

# AGRI-FACTS

Practical Information for Alberta's Agriculture Industry

Revised December 2015

Agdex 811-11

## Assess Your Resources: Examining Production Requirements (Step Four)

### Agriculture Business Alternatives

*Agriculture Business Alternatives is a series of factsheets designed to help you evaluate the feasibility of starting a new agricultural or rural-based business. The worksheets help you define the critical information needed to move your idea forward.*

Your idea for a new enterprise is getting clearer after exploring market options. Your family is encouraging, and you are enthusiastic. Now, you need more information on whether you have the facilities and equipment to ramp up the business.

In the previous factsheet, *Identify Your Market: Right Buyer, Right Price (Step Three)*, Agdex 811-10, you identified the strongest target market and market channels for your new agricultural enterprise. This resources factsheet will help you judge the feasibility of producing your product by exploring these three areas:

- 1) Evaluate production resources: look at existing resources and those you need to develop.
- 2) Decide on quality and capacity; two factors that can affect the development of your idea.
- 3) Discover the regulations: how to meet legal, regulatory and liability requirements.

Worksheets are included in this factsheet as part of the assessment. Since these worksheets deal directly with key business decisions, it may be reasonable to only involve managers or those active in the business in this step.

This factsheet may identify production requirements for a new enterprise you might not have thought of or resources that are more than you want to tackle at the moment. Either way, finding out this information early in the process is critical for your success.

*Do you have the  
facilities and  
equipment to ramp  
up the business?*

### Evaluate production resources

The worksheets you will be completing require current, clear (and often very specific) information about your enterprise area. Production information (like costs, rates and climatological factors) for most enterprises can be obtained from a variety of sources.

**Alberta Agriculture and Forestry (AF):** visit AF's website: [www.agriculture.alberta.ca](http://www.agriculture.alberta.ca) or ask an AF New Venture Specialist to recommend other resources or business owners with similar enterprises.

**Trade or commodity organizations and producers:** these groups have production data specific to their area of expertise; producers can show you their exact operation, production techniques and explain costs.

**Publications and online resources:** look for information in books and magazines (ensure the information is up-to-date) or do an online search for your area of inquiry.

**Government offices:** federal, provincial and local agencies will have regulatory and liability information.

The first seven worksheets in this factsheet will help you identify resource opportunities and challenges for your enterprise in the following areas:

- climate
- water
- machinery and equipment
- management and labour
- soil
- buildings and facilities
- environmental factors

Some worksheets may be more relevant to your idea than others, and you may need more research to complete them. If you've worked through *Consider Your Options: An Inventory of Possibilities (Step Two)*, Agdex 811-9, (the second factsheet in this series), you will already have an inventory of your resources.

### Climate

Climate can affect many areas of production. Here are a few examples:

**Crops:** length of growing season; temperatures required for your crop; potential of frost, heat or wind damage; a perennial or fruit crop's ability to overwinter successfully.

**Livestock:** some animals need protection from the cold while others require pastures to graze on; an aquaculture enterprise needs specific water temperatures for fish to thrive.

**Services:** on-farm fishing or a u-pick program depends on good weather for success; farm stores need infrastructure to protect products from inclement weather.

Keep in mind the data you gather for **Worksheet 1: Climate Requirements** is an average, and your site may differ from average figures because of its unique topography, elevation, frost pockets, south-facing slopes and more. Note the cost to overcome any issues you have discovered.

### Soil

The soil (and topography) of your land can affect your enterprise in many ways. Is there a particular soil condition that affects the suitability of the site, like dense clay that could limit irrigation? Certain crops need a specific soil profile – pH, electrical conductivity, moisture or drainage and fertility. Organic certification requires special production practices.

Non-crop businesses, ponds, barns, roadside stands, septic systems and parking lots have particular land requirements. Topography – like steep slopes – can affect the safety of services like cross-country skiing or hay rides.

Enter your enterprise's key soil or land requirements on **Worksheet 2: Soil Requirements**. Note any problems, then list possible solutions and estimated associated costs.

