

*Participant
Packet
C*

Grandpa



**Pride in Bella
Acres**

Dale



Gwen



Fran

**Change is
good**

Hard work, stress, and hope with anxiety



Jenna

Bill

Carl

**Dreaming through
rose-colored glasses**



Sarah

**I love him,
but not his
occupation**

BELLA ACRES - DAIRY RISK MANAGEMENT CASE STUDY

The Farm - Bella Acres

- 95-100 cows milked twice daily in a pipeline stall barn.
- Replacements are raised from home stock and purchased off-farm.
- Housing: 85 stall barn, added onto four separate times, attached second barn provides housing for bred heifers, dry cows, and the remainder of the milking cows.
- Equipment and machinery is adequate, but some of the key pieces (haybine, baler, and chopper) are nearing the point of exhaustion and replacement.
- Manure is pumped to an earthen pit with adequate capacity for 9 months of storage at the current herd size of 95 cows. Manure is applied to surrounding fields.
- Bella Acres now consists of 400 total acres.

Grandpa

59 ac. of farmland

40 ac. of timber

10 ac. farmstead

Dad

150 ac. farmland being purchased

141 ac. rented from sister Fran

- Farmstead has two houses - Grandpa lives in one, and Dad and Gwen live in the other.
- Timber includes a perennial stream.
- Bella Acres farm lies within four miles of Metropolis, a metropolitan region with 20,000 population, and is within a mile of a small subdivision (5 houses currently).
- Fran's 141 acres lies just on the edge of Metropolis on the opposite side of town from Bella Acres.

Farm Business Arrangements

Bella Acres is currently operated as a partnership between Grandpa and Dad. Dad now owns most of the machinery and half the herd, through a lease-buy out agreement with Grandpa. Grandpa's 109 acres is in a life-estate trust set up by Grandpa after his wife died. Grandpa has a life interest with the estate transferring to Fran and Dad upon his death. Fran encouraged Grandpa to set up the life-estate, and she now serves as executor. There is no written partnership agreement.

The Labor Situation:

While officially retired, Grandpa spends most days around the farm. Grandpa helps Dad and Gwen keep the farmstead looking neat and orderly. With Grandpa unable to work as much, and both Carl and Bill away at college, quality labor shortages have become a chronic headache for Dad. He has tried to bring in hired labor on a full time basis, however, no one ever seems to stick around for longer than a few months. Even though Dad does the hiring, Grandpa still seems to have significant authority in the daily routine of the hired man. Under Grandpa's watchful eyes, Dad takes daily care of the milking, nutrition, reproduction, culling, and facilities maintenance. Planting, harvesting, and haying times are real bottlenecks, especially the last couple of years with Carl and Bill away at college. Dad sometimes finds local high school help, but good help is getting harder to come by.

Management and Decision-making:

While Dad takes care of most of the day to day activities and decisions, he tends to still run most strategy and especially major decisions by Grandpa first for his blessing, especially those involving the herd. Gwen has a general idea of the cash flow picture in terms of what is coming due, where the receipts are, what is held in accounts, etc. Also, when the bank asks for it, Gwen can put together a passable balance sheet, and knows where to find the tax returns.

Grandpa always did business with a handshake and his reputation in the community is impeccable. Grandpa traditionally operated on a 6th sense of good management judgement based on what he carried around in his head. Dad tries to run off the same philosophy, but has over the years succumbed to Grandpa's wishes more often than not. Dad finds that lenders and others require more information on paper from him than they did with Grandpa. When financial information is requested, Dad refers to Gwen for pulling it together.

Transition:

Communications are mostly non-verbal. Grandpa set up his estate plan after his wife died. Everything was held in joint ownership so everything came to him by operation of law. There will be some estate tax liability due upon his death. For this reason, Grandpa set up an ILIT (Irrevocable Life Insurance Trust) to take care of this anticipated cash need.

Dad and Gwen are talking retirement, or at least transition. Dad is a good cow man, and in-fact has been moderately successful at buying and selling cattle for himself as well as others. Dad is growing weary of the daily milking grind and seems to love life the most in the summers when the two boys are doing the bulk of the chores and Dad is out evaluating cattle. Gwen, especially, wants Dad to slowdown and begin turning the farm over. However, there is some financial burden from problems carried over from the past that make transition more difficult.

