the number of farm enterprises declined from 1,046 in 1996 to 949 units in 2001 and to 934 units in 2006, a decline of 10.71%, while the larger units, 2,880 acres and up, increased from 150 units in 1996 to 173 units in 2001 and to 188 units in 2006, an increase of 25.33% (Exhibit 1). The County of Forty Mile indicates a similar pattern of constant decline in farm enterprises over the same period from 771 units in 1996 to 687 units in 2001 and to 602 units in 2006, a decline of 21.92%, and an increase in the larger units from 147 units in 1996 to 159 units in 2001 and to 170 units in 2006 or an increase of 15.65% (Exhibit 1).

2. The change in farm size is also reflected in Gross Farm Receipts. In Cypress County the number of farm enterprises reporting farm receipts in excess of $250,000 per year increased from 121 units in 1996 to 177 units in 2001 and then declined to 170 units in 2006, an increase over the period of 40.50%. With the exception of units with Gross Farm Receipts of less than $10,000 whose share of total receipts is 0.55% and is not considered material, all other Gross Farm Receipt classifications declined. There is a similar pattern in the County of Forty Mile with farm enterprises with Gross Farm Receipts over $250,000 increasing from 157 units in 1996 to 178 units in 2001 and to 206 in 2006, an increase of 31.20% (Exhibit 2).

3. The increase in farm enterprise size, either by acreage or Gross Farm Receipts (there may not be a correlation in all cases between acreage and Gross Farm Receipts as some smaller acreages may have been diversified and thus produce larger receipts and the greenhouse industry distorts acreage and receipts) places increased economic power from agricultural production in fewer hands. In the County of Cypress in 1996 an estimated 11.56% of the farm units (121 farm units) controlled an estimated 56.54% of Gross Farm Receipts ($92,618,000) (Exhibit 2). In 2001 an estimated 18.65% of the farm units (177 units) controlled an estimated 69.29% of Gross Farm Receipts ($140,348,000). In 2006 the percentage of farm units with Gross Farm Receipts of over $250,000 decreased to 18.20% of farm units (170 farm units) but controlled 71.16% of Gross Farm Receipts ($141,107,000) (Exhibit 2). A similar pattern is evident in the County of Forty Mile. In 1996 an estimated 20.37% (157 farm units) controlled 58.09% of Gross Farm Receipts ($93,106,000). In 2001 an estimated 25.89% of farm units (178 units) controlled an estimated 72.19% ($142,444,000) of Gross Farm Receipts. In 2006 an estimated 34.22% of farm units (206) farm units) controlled 82.26% of Gross Farm Receipts ($182,593,000) (Exhibits 3 and 4). This shift in gross farm receipts concentrates more economic power in fewer hands which in turn has a direct impact on the agricultural service industry i.e. fewer farm enterprises purchasing larger volumes of inputs with the economic power to demand service and price (Exhibits 3 and 4).

4. The Census of Agriculture compiles operating cost data on a cash basis i.e. the data does not include amortization and depreciation. The trend data from 1996 to 2006 indicates a cost/price squeeze in primary agricultural production. Cypress County in 1996 reported Gross Farm Revenue of $163,810,000 and operating expenses of $126,177,000 for an operating margin of $37,633,000 or 22.97%. While revenue increased significantly in 2001 to $202,551,000 operating expenses increased to $178,334,000 and operating margin declined to $24,217,000 or 11.96%. In 2006 gross farm revenue declined slightly to $198,296,000 and operating expenses also declined to $169,669,000. Operating margin in 2006 was a reported $28,627,000 or $14.43%

(Exhibit 4). While it would appear that the 2006 operating margin improved from 2001 this may be misleading as the significant increase in operating costs in 2001 were livestock related and may have had more to do with drought and other conditions. Regardless the salient point is that operating margins would appear to have declined over the period 1996 to 2006. There is a similar pattern in the County of Forty Mile. In 1996 gross farm receipts were reported as $160,280,000, operating expenses as $112,852,000 and operating margin of $47,428,000 or 29.60%. In 2001 gross farm receipts were a reported $197,318,000, operating expenses $158,675,000 and operating margin of $38,643,000 or 19.58%. In 2006 gross farm receipts were a reported $221,970,000, operating expenses $181,673,000 and operating margin of $40,297,000 or 18.15%. This also indicates a downward trend in operating margins (Exhibit 4).

5. The use of cultivated lands, both irrigated and dry land, and pasture lands in the region is relatively stable in terms of crops produced and livestock production. While there are some individual differences between the counties they don't appear to be material. The beef cattle situation is stable. In 1996 there were 56,702 beef cows in Cypress County, in 2001 there were a reported 54,372 cows and in 2006 there were 56,421 cows (Exhibit 5). The mother herd; cows, replacement heifers, bulls and calves was also stable in the range of 117,500 head over the period 1996, 2001 and 2006. Feeder cattle were likewise stable in the range of 30,000 head. The County of Forty Mile cow herd was also stable in the range of 23,000 head (2001 was slightly lower at 21,762 head) with the total mother herd slightly larger in 2006 compared to 1996 due to a higher number of calves retained for grass. Feeder cattle in the County of Forty Mile were significantly lower, from 21,592 head in 1996, increasing to 24,886 head in 2001 and then decreasing to 9,658 head in 2006. This is thought to be due to the closure of some smaller feeding facilities. Given the stability of the mother herd in the region the native and tame pasture appears to be fully utilized and it is not expected there will be an increase in the breeding herd. There may be an opportunity, depending upon economics, to increase feeder cattle (Exhibit 5). The pig population in Cypress County