### Water

Water is not only a resource, but a responsibility. The stewardship of water falls to all individuals, businesses and communities. Alberta legislation outlines requirements for the wise management of provincial water resources. If your new enterprise relies on water, become familiar with all the relevant regulations, including licensing and permits.

Examples where water may be part of your business plan include irrigated crops and greenhouses, livestock operations and processing facilities (for production, cleanup and waste disposal).

Use **Worksheet 3: Water Requirements** to evaluate your current water supply and detail any limitations, solutions and costs for your enterprise idea.

### Buildings and facilities

Your new enterprise may utilize the facilities you already have, or you may need renovations or new construction. Here are some questions to think about regarding infrastructure:

- What kind of requirements do you have for storage, housing, processing, handling, retail selling, or manure management?
- Does your enterprise need access to transportation corridors and are there weight restrictions for the roads you'll use?
- If your buildings need renovations, can you do it yourself or do you need to hire a contractor or carpenter?
- If you are looking at new construction, do you know its scope, features and cost?

List the existing facilities needed to launch your new enterprise – plus costs for any upgrades and new construction – in the **Worksheet 4: Building and Facility Requirements**.

### Machinery and equipment

Equipment is a very broad topic, and your new enterprise will have specific needs that may require the use of machinery, which could include tractors, harvesters, food processing equipment or computer systems. Think of all the production and business operation tasks in your new enterprise and ask yourself:

- What are the specific machines and equipment needed by the new enterprise?
- Can you use or adapt equipment you already own?
- Is it better to purchase or lease/rent additional equipment?
- Does the necessary equipment exist or will you need a custom piece?

Complete your list on **Worksheet 5: Machinery and Equipment Requirements**.

### Management and labour

Underestimating the amount of time needed for your new enterprise, or not having enough time available for your business, can limit the viability of your new idea.

Make sure you consider *all* your time needed – even for non-production tasks like planning, promotion and transportation – and then answer these questions:

- Will you use family or hire employees or seasonal workers?
- Are there non-production resources you need, like advisors, accountants or bookkeepers?
- Are external resources – like processing or packaging – required for your product?
- Are there times in the year when more hours of labour are required?
- What level of skill is required from your employees?

Learn as much as you can about the labour and management requirements of your new business:

- Talk with an Agriculture and Forestry (AF) New Venture Specialist who may be familiar with your type of business.
- Approach other producers who have similar businesses and ask about their experiences.
- Find a producer organization that may offer advice or mentor you.

Complete **Worksheet 6: Management and Labour Requirements** in detail.

### Environmental factors

Evaluating environmental factors for a new venture is sound management and contributes to the long-term sustainability of a business. Often, bankers, insurance agents and government agencies require business owners to identify environmental risks in their business planning or show that a formal environmental audit has been done.

When filling out **Worksheet 7: Environmental Factors**, consider the three basic assessments outlined below. If remedial actions or processes are needed, include estimated costs in your worksheet.

#### 1) Pre-acquisition site assessment

A site review checks for environmental liabilities or hazards that will need to be remedied before the purchase of a property. Site assessments range from a visual inspection to sampling and testing for hazards

on or near the property (like buried fuel tanks, oil residue, salt spills or herbicide residue). You also want to check if there are neighbouring factors – such as odours, dust, views, noise or crop insects and disease – that could affect your venture.

#### 2) Environmental impact assessment

Identify and quantify how your new venture may affect others or the surrounding environment. Although not all environmental impacts are negative, review your venture with these questions in mind:

- Is there a plan for waste by-products (water, solids, dust, odour and noise)?
- Are there off-site impacts and are they serious?
- Are environmental impacts long term or short term, and are they reversible?
- Are environmental impacts a public concern?
- Are modifications and integration possible, and at what cost?
- Will your site need to be cleaned up if your business closes or if the property is sold?