Carl and Bill have often talked about farming together. They are both good students and progressive thinkers like many of their young colleagues. Discussions of the future of Bella Acres between the boys, dad, and Grandpa are minimal, in large part due to perceived attitude by the two older generations that the younger generation needs more understanding. Carl and Bill recently returned from a 3 week dairy tour of the Southwest United States. While they were impressed by somewhat different things, the ideas are flowing.

Production

Grandpa and Dad have traditionally been solid production managers. Their herd average tends to be at or slightly above the average for herds their size. Bill and Carl have some grand ideas for increasing production and profitability through nutrition, genetics, and marketing. Grandpa is leery of the increased investment and Dad has been too busy to think it through.

The cropping enterprise, especially grain production, is not where time is spent. More often than not it is an afterthought. Approximately 98 acres of corn are grown each year at an average of 110 bu/acre. Other production normally includes 53 acres of corn silage at about 14 tons per acre, 95 acres of

established forage at about 3 tons per acre, 40 acres of new seeding at 1 ton per acre, and 64 acres of pasture.

Financial

When the bank calls for documentation, Dad refers to Gwen to put together whatever is needed. She uses schedule F to show profitability when the bank asks for proof of income, and will primarily go off of previous cash flows and balance statements to construct new ones, after all, the farm has not changed much since the previous year so there is no reason to change the financial statements much either. There is no certain time of year that financial statements are completed, usually just when there is a need. Grandpa and Dad do not generally get too involved.

There have been some lean years. These years were covered by Dad and Gwen dipping into some retirement funds, borrowing from Grandpa and Grandma, or further mortgaging their property to make their payments. Amounts borrowed, repayment, and other loan details are unwritten and basically unknown with occasional waiving of debt by Grandpa.

In general, Bella Acres is maintaining, but is not growing financially. The rate of return on assets has averaged 2.87, which means that for every dollar of assets, there is almost 3 cents earned. Comparing this to other nonagricultural investments such as mutual funds, etc., then this rate of return is somewhat dismal. Since the rate of return on equity is less than the rate of return on assets, that suggests that there is not enough income for the debt load being carried.

Dad and Gwen currently carry a \$130,000 first mortgage on their 150 acres. The land is currently valued at \$1,300/acre. In addition, they carry a second mortgage for \$38,000 for carryover debt that was restructured a few years back, much of which is from the Harvester's purchase and construction. Grandpa is a co-signor on the first mortgage.

Grandpa's land does not have a lien on it. At an average debt to asset ratio of 32 percent, it is not too few of assets that is the problem, rather how well the assets are working in deriving income that is the difficulty.

Marketing - Inputs and Outputs

The Smiths are members of a local dairy cooperative, and have been for as long as anyone can remember. They have a beautiful sign complete with flowers and shrubbery at the end of their lane that promotes their patronage and loyalty. Marketing has not traditionally been a part of the management effort on Bella Acres. Grandpa and Dad have had a "buy when we need it, sell when we got it" philosophy when it comes to marketing. On the input side, production acres are distributed such that corn silage requirements for the year are met. Off the farm purchase of forage and grain is usually required - approximately 40-50 tons of hay equivalent and 2-3 thousand bushels of grain. Over the years they have developed some fairly steady suppliers.

On the output side, milk is sold in the cash market and that is about the end of the story. Carl and Bill have both been trying to convince Grandpa and Dad to make use of the new forward contracting

opportunities being offered by their milk cooperative, or use of the new futures and options BFP contracts. Grandpa and Dad politely listen, but then lecture the boys that success in dairying comes from taking care of the cows and producing more and better quality milk and not from gambling on prices.

What Are Risk Management Strategies

Risk Management Strategies are the practices you employ to decrease either the potential for a risk event to occur, or the impact on your operation if it does occur. Generally, risk management strategies can be either external or internal. External are those strategies you employ that involve someone from off the farm taking on the risk of your operation. Purchase of fire insurance is an excellent example. Internal strategies are those practices you employ on the farm, or within the family, to address risks you face. In general, risk strategies fall under one of the categories listed below. Note, too, that for any given risk, there is likely more than one strategy that can be employed. For example, the risk of you being disabled and unable to contribute to the farming operation can be addressed via external means such as health/disability insurance, and through internal means such as periodic health checkups, exercise programs, and quitting smoking.

Overall Categories of Risk Management Strategies:

Reduce the probability that an event will happen: e.g., if you don't smoke, you will have less probability of dying or becoming disabled from smoking induced health problems.