is stable in the range of 28,000 head. There has been an increase in the County of Forty Mile from 28,613 head in 1996 to 50,144 head in 2001 and then declining to 48,446 head in 2006. This is an indication of increased barn capacity. Of significance in terms of pig production the number of farms raising pigs in the region has declined from 79 to 34 farming units. It is thought that the remaining large operating units are primarily Hutterite Brethren (12 units) and as such pig production will expand as new Hutterite farming units are brought online or current units expand. The pig production industry is experiencing economic difficulties and while there is feed in the region the pig industry is not expected to expand unless economics improve (Exhibit 5). The Supply Management industries (dairy and feather) in the region are also relatively stable which is not unexpected as they are largely controlled by quota. The number of dairy cows in the region is stable at 2,135 head although there has been a shift from Cypress County to County of Forty Mile. In 1996 there were 817 dairy cows in Cypress County. In 2001 there were 589 dairy cows in the County (Exhibit 5). This declined to 459 cows in 2006, a decline from 1996 to 358 head. During this period, 1999–2006, a similar number of cows were added to the County of Forty Mile herd. This shift would have occurred due to a transfer or sale of quota and would generally be a result of production of milk moving closer to processing. The feather industry in Cypress County is stable with a chicken flock in the range of 28,000 birds, approximately one half for egg production, whereas the industry has expanded in County of Forty Mile from 149,701 birds in 1996 to 150,486 in 2001 and to 199,722 birds in 2006. The majority of the increase was in egg production and would reflect either new quota or the purchase of quota (Exhibit 5). The Census of Agriculture does not provide consistent information on turkeys; although the numbers appear to be small. Given the Supply Management industries are controlled by quota these industries, dairy and feather, are not expected to significantly expand. The exception would be if additional quota from outside the region was purchased. Crop production in the region, particularly in the County of Forty Mile is stable. Cereal production in the County of Forty Mile from 1996-2006 has been in the range of 530,000 acres (Exhibit 5). This compares to a decline in cereal production in Cypress County from 293,185 acres in 1996 to 285,308 acres in 2001 and to 272,585 acres in 2006. Both counties have seen an increase in dry pea and dry bean production. Dry pea production in Cypress County in 2006 was a reported 13,849 acres compared to 7,712 acres in 2001 and to 475 acres in 1996. County of Forty Mile dry pea production has increased from 3,066 acres in 1996 to 21,524 acres in 2001 and to 60,125 acres in 2006. The increase in dry pea production is due to the economics of the crop. It is relatively inexpensive to seed and harvest. Dry bean production has also significantly increased. While 2006 data is not available dry bean production increased in Cypress County from a 1996 level of 1,373 acres to 8,767 acres in 2001 and 2006 is expected to show a further increase. The County of Forty Mile shows a similar pattern with 12,867 acres in 1996 and 45,520 acres in 2001. These increases and production levels are largely due to the bean plant in Bow Island which is expected to maintain stable production. Both counties, particularly Cypress County, have experienced increases in forage production. Cypress County forage production has increased from 65,939 acres in 1996 to 84,932 acres in 2001 and to 118,853 acres in 2006 and County of Forty Mile production has also increased from 20,592 acres in 1996 to 31,763 acres in 2001 and to 41,288 acres in 2006. This increase in forage production is attributed to an increasing opportunity to sell hay for livestock feed and processing. Oilseed production, canola, is variable but stable at relatively low levels and is largely dependent upon markets, rotation and producer intentions from year to year. The region is not considered a prime area for canola production. This is evidenced by the relatively low acreage in canola production in the region; particularly in the County of Forty Mile when 2006 reported acres of 20,058 acres or an estimated 2.8% of reported crop acreage. While the production in Cypress County in 2006 was 28,149 acres, this was only 6.3% of reported crop acreage. These are increased acreages from 2001 of 9,214 acres in Cypress County and 6,424 acres in the County of Forty Mile (Exhibit 6). This is thought to be a reflection of the dry conditions in 2001. By comparison, the 1996 acreage in the County of Forty Mile was 49,142 acres and in Cypress County 18,547 acres. Canola is a crop that unless conditions are favorable; adequate moisture and early planting, with extreme heat and low moisture, will experience bloom loss and low yields. It may be a more favorable crop under irrigation but irrigation production in the year 2003 in the region was 13,381 acres or 7.6% of irrigated acreage. In 2006 the acreage increased to 14,677 acres or 8.4%. This is a relatively stable pattern which based upon current rotation practices is not expected to materially change. Row crop production (potatoes and sugar beets) in the region is minor with virtually no production in Cypress County and small acreages of both potatoes and sugar beets, less than approximately 6,000 acres of each, in the County of Forty Mile. The potato industry is considered stable and the sugar beet industry is dependent upon current United States trade action. The trade action has been set aside and there may be an opportunity both in the County of Forty Mile and Cypress County to increase sugar beet production. The region is showing a general trend to decreased summerfallow from 451,159 acres in 1996 increasing to 483,065 acres in 2001 and then declining to 373,280 acres in 2006 and also increasing tame or seeded pasture from 178,543 acres in 1996 to 202,926 acres in 2001 and to 251,051 acres in 2006 (Exhibit 6). Vegetable and tree fruit production statistics for the region are inconclusive but there does not appear to be any significant growth in either industry. There is one U-Pick operation in the County of Forty Mile located at the junction of Highways 3 and 879. There are several in the Medicine Hat area. U-Picks are population and family entertainment driven i.e. Knott's Berry Farm. With lower population densities U-Picks are not seen as a major growth opportunity. Based upon the information available the producers in the region are fully utilizing the land base. It would also appear that they are rotating crops, pastures and livestock in their own self-interest to maximize economic returns. And, so they should. As a consequence primary agricultural production in the area is considered stable.

6. Irrigated lands are an important component of the cultivated lands in the region as they are capable of growing certain crops that cannot be grown on dry land. Irrigated lands in the region are approximately 175,000 acres operated by the St. Mary Irrigation District. In 2006 St. Mary's reported operating 64,510 acres of which 2,248 acres were non-system (non-irrigated) in Cypress County and 110,578 acres of which 4,965 acres were non-system in the County of Forty Mile (Exhibit 7). With a moratorium on further

irrigation development these areas are not expected to increase. In 2006 St. Mary Irrigation District was at their full water allocation of 18 inches per acre. This allocation will vary from year to year dependent upon precipitation and stored water. There is also an ongoing dispute on water allocation with the State of Montana on the allocation of water in the total St. Mary and Milk River watersheds. This dispute is before a panel convened under the International Joint Commission. The quantity of water in question would appear to be in the range of 4% of the total allocation. Should the allocation be changed to reflect the difference this is not considered a material change and would have no significant impact on the region. Of greater concern is year over year precipitation, online storage and competing municipal, industrial and energy industry use. Given adequate flows the irrigation in the area is considered stable i.e. no growth or material decline.

Irrigation is a scarce commodity. Under current rules, which are not expected to change, irrigation rights are a sought-after and increasingly expensive commodity. They can be traded or sold with current values in the range of $900-$1,500 per acre depending on the underlying land.

Crop production for the region from irrigated lands is stable. A comparison of 2003-2006 crop statistics provided by the St. Mary Irrigation District indicates not only stable production but a stable pattern of production between crops. Crop production does vary by county with a higher proportion of lands in Cypress County utilized for forage production and a high proportion of lands in the County of Forty Mile used for legume, row crop and special crops. Cereal production in the region is stable in the range of 60,000 acres and both counties are stable with Cypress in the range of 19,000 acres and Forty Mile in the range of 41,000 acres (Exhibit 7). Oilseeds are similarly stable at lower acreages, 5,800 in Cypress and 8,300 in Forty Mile. There is a higher proportion of legumes, principally dry beans, in County of Forty Mile, 18,645 acres or 16.8% as compared to Cypress County, 3,504 acres or 5.5%. This is due to the proximity of the Viterra Bean Plant in Bow Island. Likewise there is considerable acreage in the County of Forty Mile dedicated to row crops, 11,000 acres or 9.5%, and virtually no acreage in Cypress County. This is due to the proximity of the County of Forty Mile to the sugar factory in Taber and the potato plants in the Taber area. There is also considerable special crop production (dill, mint, catnip) in the County of Forty Mile and virtually none in Cypress County. This is due to a special crop processor, Thacker & Sons, located in Bow Island. Forages show the reverse picture with 31,500 acres or almost one-half of the acreage in Cypress County dedicated to forages and only 24,000 acres acre or 20% in the County of Forty Mile (Exhibit 7). The production of row crops, potatoes and sugar beets, require a 4-year rotation (Exhibit 7). With 11,000 acres of production in the County of Forty Mile this requires an estimated 44,000 acres or 38% of total acres dedicated to row crop production. There is minimal production in Cypress County. Row crop production is capital and operating cost intensive and as such requires assured markets to enter production. Discussions with the Potato Growers of Alberta indicate that the potato industry is stable. The Alberta Sugar Beet Growers, depending upon the United States trade negotiations indicate there may be some room for expansion of production but this would probably be within a narrow transportation band of Taber. As such it is not expected there would be a significant increase in row crop production in Cypress County with possibly some increase in the County of Forty Mile. Viterra also indicates their production to be stable or with modest growth. This legume production is not expected to significantly expand. On this basis the production pattern, other than possible entrepreneurial initiatives into row or special crops, in the region is not expected to materially change.

7. Producers in the region have made significant progress over the past 10 years in increasing productivity of cultivated lands while simultaneously improving conservation practices. This has been accomplished by increased use of fertilizers, herbicides and fungicides accompanied by changes in tilling practices and weed control. The changes are evident in both the County of Forty Mile and Cypress County. While there has been increased productivity in the region by use of fertilizers; from 610,474 acres in 1996 to 734,067 acres in 2001 and to 833,611 acres in 2006, an increase of 20% in the

period 1996-2001 and an increase of 13.6% in the period 2001-2006 and the use of herbicides from 745,646 acres in 1996 to 930,368 acres in 2001 and to 938,276 acres in 2006, an increase of 24.7% in the period 1996 to 2001 and then relatively stable from 2001 to 2006. The most significant changes are in tilling practices and weed control. Min Till and No Till have increased from 175,825 acres in 1996 to 325,498 acres in 2001 and to 539,087 acres in 2006, an increase of 206%. Chemical control of weeds has also increased in proportion. In 1996 chemical control of weeds in the region was 69,651 acres and in 2006 it was 218,553 acres, an increase of 214% (Exhibit 8). These improved conservation practices have also been accompanied by a reduction of what was conventional tillage. Incorporation of crop residue from 1996-2006 has declined from 503,686 acres in 1996 to 313,907 acres in 2001 and to 258,713 acres, a decline of 37.6% in the period 1996-2001 and a decline of 17.6% in the period 2001-2006 and weed control tillage has declined from 296,238 acres in 1996 to 224,167 acres in 2001 and to 95,219 acres, a decline of 68% (Exhibit 8). While it may be argued that not incorporating crop residues increases fertilizer use which increases cost of production it may also be argued that reduced tillage also reduces operating costs and improves moisture retention. There is also the obvious benefit of protecting against soil erosion. While the case for tilling practices may be argued either way producers have chosen to reduce tillage either for cost and/or other considerations. The region has an estimated 1,529,484 acres of cultivated land (Exhibit 6). While the statistics between no till/min till and weed control are imprecise there are an estimated 539,087 acres in the no till/min till category or approximately 35% of the cultivated acres (Exhibit 8). There is still room for growth in no till practices and this trend is expected to continue. This in turn is expected to result in higher productivity at the producer level and increased fertilizer and chemical use, assuming cost/benefit, which in turn will drive the service industry. With this continuing shift it is expected there will be an increased volume of fertilizer and chemical sales, an increase in the sale or rental of application equipment and a decline in fuel volumes.