#### 3) Environmental audit

An environmental audit evaluates how well your business complies with environmental regulations. An audit uncovers areas that could be risky and outlines modifications or improvements. The process is usually confidential and is best done by a third party. If an environmental accident occurs, a completed audit can prove due diligence.

For more information on environmental assessments or audits, ask an AF New Venture Specialist, or visit the Alberta Environment and Parks website ([www://esrd.alberta.ca](http://www://esrd.alberta.ca)).

## Decide on quality and capacity

Your quality goals and the production rate of your product will have an effect on how many units you can produce, the number of customers you can serve, the price you set and your sales volumes.

Consider the following factors:

- A consistent, high-quality product will net the best returns. If your product does not meet the buyer's needs, the buyer may shop elsewhere.
- Use existing industry information to set a range of production rates (average carcass weights, animal production per animal, yields per acre, etc.) for your new enterprise.

Be realistic about achievable goals for your enterprise, based on the resources you have or can manage.

Complete **Worksheet 8: Quality and Production Rate**.

### **Business capacity**

To find the ideal capacity of your enterprise, note your expected sales volume and divide it by the production rate calculated in Worksheet 8. (Use sales volume figures from *Identify Your Market: Right Buyer, Right Price (Step Three)*, Agdex 811-10, if you completed that worksheet.)

Enter this information in **Worksheet 9: Business Capacity**. Depending on your enterprise, capacity may be defined in terms of acres, rooms in a bed and breakfast, units of jam, etc.

## **Discover the regulations**

Depending on your product, there could be a variety of regulations that affect your business. For example, most agricultural and agri-food enterprises will have regulatory requirements that must be met when producing or selling a product, as outlined by federal, provincial or municipal governments.

Agricultural labour laws and farm safety regulations apply to farm businesses. Some commodities limit production or require the purchase of a quota (a license issued by a commodity association giving you the right to produce a certain amount of product).

AF's *Farm Direct Marketing: Know the Regulations*, Agdex 844-1 to 844-6, booklet series outlines the rules and regulations that govern the sale of food items direct from the farm.

Find out about the regulations related to your new venture and list them on **Worksheet 10: Legal, Regulatory and Liability Factors**. Note the cost of permits, licenses or additional insurance coverage. If special equipment or construction is required to comply with regulations, note those items as well.

## **Bringing it all together**

Review your completed worksheets and note any production obstacles and the costs to overcome them.

Ask yourself these questions:

- Can I afford to implement the changes?
- Will the costs to implement the changes create profits?
- Do changes affect other areas of the business?

### **Move forward**

If there are no major obstacles to production and all the resources required for the new enterprise are available, congratulations! Proceed to the next factsheet in this series, *Review Your Finances: Making the Money Work (Step Five)*, Agdex 811-12, to learn about financing your new enterprise.

### **Take a second look**

If you have identified production challenges, decide whether operating costs or capital purchases are the stumbling block. Increased operating costs may put you at a competitive disadvantage, while capital purchases may expose you to greater financial risk.

### **Re-evaluate**

If challenges beyond your control will affect your profitability or if development of new resources is not feasible, you may have to rework your idea. Do not throw in the towel yet – many production problems can be overcome by changing your product offering or finding financing for needed resources.

## **Your next steps forward**

Congratulations on identifying the resources you need to get your new enterprise off the ground. It is exciting to see all your hard work beginning to take shape.

This factsheet is one in a series of Agriculture Business Alternatives factsheets that help you evaluate the feasibility of starting a new agricultural or rural-based business.

For the next step in this process, see the factsheet *Review Your Finances: Making the Money Work (Step Five)*, Agdex 811-12.

## References

The Agriculture Business Alternatives factsheets have been adapted with permission from: *Farming Alternatives - A Guide to Evaluating the Feasibility of new Farm-Based Enterprises* (NRAES-32, October 1988, ISBN 0-935817-14-X). This publication was a project of the Farming Alternatives Program, Cornell University, Warren Hall, Ithaca, NY 14853 (607) 255-9832; and Natural Resource, Agriculture and Engineering Service (NRAES), Cornell University, 152 Riley-Robb Hall, Ithaca, New York (607) 255-7654.