Reduce the impact if the event does occur: e.g., if high heat stress days do occur, then having ventilation, fans, sprinklers, lots of access to water, etc. can reduce the impact of low milk production.

Transfer the cost of an undesirable outcome to someone else: e.g., buying hail insurance transfers the risk of crop loss from you to the insurer for the cost of a premium.

Avoid potential events thus providing a zero probability that they will occur: e.g., if you do not want the risk of employees or children having a tractor accident, then do not allow employees or children on tractors (as long as that instruction is followed, you have avoided the potential for the risk to even occur).

Do nothing at let the risk happen and thus be ready to bear the consequences: e.g., allow your hired employees to drive the tractor for farm business purposes. The risk is there that they will get injured or killed, but you'll deal with it when and if it happens (probably not a good example, because in the very least you could give them some training which would be a risk reduction strategy).

Scoring Instructions for Risk Assessment Worksheets

Scoring for the Risk Assessment Worksheet is based on 1) the likelihood (probability) that some risk event will occur, and 2) the impact on the operation if it does occur.

- 1) **Probability that the undesirable outcome will happen within the next three years:**

Probability that the Undesirable Event will Happen	Score on Risk Assessment Worksheet
0-10%	0
10-20%	1
20-50%	2
> 50%	3

- 2) **Taking into account the current risk management strategies being employed, what is the impact on profitability or farm business and family goals if the undesirable outcome does happen? Evaluate and Score the impact as follows:**

Description of Expected Impact if Undesirable Outcome Happens	Score on Risk Assessment Worksheet
Virtually no impact. Short term nuisance at worst.	0
Short term impact with moderate disruption/loss. It will hurt, but the hurt will be short term.	3
Significant short and/or long term impact that, while survivable, results in serious disruption/loss.	6
Severe to catastrophic hardship and/or loss. Continued operation will be difficult.	9

Interpretation of Risk Position

Step 1: Add the two scores together from parts 1 and 2 above.

Step 2: Interpret the importance of the risk (Risk Position) based on the table below. Note, that the descriptions below are subjective and should be used as an indicator only.

0-2: No action required

3-4: Not critical, but may want to begin examining how to reduce or avoid the risk, especially low cost alternatives

5-6: Need to be more serious about addressing the risk. The threat is becoming more urgent. Seek cost effective means to address the risk

7-8: Action is required. There is an urgency for action.

9-12: Do not delay. Immediate Action Required!

Risk Assessment Worksheet

A <u>Risk Event</u>	B	C	D	E <u>Risk Management Strategy</u>
What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	What are some ways to address this risk event (may be more than one way)

¹ See "Scoring Instructions for Risk Assessment Worksheets".

Production Risk Assessment Worksheet

Undesirable outcome: lower than expected or catastrophically lower production, low quality, or both.

Risk Events (Cause or Source of undesirable outcomes) can be weather, diseases, pests, not enough or not the right kind of technology, inability to manage technology, poor timeliness, poor facilities, poor management decisions, poor quality inputs, stray voltage, poor genetics/breeding, or human mistakes. Specific examples include low milk production due to hot weather stress, low milk production due to environmental mastitis, low forage production due to lack of rainfall, low forage quality due to lack of field timeliness, etc.

A	B	C	D	E
<u>Risk Event</u> What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	<u>Risk Management Strategy</u> What are some ways to address this risk event (may be more than one way)

¹ See "Scoring Instructions for Risk Assessment Worksheets".

"Price" risk and "Market" risk are two terms often used interchangeably. Here, they have been separated where price risk is a category for assessing the impact of the ups and downs of prices, both input and output. Market risk is related more to the risk that can impact the operation due to lack of marketing outlets, lack of competition in your area, or lack of market information.

Price Risk Assessment Worksheet

Undesirable outcome: decreased income or variable (unpredictable) income

Risk Events (Cause or Source of undesirable outcomes): Most directly, the cause of undesirable outcomes are low output prices, high input prices, or both (including milk, culls, calves, heifers, fertilizer, fuel, feed, etc.). Changing price levels are often caused by events outside of the producers control such as changes in supply resulting from changes in inputs costs, weather, technology, and foreign production; changes in demand resulting from changing consumer tastes, population dynamics, disposable income, and foreign trade; or even psychological factors in the market place among traders. Other sources of changing prices include changes in government policies, laws, regulations, and foreign government policies. While not strictly speaking a risk event, lack of knowing costs of production, understanding marketing tools, or having a marketing plan for managing price can increase the price risk you face as well. While in the case of price risk, the producer has little control over many of the sources of price risk, he/she does have control over the impact in his/her operation. Often the risk of the undesirable outcome can be reduced or transferred to others.