8. The greenhouse industry is an important component of agriculture in Cypress County. There is minor greenhouse activity in the County of Forty Mile. The 2006 Census of Agriculture indicates there are 3,703,537 square feet of greenhouses under cover, represented by 39 operations in Cypress County. This is an increase in square footage from 2,534,907 square feet in 1996 represented by 55 operations and 3,170,289 square feet in 44 operations in 2001 (2006 Census of Agriculture). The trend in the industry is similar to other agricultural operations with fewer operators and larger units. This trend is expected to continue.

   In 2006 a major study "Business Opportunity Evaluation of a Large-Scale Vegetable Greenhouse in Alberta" was commissioned by Alberta Agriculture, Food and Rural Development. The study concluded that while there was a market opportunity for a large-scale greenhouse the economics of a traditional summer greenhouse, a modified summer greenhouse or a winter greenhouse (year-round production) was at best marginal. The study does not directly address the greenhouse industry in Cypress County (Redcliff) but does provide clear indications that the industry is in transition and some degree of difficulty. From the information contained in the study it can be concluded:

   a) The industry is in a cost/price squeeze with significant and increasing price pressure placed on the industry by Mexico and on a periodic basis by British Columbia and cost pressures on energy and labor.

   b) To be competitive the industry requires the ability to compete on a year-round basis (winter greenhouses), enhanced marketing strategies and further strategies to cope with energy and labor issues.

   c) Without pro-active strategies there will be casualties in the industry and as a worst case scenario the industry is at risk.

Discussions with representatives of the industry and government appear to indicate that the marketing arm (Red Hat Co-Operative Ltd.) understands the situation and is attempting to take corrective action but the producer group appears to vary in opinion and approach. The reasons for these differences are not known but may include the factor that the industry has lived in a state of turmoil for many years (labor and energy costs), or there is a lack of capital to make the necessary improvements, or a combination of the above and other factors. Regardless, what must be understood by the industry, support organizations such as EDASA and the Government of Alberta is that the industry must develop proactive strategies or it may ultimately fail. Another study will not resolve the situation. What is required is a cooperative approach to fact finding, directional planning and action i.e. an action research methodology.

9. The primary agricultural sector in the region is well serviced by suppliers to the agricultural industry. Within this context there is a trend towards larger and more efficient fuel, fertilizer and chemical distributors. While Medicine Hat is still the hub there are improved services in other centers; Bow Island and particularly Foremost where new and expanded chemical and fertilizer distribution has been recently constructed. There are adequate vehicle and machinery outlets in the region, particularly in Medicine Hat but also in Bow Island. There is a centralized livestock auction service, Medicine Hat Feeding Company, which is sufficient to handle livestock in this area. There are also periphery livestock auction markets (Brooks and the Internet Team and Canadian Satellite Livestock Auction) which fill in the gap in services. The County of Forty Mile markets are in Medicine Hat and Lethbridge and on the Internet. There are adequate grain handling facilities in and peripheral to the region. In this regard, the rail line to Foremost will be abandoned which will require grain movement out of the south end of the County of Forty Mile to terminate on the borders of the area. No new grain facilities are expected. With the closure of the rail line to Foremost there is some concern with the need to upgrade road systems in the County of Forty Mile, Highway 61 and Secondary Road 879, to accommodate increased heavy truck traffic. There is limited secondary processing in the region.

There is a flour mill in Medicine Hat (Ogilve) and a bean processing plant in Bow Island (Viterra). These are expected to continue operation, given markets and maintenance are maintained. Other secondary processing; meat processing, spices, sunflowers, etc. are entrepreneurially driven. Any expansion of a new secondary business will require individual initiative. EDASA can assist by establishing business seminars and working with Alberta to establish and access funding to support project development.

10. There is currently considerable interest in Alberta in bio-industrial development fostered primarily by the Government of Canada and Alberta in providing incentives to produce bio fuels. To date, there are a number of small bio gas facilities operating for principally internal use. There are currently no bio diesel plants operating although there is one plant, Western Bio Diesel Inc. expected on stream by the end of 2007. There is one ethanol plant, Permolux, on stream in Red Deer, Alberta.

    The requirements for a bio-industrial development, particularly bio diesel and ethanol plants to come on stream are:

    a) Available feedstock.
    b) Extensive capital resources.
    c) Proximity to refinery capacity, crushing and cattle feeding.

    There are also other factors considered including whether production is part of a larger complex such as a canola crush, electrical generation, etc. At this point it would appear that the EDASA area does not meet any of these criteria. As such, bio industrial development is not seen as an option for the area.

11. The majority of agricultural products which are produced in Alberta are traded based upon United States futures markets and are denominated in U.S. funds. As such, the relationship between the Canadian and United States dollar has an impact on the return to the Alberta producer. This relationship is based upon the strength of the

United States economy, the Canadian economy and Canadian fiscal and monetary policy. Fiscal policy concerns the budget, trade surplus and balance of payments and is managed by the Government of Canada. Monetary policy concerns the money supply and interest rates and is the responsibility of the Bank of Canada.

In the past several years, 2002-2007, the Canadian dollar has strengthened against the United States dollar. There has been some argument that had the Canadian dollar remained at the lower level the Alberta producer would have received higher returns. While this may in theory be correct the Canadian dollar has changed and will continue to change, and agricultural production values will fluctuate with the dollar.

There is currently speculation that the Canadian dollar will trade on par with the United States dollar by the end of 2007. This speculation is fueled somewhat by money market managers and economic think tanks. It did appear in mid 2007 that the speculation was correct as the Canadian dollar broke the $0.96 level versus the U.S. dollar. With the United States difficulties in the Sub Prime mortgage market the Canadian dollar fell back in response. The Canadian dollar is again increasing against the U.S. dollar and currently is above par but it is speculative as to whether it will remain par or greater. This will largely be dependent upon the relative performance of the United States and Canadian economies.

From a producer perspective the agricultural commodity returns will be influenced by the value of the Canadian dollar compared to the United States dollar. This is inevitable. The producer has a choice of either riding with the dollar or hedging. With it being speculative that the dollar will increase in value or remain stable against the United States dollar a hedging strategy is also considered speculative.

12. Competitiveness is becoming an increasing concern. Recent studies of the beef and pork industries indicate that upstream production is becoming or is non-competitive. This is having a direct impact on primary production i.e. cattle and pig producers. The

Government of Alberta has currently initiated a number of competitiveness studies. It is uncertain whether the greenhouse industry is included but probably should be. The greenhouse industry is facing increased cost/price pressures and requires remediation. Competitiveness, unless addressed, may have a dampening effect on the agricultural base.