## For more information

### **Agriculture Business Alternatives factsheet series:**

*Define Your Goals: Personal and Family Considerations (Step One)*, Agdex 811-8

*Consider Your Options: An Inventory of Possibilities (Step Two)*, Agdex 811-9

*Identify Your Market: Right Buyer, Right Price (Step Three)*, Agdex 811-10

*Assess Your Resources: Examining Production Requirements (Step Four)*, Agdex 811-11

*Review Your Finances: Making the Money Work (Step Five)*, Agdex 811-12

*Analyze Your Profitability: Managing Your Growth (Step Six)*, Agdex 811-13

*Launch Your Business: Time for Action (Step Seven)*, Agdex 811-14

*Build Your Network: Reaching Out for Support and Advice (Step Eight)*, Agdex 811-15

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# Agriculture Business Alternatives

## Step 4 - Worksheet 1: Climate Requirements

### Required by Your New Enterprise

Days to harvest (if applicable): \_\_\_\_\_

Lowest temperature tolerated: \_\_\_\_\_

Highest temperature tolerated: \_\_\_\_\_

Level of moisture required: \_\_\_\_\_

Other requirements:

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List any anticipated climate problems:

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### Provided by Your Site

Avg. date of last spring frost: \_\_\_\_\_

Avg. date of first fall frost: \_\_\_\_\_

Days in growing season: \_\_\_\_\_

Expected winter low temp.: \_\_\_\_\_

Expected summer high temp.: \_\_\_\_\_

Average annual precipitation: \_\_\_\_\_

# Agriculture Business Alternatives

## Step 4 - Worksheet 2: Soil Requirements

	Soil Requirements of Your New Enterprise	Soil Characteristics of Your Land
pH:	<hr/>	<hr/>
Electrical conductivity:	<hr/>	<hr/>
Moisture/drainage:	<hr/>	<hr/>
Fertility:	<hr/>	<hr/>
Texture:	<hr/>	<hr/>
Topography:	<hr/>	<hr/>
Organic matter:	<hr/>	<hr/>
Acreage:	<hr/>	<hr/>
Other:	<hr/>	<hr/>

List any anticipated soil problems:

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List any possible solutions and estimated costs:

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# Agriculture Business Alternatives

## Step 4 - Worksheet 3: Water Requirements

### Water Requirements of New Enterprise

Purpose	Quality	Flow Rate	Volume	Location

### Existing Water Supply

Source	Quality	Flow Rate	Volume	Location

List any limitations of the existing water supply and distribution systems in regard to the requirements of the proposed enterprise:

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List any possible solutions and estimated costs:

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# Agriculture Business Alternatives

## Step 4 - Worksheet 4: Building and Facility Requirements

### Facilities Required by the New Enterprise

Purpose	Square Feet	Required Features	Access to Utilities	Location

### Required Renovations to Existing Buildings

Purpose	Modification Required	Estimated Cost
Total cost of renovations:		

### New Construction Required

Purpose	Square Feet	Construction Features	Estimated Cost
Total cost of construction:			

# Agriculture Business Alternatives

## Step 4 - Worksheet 5: Machinery and Equipment Requirements

Machinery and Equipment Required for the New Enterprise

Machinery/ Equipment	Size/ Capacity	Check One			Estimated Cost
		Already Own	Purchase	Lease/Rent	
<b>Total Cost</b>					

# Agriculture Business Alternatives

## Step 4 - Worksheet 6: Management and Labour Requirements

### Management Requirements

Average number of hours per week:

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Seasonal pattern:

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Level of skill and knowledge required:  
(i.e. labour skills and management skills)

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### Labour Requirements

Average # hours per week required in each month:

January \_\_\_\_\_

May \_\_\_\_\_

September \_\_\_\_\_

February \_\_\_\_\_

June \_\_\_\_\_

October \_\_\_\_\_

March \_\_\_\_\_

July \_\_\_\_\_

November \_\_\_\_\_

April \_\_\_\_\_

August \_\_\_\_\_

December \_\_\_\_\_

List any anticipated problems, labour crunches, slack periods, time or skills not available, availability:

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How would you overcome these problems? If additional labour has to be hired, determine the amount required and estimate the cost:

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# Agriculture Business Alternatives

## Step 4 - Worksheet 7: Environmental Factors

Type of Environmental Impact	Specific Existing or Potential Issue	Resolution or Mitigation Activities	Estimated Cost
Changes in land use or building of new infrastructure (e.g. drainage, wildlife/habitat impact, etc.)			
Soil, nutrient, and land management (e.g. crop rotation, tillage, etc.)			
Access to and usage of water (e.g. livestock watering, run-off, etc.)			
Disposal of waste and/or by-products (e.g. manure, garbage, waste water, etc.)			
Storage and handling of hazardous materials (e.g. chemicals, fuels, etc.)			
Energy efficiency issues (e.g. insulation, wiring, etc.)			
Impacts on neighbouring property (e.g. visual, sound, or odours)			
Other factors			

What sources of information did you use in completing this worksheet? (List agency names and addresses, persons spoken to, dates of conversations, or other relevant information)

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# Agriculture Business Alternatives

## Step 4 - Worksheet 8: Quality and Production Rate

### Quality

What is the level of quality or range of quality you expect to achieve with your production resources? How would your quality compare with your competitor's quality? What is the quality needed by buyers?

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### Production Rate

What is the average rate of production (bushels per acre, gallons per minute, people per day, etc.)

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What rate of production do you think you can achieve?

Minimum: \_\_\_\_\_

Maximum: \_\_\_\_\_

Most Likely: \_\_\_\_\_

If your most likely rate of production is different from the average of other producers, explain why:

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# Agriculture Business Alternatives

## Step 4 - Worksheet 9: Business Capacity

Enter your expected sales volume per year:

If you've worked through *Ag Alternatives – Identify Your Market: Right Buyer, Right Price*, use the expected sales volume you estimated in Step 3 - Worksheet 8. Otherwise, estimate an expected sales volume now.

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Enter your average production rate, determined in Step 4 - Worksheet 8:

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Enter your own data in the equation below to determine the capacity at which your operation will need to perform to meet your expected sales volume:

$$\frac{\text{Expected Sales Volume}}{\text{Average Production Rate} \times \text{Production Units Per Year}} = \text{Expected Business Capacity} \%$$

E.g. Grain  $\frac{10,000 \text{ bushels/year}}{50 \text{ bushels/acre} \times 160 \text{ acres/year}} = 125 \% \text{ business capacity}$

Jam  $\frac{1,000 \text{ cases/year}}{10 \text{ cases/day} \times 240 \text{ days/year}} = 42 \% \text{ business capacity}$

### Your Expected Business Capacity

What resources, if any, are limited in availability and may cause a reduction in your business capacity? What is your most likely business capacity?

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Insert your most likely business capacity into the equation below and calculate a new value for expected sales volume. Account for any changes in the average production rate caused by changes in business size:

$$\text{Revised Business Capacity} \% \times \text{Average Production Rate} \times \text{Production Units Per Year} = \text{Revised Sales Volume}$$

E.g. Grain  $80 \% \text{ business capacity} \times 50 \text{ bushels/acre} \times 160 \text{ acres/year} = 6,400 \text{ bushels/year}$

Jam  $100 \% \text{ business capacity} \times 10 \text{ cases/day} \times 240 \text{ days/year} = 2,400 \text{ cases/year}$

# Agriculture Business Alternatives

## Step 4 - Worksheet 10: Legal, Regulatory, and Liability Factors

Factor	Added Cost
Federal laws, regulations, permits:	
Provincial laws, regulations, permits:	
Municipal laws, regulations, permits:	
Liability factors:	

What sources of information did you use in completing this worksheet? (List agency names and addresses, persons spoken to, dates of conversations, or other relevant information)

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