13. There has been considerable discussion and analysis on the economic impact of BSE. Various analyses have attempted to quantify this impact. The first case of BSE occurred in May 2003. This resulted in the closure of the United States and other international markets to Alberta exports of live cattle and beef derived from bovines. Prices of fed cattle collapsed, calf prices in the fall of 2003 were significantly lower and there was virtually no market for cull animals. The Governments of Canada and Alberta responded with a series of support programs designed to prevent the complete collapse of the cattle and beef industry. As Plan 2000 Management Associates Ltd. and Informa Economics commented in their report, Economic Losses Associated with Cull Cows, "Government programs to deal with the BSE crisis by and large did their job. The industry continued to function and there was a market for producer calves. If there was any shortfall in the programs it was effectively dealing with cull animals." Although calf prices were low in 2003-2004 with the opening of the United States border to under 30 month fed cattle (UTM) in July 2005 the price of calves responded in 2005. Cull animals currently are priced at a market disadvantage to the United States. This may moderate in November of 2007 with the opening of the United States market to over 30 month animals (OTM). The consequence to the cattle producers has been either economic loss or cost of production consequences or both. The severity of these consequences is entirely producer dependent. Currently with declining but relatively stable cattle populations and increased culling rates the effects of BSE are lingering but appear to be absorbed by the producer. This is not to say that some producers may have greater consequences than others but as an industry the major impact of BSE is fading.

14. The agricultural base in the region is considered relatively stable without any significant opportunities for growth in primary agriculture or value-added processing. Individual entrepreneurship may result in modest gains. There are some disquieting issues; residual effects of BSE, water, bio-industrial development, the Canadian dollar and competitiveness. The role of EDASA is perceived as assisting producers and the service sector in coping with these issues, protecting the agricultural base and promoting entrepreneurship. This role is seen as advocacy, nurturing, and awareness and education.

Cypress County

The 2006 Census of Agriculture and comparative data from 1996 to 2001 indicates that the reported total acreage and the relative use of lands in Cypress County has remained relatively stable. In 1996 total acreage was reported as 2,335,582 acres increasing to 2,469,749 acres in 2001 and then declining to 2,461,431 acres in 2006 (Exhibit 6). Whether this is a reporting difference due to census methodology or actual change as Crown land is brought on stream or declines is not determinable. There has been some shifts between cultivated, tame and natural pasture but these shifts do not appear to be material. Livestock populations also appear to be stable. Gross farm receipts, operating costs and operating margins appear to be variable. Taken as a whole Cypress County would be considered a stable primary agriculture region. Similar to the agricultural base there has not been significant change in value-added agriculture, processing or agricultural services and these are also considered stable. Comments on the agricultural base and the potential economic impacts are:

1. Land Base and Primary Agricultural Production

   The land base is considered stable in the range of 2,461,431 acres (2006 Census of Agriculture – Exhibit 6). Within this land base there have been some changes in land use of note. Total cultivated land has increased from 548,661 acres in 1996 to 581,479 acres in 2006. Over the same period there has also been an increase in pasture land from 1,716,884 acres in 1996 to 1,852,602 acres in 2006. This change occurred primarily in the period 1996 to 2001 with both cultivated and pasture land being stable between 2001-2006 i.e. Cultivated land increased from 567,568 acres in 2001 to 581,479 acres in 2006 while pasture land declined over the same period from 1,870,403 acres to 1,852,602 acres (Exhibit 6). There is not expected to be any further significant changes.

There has been a change in cropping patterns on cultivated lands during the period 1996-2006 with the pattern appearing to be uninterrupted. Acreage dedicated to cereal production has declined from 293,185 acres in 1996 to 285,308 acres in 2001 and to 272,585 acres in 2006 while forage production has increased over the same period from 65,939 acres to 118,853 acres. And, within the context of cereal crops, wheat production has declined from 240,979 acres in 1996 to 214,176 acres in 2001 and to 203,456 acres in 2006 (Exhibit 6). From this trend it would appear that producers are moving away from conventional cereal crops to more readily saleable forage crops. The rational is unknown but is related to either crop rotation practices or a search for higher returns. As producers are continually searching for higher returns it is uncertain whether this trend will continue or given higher cereal prices the trend will reverse. As such, the relative change between cereals and forage is not considered permanent. Other crop production; oil seeds, legumes, etc. over the period has been variable at a relatively low level and are considered to be driven by market forces. Taken as a whole, while cropping patterns change from year to year the use of cultivated lands in the County is considered stable. This pattern also applies to the irrigated lands within the cultivated land base. In 2006 St. Mary Irrigation District reported 64,510 acres as being in the irrigation district. Comparing 2003 to 2006 data all irrigated crops have stable acreages (Exhibit 7). This is a result of rotation practices.

The livestock situation in Cypress County is also considered stable (Exhibit 5). Comparing the 1996 to 2001 and 2006 Census there was a similar number of cattle in the area, an estimated 148,500 head. The cow population was also relatively stable at 56,702 head in 1996, 54,372 head in 2001 and 56,421 head in 2006. Hog populations were also relatively stable in the area of 28,000 head. There was a decline in dairy cattle from 817 cows in 1996 to 589 cows in 2001 and to 459 cows in 2006. This decline would appear to be offset by an increase in numbers in the County of Forty Mile. It is likely this shift in dairy production occurred due to the proximity to processing capacity (Exhibit 5). The stable cattle population in the County is attributable to the amount of grass available to pasture cattle. Total pasture lands in the 2006 Census of

Agriculture were reported as 1,852,602 acres compared to 1,870,403 acres in 2001 and to 1,716,884 acres in 1996 (Exhibit 6). While tame pasture increased from 126,044 acres in 1996 to 143,836 acres in 2001 and to 182,006 acres in 2006 this is part of stabilizing the grass base. This is becoming increasingly important as public lands, when renewing most grazing leases, is reducing carrying capacity. As such, even with increased tame pasture the grass base is considered stable and cattle populations are not expected to significantly change. Changes to other livestock; dairy, pigs, chickens, etc. will be economically driven and no major change is expected.

While the land base and agricultural production in Cypress County are considered stable there has been a considerable change in the number and size of farming units. In 1996 there were a reported 1,046 farms which declined to 949 farms in 2001 and 934 farms in 2006 (Exhibit 1). This is a decrease in farming units of 10.7%. While the number of farms declined during the period 1996-2006 the size of farming units, both in terms of acreage and gross farm receipts increased. In this period the number of farm units reporting acreages of 2,880 acres and above increased from 150 units in 1996 to 173 units in 2001 and to 188 units in 2006, an increase of 25.3%, whereas the number of smaller farm units declined (Exhibit 1). In the same period the number of farm units reporting gross receipts in excess of $250,000 per year increased from 121 units in 1996 to 177 units in 2001 and then declined to 170 units in 2006, an increase of 40.5% over the period (Exhibit 2). With this shift in gross farm receipts by 2006 there were 18.2% of farm units controlling 71.2% of gross farm income in the County. These trends towards a smaller number of larger farming units are expected to continue.

2. Value-Added Agriculture

Value-added agriculture consists of utilizing one or more primary agricultural products to produce a further agricultural product. Typically this consists of poultry and pig production, dairy and cattle feeding. There is limited value-added agriculture in the County. The number of farm units producing pigs has declined in the period 1996-2006 from 41 in 1996 to 26 units in 2001 and to 9 units and the number of pigs on farms has held relatively constant in the range of 28,500 head. Pig production would appear to be concentrated largely with the Hutterite Brethren, there are two colonies and one large independent producer, and no major increases are expected unless new colonies are started or current farms are expanded. Chicken production, largely for eggs, has remained relatively stable with a flock in the range of 28,000 birds. The size of the flock is not expected to materially change. Likewise feeder cattle from 1996-2006 have remained relatively constant in the range of 30,000 head and are not expected to change (Exhibit 5). New cattle feeding facilities are generally being constructed in proximity to terminal markets such as Feedlot Alley north of Lethbridge. The number of dairy farms and the number of dairy cows have declined. The number of dairy farms has declined from 26 units in 1996 to 15 units in 2006 and over the same period the number of dairy cows has declined from 817 to 459. This is due to dairy production moving closer to processing facilities. Taken as a whole value-added agriculture is either stable or in decline and this is not expected to change.

3. Value-Added Processing

The majority of primary agricultural and value-added agricultural production exits the County for further processing. The major exception is greenhouse production which is packaged and marketed by Red Hat Co-Operative Ltd. in Redcliff. Red Hat, which employs in the range of 120 people during production periods and the associated greenhouses are significant contributor to the economy of the County. The 2006 Census of Agriculture reported that the greenhouse industry had 3,703,537 square feet under cover represented by 39 farms. This compares to 44 operations and 3,170,289 square feet in 2001 and 55 operations and 2,534,907 square feet in 1996. This represents some growth in the industry. The larger greenhouses in the Redcliff area are in the range of 300,000 square feet or 6-7 acres in size. There are a number of smaller greenhouses. Total productive area is in the range of 85 acres; the majority of which is summer production. By contrast the area surrounding Leamington, Ontario has an estimated 1,600 acres under cover with larger greenhouses in the range of 95 acres (Canadian Geographic – Sept/Oct 2007). Given this disparity and ongoing challenges of the Redcliff industry with energy costs, labor and competitive forces Alberta Agriculture, Food and Rural Development commissioned a study of the feasibility of establishing a 25 acre greenhouse, under varying conditions, in Alberta "Business Opportunity Evaluation of a Large Scale Vegetable Greenhouses in Alberta". The study, which did not address the Redcliff situation, concluded that at best a winter greenhouse (year-round production) would provide a marginal return. While the study did not address the Redcliff situation, and probably should have, some of the conclusions apply to Redcliff.

a) The industry is in a cost/price squeeze with significant and increasing price pressure placed on the industry by Mexico and periodically by British Columbia and cost pressures on energy and labor.

b) To be competitive the industry requires the ability to compete on a year-round basis (winter greenhouses), enhanced marketing strategies and further strategies to cope with energy and labor issues.

c) Without proactive strategies there will be casualties in the industry and as a worst case scenario the industry is at risk.

Discussions with representatives of the industry and government appear to indicate that the marketing arm (Red Hat Cooperative Ltd.) understands the situation and is attempting to take corrective action but the producer group appears to vary in opinion and approach. The reasons for these differences are not known but may include the factor that the industry has been living in a state of turmoil (labor and energy costs) for years or there may be a lack of capital to make the necessary improvements or a combination of these or other factors. Based on the analysis, for the industry to survive and prosper it must confront the current situation and develop strategies for success.

Another study is not the answer. What is required is an action/research approach i.e. define the current situation, develop strategies, implement the strategies, review progress, revise the strategies, implement the revised strategies, etc. A good starting point would be an analysis of the current situation.

In addition to the greenhouse industry there is limited value-added processing in the County. Cypress Meat Packers Inc. processes cattle and pigs on a custom basis or for the local market. Cypress operates under the Meat Inspection Act which is becoming more stringent with the introduction of Hazard Analysis and Critical Control Point (HACCP) requirements. Premium Sausage Inc. manufactures sausage, smoked product and does custom processing. Premium operates under the Public Health Act which is also becoming more stringent. Both companies indicate they are frustrated with the government bureaucracy and regulations to the point that Cypress has put its business up for sale. Both organizations, particularly Cypress which custom slaughters and processes, are important to the community. While it is not suggested that food safety should be compromised both organizations require advocacy and this would also apply to the start up of any new value-added processing businesses.

4. Agricultural Services

Agricultural services in Cypress County are centered in Medicine Hat. These services are and will continue to be influenced by changes in basic agriculture. These changes from 1996 to 2006 have been significant.

a) There is more agricultural economic power concentrated in fewer hands. As outlined, the number of farming units has declined and 170 farming units or 18.2% of the farming units now control 71.16% of gross farm receipts in the County (Exhibit 2).

b) The financial operating characteristics of farming units have changed. While Gross Farm Revenue in Cypress County has increased from $163,819,000 in 1996 to $198,296,000 in 2006 the costs of operation have also increased. This increase in cost has resulted in a decline in operating margins from $37,633,000 or $23.0% of gross farm receipts in 1996 to $28,627,000 or 14.4% of gross farm receipts in 2006 (Exhibit 4). Revenues and Costs were at their highest level in 2001 and margins were also lower at $24,217,000 or 11.96%. This was the result of exceedingly high livestock and feed costs and may be drought related. With these declining margins agricultural producers are more cost conscious and selective in their purchasing.

c) There has been a significant change in farm practices from 1996 to 2006. During this period of time fertilizer use in terms of acres has increased by 37.23% and chemical use by 21.70% (Exhibit 8). The major change in fertilizer occurred in the period 1996-2001 and chemical use actually declined in the period 2001-2006. This is probably in response to cost/benefit and given improvement the increased use of fertilizers and chemicals would be expected to continue. During this period no till agricultural practices have increased by 177.46% while conventional tilling has declined. Also during this time using chemicals for weed control has increased by 241.59% while conventional tillage has declined by 68.42% (Exhibit 8). Taken as a whole, these changes, which are in response to improved productivity, are expected to continue and have implications for the service industry in terms of fuel, fertilizer, chemicals and equipment.

The changes have longer term implications for the service industry. The industry must become even more service oriented and cost competitive. As such individual service businesses must grow if they are to prosper or face outside competition.

5. Potential Agricultural Impact and Opportunity

Cypress County has a relatively stable agricultural and agricultural-related industry base. Gross farm receipts will vary from year to year dependent upon growing conditions and markets. Gross farm receipts is the direct economic impact on the County. Net farm income, net of costs, is considered as disposable income. In 2006 Gross Farm Receipts were a reported $198,296,000, cash operating expenses were a reported $169,669,000 and net farm income was a reported $28,627,000 (Exhibit 4) all on a cash basis. With relatively constant markets and growing conditions gross farm receipts are expected to remain at similar levels. The challenge is maintaining net farm income. This is being partially addressed by the changes in the farm base i.e. a smaller number of larger, more productive farms. There are also opportunities to add value to this base and associated industries. These opportunities and associated challenges are:

a) It is expected that the number of farms in Cypress County will continue to decline and that the remaining farming units will continue to increase in size; both in acreage and gross farm revenue. There may be some anomalies to this overall trend. Farming units with revenue under $10,000 increased from 105 in 2001 to 143 in 2006. These units represent 0.55% of Gross Farm Receipts and are not considered material. As these farm units expand in size they tend to become more productive and adopt better farming practices i.e. greater use of fertilizers, chemicals and improved tilling practices. With larger farming units this tends to put greater economic power in fewer hands which in turn places more demands on the service industries. The development of these larger service industry suppliers should be fostered. The trend to larger more efficient farm units will continue and should be supported.

b) In the 2004 assessment it appeared that under the then prevailing energy costs, land prices and associated taxes there was an opportunity to expand the greenhouse industry. Based upon current conditions; energy, labor, market conditions, the outlook is somewhat more pessimistic. The greenhouse industry, while still having opportunity, faces significant challenges. To survive and prosper it must reinvent itself in terms of production, proactive marketing strategies and capital development. This may, given there is the political will to do so, require support and assistance by the Government of Alberta. As a minimum the industry must take a hard look at itself and develop coping strategies.

c) In the current review it would appear that there has been a decline in dairy and confined livestock in the County. While there has been some entrepreneurship in terms of value-added meat processing there doesn't appear to be a widespread movement towards entrepreneur oriented business. There would also appear to be some disillusionment in terms of government policy and bureaucracy. To drive value-added agriculture and value-added processing requires entrepreneurial action and government programs and support to make it happen. This government support, at least from Alberta Agriculture, Food and Rural Development, appears to be lacking. The challenge is seen as getting this support, given the political will, back online.

The agricultural base in Cypress County is considered fully utilized and stable. What is encouraging in the current review is the significant change in farm practices towards improved productivity and conservation. This trend is expected to continue and should be fostered.

County of Forty Mile

The County of Forty Mile is a rural county largely dependent upon its agricultural base. There are no major population centers in the County and while there are agricultural support services in the Village of Foremost and the Town of Bow Island the major trading centers are Lethbridge and Medicine Hat. One of the challenges of the County and its communities is retaining income within the County.

The 2006 Census of Agriculture and comparative data from 1996 and 2001 indicates that the reported total acreage of the County and the relative use of lands in the County of Forty Mile have remained stable. The 2006 Census reports total acreage of 1,741,372 acres consisting of 948,005 acres of cultivated and 785,203 acres of pasture land. There were a reported 22,379 acres of other land i.e. communities, farm sites, etc. This land base and land use is fairly consistent over the period 1996-2006 (Exhibit 6). During the period there has been a minor shift, in the range of 15,000 acres, from pasture land to cultivation and a similar shift from native to tame pasture. Both the cultivated and pasture land base are considered stable. Livestock populations also appear to be relatively stable. Taken as a whole the County of Forty Mile is considered a stable primary agricultural region. The regional value-added agriculture, processing and agricultural services are also considered stable. Comments on the agricultural base and the potential economic impacts are:

1. Land Base and Primary Agricultural Production

   The County of Forty Mile is a large field crop growing region with the predominant crop being cereals. Acres in crop after declining in 2001 to 628,743 acres have increased from 640,103 acres in 1996 to 710,808 acres in 2006. The disruption in 2001 was weather-related. During the same time period summerfallow, which increased in 2001 to 318,988 acres, has decreased from 292,901 in 1996 to 237,197 acres in 2006. Of the land in crop in the range of 530,000 acres has been utilized for cereal production.

The largest crop grown is wheat which has been averaging in the range of 430,000 acres. The dominant crop is hard red spring wheat with durum wheat production varying over the period. The shift of production between hard red spring and durum wheat is driven by market conditions. Over the period 1996-2006 barley production has varied from a low of 55,957 acres in 2001 to a high of 79,805 acres in 1996. The 2006 Census of Agriculture reported 70,003 acres of barley. Oil seed production, canola and flax, has declined over the period from 49,142 acres in 1996 to 20,058 acres in 2006. Reported oil seed production in 2001 was 6,424 acres. Forage production in the area has increased from 20,592 acres in 1996 to 31,763 acres in 2001 and to 41,288 acres in 2006. Neither oil seeds nor forage are considered to be significant in terms of total production. There has been an increase in legume production which has been significant. Dry bean production increased from 12,897 acres in 1996 to 45,520 acres in 2001 and while the 2006 Census of Agriculture does not provide data the 2006 crop is estimated to be similar to 2001. There has been a significant increase in dry pea production from 3,066 acres in 1996 to 60,125 acres in 2006 (Exhibit 6). A portion of the cultivated lands, a reported 110,578 acres, in 2006 are irrigated. With the exception of row crops (potatoes and sugar beets) and dry field peas the cropping patterns are similar to dry land production. In 2006 there were a reported 6,126 acres of potatoes and 5,277 acres of sugar beets under irrigation (Exhibit 7). All crops, dry land and irrigated, require rotation with row crops requiring a four year rotation. Taken as a whole, dry land and irrigated, the region would appear to follow normal crop rotation practices and crop production would be considered stable. This production will vary between crops from year to year depending upon producer intentions and markets. Discussions with the Potato Growers of Alberta indicate the industry is stable and not expecting significant growth. The Alberta Sugar Beet Producers, while expecting some growth are unsure due to an ongoing dispute with the United States on the export of sugar beet thick juice. Depending upon the outcome sugar beet acreage may expand or contract. As such, it is not expected there will be any significant change in either sugar beet or potato production. Subsequent to the initial report the sugar beet thick juice dispute has been settled in Alberta's favor. This may stimulate additional sugar beet production. Dry peas are used as a rotation crop, and as a legume, stabilize nitrogen levels in the soils. Depending upon markets there may be an increase in dry pea production. Other than a possible increase in dry pea production any significant change in either irrigated or dry land crop production is not expected.

The County of Forty Mile is not considered a large livestock production area. The cow herd has remained relatively constant with a reported 24,352 head in 1996, 21,762 head in 2001 and 23,147 head in 2006. The total herd, cows, heifers, bulls and calves, has increased from 51,291 head in 1996 and after declining to 46,866 head in 2001 increased to 54,757 head in 2006. This increase was largely a result of retaining more calves in 2006 to put to grass. The cattle herd is considered stable and with a stable pasture acreage is not expected to significantly increase. There is an increase in pig inventories from a reported 28,613 head in 1996 to 50,144 head in 2001 and then a slight decline to 48,446 head in 2006. During this period the number of farm units producing pigs declined from 38 to 19 farm units. The majority of these units (an estimated 10 major units) are Hutterite Brethren and pig production is not expected to increase unless current facilities expand or new colonies emerge. The number of dairy cows in the county has increased from 1,317 head in 1996 to 1,575 head in 2001 and to 1,676 heads in 2006. There was a similar decrease in Cypress County which would indicate a shift in quota between the Counties of Cypress and Forty Mile. The increase in dairy production was in response to movement of production closer to processing facilities. Unless quota is purchased from outside the County of Forty Mile dairy production is not expected to significantly increase. The number of cattle on feed in the region has increased from a reported 21,592 head in 1996 to 24,866 head in 2001 and then declined to 9,658 head in 2006. This resulted from some smaller producers exiting the business. While there is adequate feed and water in the area, particularly in the irrigated lands, the cattle feeding industry is not expected to expand. There has been an increase in the chicken flock from 149,701 birds in 1996 to 199,722 birds in 2006 (Exhibit 5). This is partially in response to new processing facilities in Lethbridge.

Dependent upon the ability to obtain quota the flock may increase. Taken as a whole, with the possible exception of supply managed industries; dairy and poultry, the livestock industry in the County of Forty Mile is considered stable and unlikely to see significant change.

While the land base and agricultural production in the County of Forty Mile is considered stable there has been a significant change in the number and size of farming units. The number of farms has declined from 771 units in 1996 to 687 units in 2001 and to 602 units in 2006, a decline of 21.9%. During this same period the average farm size has increased. In 1996 there were 200 farm units of 2,240 acres or greater. In 2001 there were 181 units and in 2006 the number of farm units of this size had increased to 234 units, an increase of 17.0%. All smaller farm units declined in number (Exhibit 1). Of more significance the number of farm units with gross farm receipts in excess of $250,000 increased during this period from 157 units in 1996 to 178 units in 2001 and to 206 units in 2006; an increase over the period of 24.8% (Exhibit 2). With the growth in larger farming units; both acreage and gross farm receipts, there has also been more economic power concentrated in fewer hands. In 1996 the 157 large farming units represented 58.09% of the gross farm receipts. By 2001 the 178 large farm units controlled an estimated 72.19% of gross farm receipts and by 2006 the 206 large farming units controlled 82.26% of gross farm receipts. These trends towards a smaller number of larger farming units are expected to continue.

2. Value-Added Agriculture

Value-added agriculture consists of utilizing one or more primary agricultural products to produce another agricultural product. Typically this would be using grains to produce pigs, poultry, milk or feeder cattle. As shown in Exhibit 5 there has been an increase in pig, chicken and dairy production in the County from 1996-2006. Pig production appears to have stalled out. The number of pigs in inventory in 2001 was 50,144 head and in 2006 the inventory was 48,446 head. Pig production varies depending upon markets and feed costs. Currently market prices are low and feed costs high. The production of pigs is concentrated with the Hutterite Brethren. Given current conditions (pig production is uneconomic) and this concentration it is unlikely there will be any significant growth in pig production unless new colonies emerge or economics improve. Feeder cattle in the region have declined and while there is adequate feed and water in the irrigated areas it is unlikely there will be any significant increase in feeder cattle. Dairy and chicken production are supply managed industries. To increase production in either of these areas will require a purchase of quota. While this may be feasible, significant increases are not expected.

3. Value-Added Processing

Most primary agricultural and value-added agricultural products leave the county for further processing. There are exceptions. Dry beans are processed in the Viterra Bean Plant in Bow Island. The volume processed is largely dependent upon markets and producer intentions. The plants, Bow Island and Taber, are rated at 50,000 acres. In 2007 due to producer shifts the contract acreage was an estimated 43,000 acres. Thacker and Sons Ltd. extracts oils from special crops such as dill, catnip and peppermint and is expected to expand as markets permit. Classic Grains manufactures snack foods in Bow Island and the Alberta Sunflower Company Ltd. continues to expand. Southern Grain Exchange Ltd. continues to clean and process field peas. While the rail line is being pulled out of Foremost, Southern Grain location, this operation is expected to continue. In the 2004 assessment there were two facilities in the County which were not being utilized; the Pure Lean pig finishing barn and the abandoned Tyrol hay cubing plant. Both facilities are now operating. The cubing plant is now utilized to produce compressed hay and the finishing barn is now producing organic fertilizers (Alberta Granulation Ltd.). Both of these startups are seen as highly positive. Of note, all value-added processing in the area is entrepreneurially driven. Without new entrepreneur efforts value-added processing is not expected to expand.

4. Agricultural Services

Agricultural services are influenced, by changes to the primary agricultural base. Over the period 1996-2006 these changes have been significant.

a) There is more economic power concentrated in a smaller number of farming units. As outlined the number of farming units has declined from 771 units in 1996 to 687 units in 2001 and to 602 units in 2006 and 206 of these units control 82.26% of the gross farm receipts in the County (Exhibit 2).

b) The financial operating characteristics of farming units have changed. Gross farm revenue has increased from $160,280,000 in 1996 to $197,318,000 in 2001 and to $221,860,000 in 2006. Operating expenses (cash basis) have also increased from $112,852,000 to $158,675,000 in 2001 and to $181,673,000 in 2006. While gross receipts have increased the increase in operating expenses has had a negative impact on operating margins. In 1996 operating margins were $47,426,000 or 29.5% of gross farm receipts. In 2001 operating margins were an estimated $38,643,000 or 19.58% of gross farm receipts. In 2006 margins declined to $40,297,000 or 18.15% of gross farm receipts (Exhibit 4). These declining margins have an impact on producer buying decisions. They are more cost conscious and selective in their purchasing.

c) Farming practices have changed significantly over the period 1996 to 2006. The use of fertilizer and chemicals on an acreage basis has increased. Fertilizer 36.24% and chemicals 27.98%. Tilling and weed control practices have changed. Tilling to incorporate farm residue has declined by 50.51% and tilling for weed control has declined by 67.56%. Simultaneously, no till has increased by 223.76% and chemical control of weeds has increased by 201.56% (Exhibit 8). These changes in practices to increase productivity have implications for fertilizer, chemical and fuel service providers.

The changes in farm sizes, financial characteristics and farm practices are expected to continue. For farm service providers this will require a higher degree of service and cost competitiveness. This in turn will require larger service units. Should current agricultural service providers not respond it is expected outside influences will fill the void.

5. Potential Agricultural Impact and Opportunity

The County of Forty Mile agricultural base; dry land farming, livestock and irrigation is considered stable. The 2006 Census of Agriculture reported gross farm receipts of $221,970,000 which was an improvement over the 2001 Census of $197,318,000. Gross farm receipts are dependent upon markets and growing conditions. As such, the projected ongoing gross farm receipts are in the range of $200,000,000 plus. This is the estimated direct economic impact on the County. In terms of potential impact and opportunity there are a number of factors to consider.

a) It is encouraging to see the continued development of improved farm practices i.e. fertilizer and chemical use, no till, etc. It is expected that this improvement will continue and should be fostered.

b) The development of the cubing facility into a compressed hay operation and the use of the Pure Lean hog barn, both at Bow Island, is a positive step forward. Both of these projects, the continued growth of Thacker and Sons, Alberta Sunflower Company Ltd., the maintenance of Southern Grain and others clearly demonstrates that entrepreneurship is continuing to have a positive impact. This entrepreneurship requires ongoing support.

c) The 2004 assessment indicated the County of Forty Mile was an ideal location for confined livestock operations and supply management (dairy and poultry). There have been improvements in dairy and poultry production and this development should be encouraged. Confined livestock operations (pigs and cattle feeding) have not progressed; cattle feeding has declined, pig production is stable and it would appear that producer intentions are not to expand these industries. As such, this is no longer seen as a major thrust but any new developments, given environmental compliance, should be supported.

d) The change in farm size and farm practices provides opportunity to expand the service sector. Of note is the Village of Foremost which has attracted expanded farm service facilities, Servagro and other facilities, and are moving towards stabilizing their base. To this end, while the Canadian Pacific rail line will be removed in 2008 the Village is in the process of purchasing a portion of the rail right of way for industrial land. Foremost should be commended on the actions it has and is taking. This is not in any manner to slight Bow Island who have done an excellent job of development and are now searching for further industrial lands.

Other Issues

The agricultural base and supporting services in the EDASA region, Counties of Forty Mile and Cypress are considered stable. This is under current conditions. There are several factors which are currently and will continue to have an economic impact on this base. These factors are not considered significant enough to disrupt the base but may have either a positive or negative impact over the medium and longer term. The factors are:

1. Residual Effects of BSE

   Historically the United States has been and in certain categories currently is Canada's largest and most important trading partner in live cattle and beef derived from cattle processed in Canada. With this relationship the price of live cattle (fed cattle, cull animals and calves) in Alberta is tied to the United States prices for similar animals. This market mechanism, which was based on the United States price adjusted for the exchange rate of the Canadian dollar; and transportation, and supply demand factors (basis), worked well until May 2003 when BSE was discovered in Canada. With the single case of BSE in May 2003 Canadian exports of cattle and beef to the United States and other international markets were closed and the market mechanism collapsed. In response the Governments of Canada and Alberta dedicated considerable sums of money to the cattle and beef industry to keep the entire industry from collapsing. As Plan 2000 Management Associates Ltd. and Informa Economics commented in their report, Economic Losses Associated with Cull Cows, "Government programs to deal with the BSE crisis by and large did their jobs. The industry continued to function and there was a market for producer calves. If there was any shortfall in the programs it was effectively dealing with cull animals." This was not to say that there wasn't a decline in calf prices, particularly in 2004, but the price of cull animals due to oversupply and lack of processing capacity collapsed. The Plan 2000-Informa report estimated the market losses in Alberta on cull cows for the period May 2003 to December 2005 at $470-$535/head on D1D2 cows and $390-$456 on D3 cows. With the reopening of the United States border to fed cattle and beef derived from animals under 30 months of age, UTM, in July 2005 (better known as USDA Rule 1) calf prices returned to normal market conditions, albeit with an increased basis. This still resulted in animals over 30 months of age, OTM, being excluded and this is still in effect with possible opening of the United States border to these animals, with some restrictions, on November 19, 2007 (better known as USDA Rule 2). With Rule 2 in effect the market mechanism, with a somewhat larger but fluctuating basis, will be normalized.

There were economic consequences to BSE. The decline in calf prices, although short-lived, depending upon individual producer cost of production may have resulted in a financial loss. There certainly was a market opportunity loss. In the case of cull animals that were sold there was a market opportunity loss and depending upon individual producer cost of production there may have been an economic loss resulting in capital impairment. In the case of cull animals that were retained there would have been cost of production consequences in terms of herd age and productivity. Individual producer consequences are unclear. From research completed by CanFax Research Services, October 2006, Age Distribution of the Canadian Cow Herd, it appears that the cull rate on beef cows in the period 2003-2005 was 5.57% compared to the long term average of 10.89% in the period 1992-2002. The research also appears to indicate that the beef cow herd over the period increased in age from 5.43 years in 2002 to 6.49 years in 2005. The cull rate and aging would appear to indicate that one-half the normal cull rate was realized with the other one-half of cows being retained with potential cost of production consequences. Individual producer choice is not known. In this regard there may be anecdotal information supporting or contradicting any of the scenarios. This information has no statistical validity and there is no statistical base to quantify the economic consequences. As such, it can be concluded that there were probable economic consequences that will be producer dependent. That being said, from an economic impact perspective both Cypress County and the County of Forty Mile have relatively stable cow populations indicating the economic consequences have been absorbed by the producer. Whether this has an ongoing effect will be producer dependent.

2. Water

The Government of Alberta policy on water use has effectively frozen any new irrigation expansion. In 2006 the St. Mary River Irrigation District reported 64,510 acres of irrigation in Cypress County and 110,578 acres in the County of Forty Mile (Exhibit 7). These acreages are not expected to expand and in the longer term, dependent upon government policy on municipal, natural resource and industrial development may be reduced or the water allocated per acre may decline. There is also an ongoing dispute with the State of Montana on the allocation of water from the Milk River and St. Mary River basins. The magnitude of the dispute appears to be in the range of 4% of the total water allocation. The dispute is currently being adjudicated by the International Joint Commission. Should the dispute be settled in favor of Montana this would reduce irrigation flows. Currently none of these factors would appear to have a material impact on acreage but may reduce the amount of water allocated. For example, in 2007 the St. Mary River Irrigation District received its full allocation of 1½ acre feet or 18 inches of water per acre. A 5% reduction in allocation would reduce the allocation to 17 inches. Of greater and ongoing concern is the year over year weather conditions; precipitation in the mountains, and on line storage which could have a more significant impact in reducing allocations. Should this occur then there would be a shift in production from water hungry crops such as row crops to less water dependent crops such as cereals. Should this occur there may be a further impact on the sale or rental of water rights. Currently, government policy is such that these rights may be traded and this has created a market in water rights. At present the estimated value of water rights, depending upon underlying land quality is in the range of $900-$1,500 per acre. This will have an impact on the type of crop grown.

Water allocation and usage is largely beyond the control of St. Mary River Irrigation producers and may fluctuate from year to year. Other than encouraging the development of online reservoir storage, monitor the situation and support the irrigation industry, there is little action that can be taken by EDASA.

3. Bio-Industrial Development

The governments of Canada and Alberta are promoting bio-industrial development with funding for feasibility studies and potential ongoing support for development. This is part of a broader program to reduce dependency on fossil fuels. The bio-industrial development falls into three broad categories; biogas, biodiesel and ethanol. As of July 2007 the Alberta situation in terms of these projects was:

Bio-Industrial Development

	Operating	Planned	Total
Wet Biogas	5	1	6
Biodiesel	--	10	10
Ethanol	1	4	5
	6	15	21
	==	==	==

The wet biogas projects are typically small related to the use of existing byproducts on site i.e. The Iron Creek Hutterite Colony at Bruce utilizes manure to produce 375 kilowatts of power used internally and sold to the grid. Biodiesel and ethanol projects are generally larger in scope with the following characteristics:

a) They require significant feedstock. This in turn requires a dedication of acreage to the production of crops; typically canola.

b) The proposed plants are capital intensive.

c) Ideally the plants will be tied to an oil seed crushing plant, be in proximity to a refinery for blending purposes and be in proximity to cattle feeding facilities to use the dried distiller grains.

While there may be some potential for small biogas or biodiesel development in the EDASA region the region does not meet the characteristics to proceed with either biodiesel or ethanol development.

In March 2007, a paper "The Biofuels Frenzy: What's in it for Canadian Agriculture?", was released by Kurt Klein and Danny Le Roy of the Department of Economics, the University of Lethbridge. Klein in particular is a well recognized and respected agricultural economist. The paper concluded there would be little gain in net farm incomes and was highly critical of the side affects; higher feed costs, increased land prices and higher consumer prices. This impact is currently being felt in the EDASA region with higher feed prices which in turn is dampening livestock production.

4. Canadian Dollar

The majority of Alberta agricultural products and value-added production derived from these products is exported. These exports are generally denominated in United States dollars. In the past several years the value of the Canadian dollar compared to the U.S. dollar has increased from the mid $0.60 level to current levels in the range of $1.02. This has resulted in Canadian export production being less competitive in the United States and other world markets. There has been great concern and consternation expressed by Alberta producers of both basic and secondary products over this increase. I.e. Because of the strength of the Canadian dollar the returns are not as strong if they could have been had the dollar remained low. The value of the Canadian dollar compared to the United States dollar is a reflection of the strength of the Canadian economy compared to the United States economy. The value of the dollar is set by international currency markets and the fiscal and monetary policy of the

Canadian government. The fiscal policy is set by the budgetary process of the Government of Canada and monetary policy by the Bank of Canada. The change in the value of the Canadian dollar is simply a result of these policies and the money markets. Most economic forecasters now predict the Canadian dollar will trade at par or greater to the United States dollar. This assumes that Canadian interest rates will remain at their current levels and that the Canadian economy will remain strong. Should this be the case this will put more price pressure on exports and ironically imports of fresh vegetable which in turn will impact the greenhouse industry. Unfortunately the value of the Canadian dollar is a factor that cannot be influenced on a regional or commodity basis and basic agricultural producers and value-added production will have to live with the consequences. As such, it is expected there will be a dampening of gross farm income and net producer returns in the region. There does not appear to be any simple solution to the value of the dollar. Producers may forward contract, hedge the dollar or both. The difficulty with this approach is that unless done properly this may increase the risk. This is possibly where EDASA could play a role in seminar development and presentation i.e. organizing financial professionals to provide this service.

5. Competitiveness

The increase in the value of the Canadian dollar, increasing energy and labor costs in Alberta and the increase in feed costs prompted by the bio-industrial development calls into question the competitiveness of value-added processing and basic agricultural production. In 2006 the Alberta Beef Producers and the Alberta Cattle Feeders Association commissioned a major review of the competitiveness of the Alberta cattle industry “Competitiveness of the Alberta Cattle Industry”. This review completed by Informa Economics Inc. concluded:

> “Overall, Canada has the resource base to be competitive in the basic production of calves. As product moves through the upstream production phases (feedlots and packer processing) concern exists as to whether this competitiveness is sustained.”

In April 2007 the George Morris Center completed an analysis of the pork industry “Competitiveness in the Canadian Pork Segment: A Reassessment”. This study concluded:

> “As a result of these challenges (feed grain competitiveness, packer competitiveness and labor availability), the pork industry is undergoing a restructuring process at the packer level. In addition, the lack of competitiveness in feeding is likely causing increased attrition at the producer level.”

Currently the Government of Alberta is undertaking a number of competitiveness studies, the results of which are unknown.

The impact of lack of competitiveness is currently being felt in the beef and pork industries and this is being passed down to producers. Pig producers are experiencing ongoing losses and calve prices are significantly under prior years. As such, the lack of competitiveness may have a significant impact on livestock production. Producers by their nature continuously improve productivity. This is evident by the movement to larger farming units and improved production practices. The results of the studies by the Government of Alberta are not known nor is it known if the greenhouse industry is included. If the greenhouse industry is not included it should be. We see the role of EDASA as monitoring industry competitiveness and disseminating information. This is significant to agriculture in the region.

Perceived Role of EDASA

The agricultural base in the EDASA region is considered relatively stable. There does not appear to be any significant opportunities for further growth in primary agriculture, value-added agriculture or value-added processing. Individual entrepreneurship may result in modest growth. There are some disquieting issues; residual effects of BSE, water, bio-industrial development, the Canadian dollar and competitiveness that may have a dampening effect on the agricultural economy. The role of EDASA is perceived as assisting producers and the service sector in coping with these issues, protecting the agricultural base and promoting entrepreneurship. The role is seen as:

1. Advocacy. The competitiveness factor is such that it may impact new startups of value-added agriculture or value-added processing. While there is ongoing entrepreneurship there appears to be some discontent with increasing government regulations and little evidence of new startups. The greenhouse industry would appear to have increasing competitive pressures and support personnel and/or programs are distant i.e. Edmonton area. Entrepreneurs and existing operations such as the greenhouse industry require advocacy to make their support programs more accessible and effective. This is seen as a role of EDASA.

2. Nurturing. This is seen as supporting the agricultural base and is multi-faceted. First, continue to foster the current production agricultural trends i.e. soil conservation working with organizations such as Southern Applied Research Association (SARA) and the Alberta Conservation Tillage Society. Second, work with existing service providers; fertilizer, chemical and fuel, to expand and improve services. As a fall back, attract new providers. Third, work with existing commodity organizations such as the Potato Growers of Alberta and the Alberta Sugar Beet Producers to increase acreages.

3. Awareness and Education. This is seen as opening communication channels between producers and diverse organizations such as producer groups, policy organizations,

educational organizations, financial institutions, etc. A good starting point might be Alberta Community and Cooperative Association.