A	B	C	D	E
<u>Risk Event</u> What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	<u>Risk Management Strategy</u> What are some ways to address this risk event (may be more than one way)

¹ See "Scoring Instructions for Risk Assessment Worksheets".



Market Risk Assessment Worksheet

Undesirable outcome: no or limited places to sell your goods or buy inputs; not receiving a fair price due to lack of competition

Risk Events (Cause or Source of undesirable outcomes) include lack of physical availability of output or input markets in your area, lack of competition among markets in your area, lack of access to markets, lack of good market information, captive supplies, lack of an outlet for a specialty/identity preserved grain or other product.

A <u>Risk Event</u>	B	C	D	E <u>Risk Management Strategy</u>
What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	What are some ways to address this risk event (may be more than one way)

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Financial Risk Assessment Worksheet

Undesirable outcome: increased cost of debt capital, lack of access to debt capital, reduced ability to meet cash flow, reduced income, reduced rate of return, loss or lack of adequate growth in equity, true market value of assets less than book value, etc.

Risk Events (Cause or Source of undesirable outcomes): increasing interest rates, increasing risk premiums, asset devaluation, debt structure is predominately short term and variable rate, lack of access to capital, lenders that do not understand your operation, poor record-keeping, inability to present the business plan, decreasing health of world and agricultural economy, high leverage, lack of financial reserve, lack of credit reserve, lack of asset base, lack of equity base, or poor relationship with lender.

A	B	C	D	E
<u>Risk Event</u>	Probability that it will Happen (0, 1, 2, or 3 score)¹	Impact if it does Happen (0, 3, 6, or 9 score)¹	Risk Position¹ (sum columns B & C)	<u>Risk Management Strategy</u>
What is the Cause or Source of an Undesirable Outcome				What are some ways to address this risk event (may be more than one way)

¹ See "Scoring Instructions for Risk Assessment Worksheets".

Environmental Risk Assessment Worksheet

Undesirable outcome: financial loss, loss of business, inability to change or enter into new business, human injury/death, animal injury/death, short-term loss of production, long-term loss of production capacity, on-farm property damage, off-farm property damage, loss of aesthetic value.

Risk Events (Cause or Source of undesirable outcomes): manure spills, leaching/runoff of nutrients into water resources, erosion, poor air quality, poor manure management practices, violation of laws and regulations, lawsuits, road traffic, poor relationship with regulatory officials, poor public relations, poor neighbor relations, poor environmental performance history, poor history of relations, lack of others having trust in you or your operation, breakdown of technology/facilities, unusual weather events, or human mistake.

A <u>Risk Event</u>	B	C	D	E <u>Risk Management Strategy</u>
What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	What are some ways to address this risk event (may be more than one way)

¹ See "Scoring Instructions for Risk Assessment Worksheets".

Human Resources Risk Assessment Worksheet

Undesirable outcome: financial, emotional, property, production, human, animal, and/or business losses; death and/or disability; and lack of obtaining or missed opportunities for a better price, loan, improved technology, better employee, new production technique, etc.

Risk Events (Cause or Source of undesirable outcomes): Human resource risks are internal with business partners, family, and employees, and external with neighbors, lenders, sales consultants, town boards, etc. Broadly speaking anything that causes death, disability, disagreement, divorce, or mistakes is a source of risk. The next question to ask is what causes these to occur. For example, mistakes can be caused by poor training, lack of skill, lack of understanding the task to be done, lack of understanding instructions/objectives, lack of being qualified to do the job, poor communications, laziness, poor attitude, lack of appropriate technology to do the job, employee's personal stress, poor employee retention, lack of oversight/control, lack of motivation/incentive, poor facilities/equipment, etc. Lack of a labor pool in local area is a source of risk. Finally, anything that causes poor or non trusting relations with external human resources is a risk such as poor past performance, disagreement, misunderstanding, lack of information, lack of disclosure, poor communications, etc.

A <u>Risk Event</u>	B	C	D	E
What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	<u>Risk Management Strategy</u> What are some ways to address this risk event (may be more than one way)

¹ See "Scoring Instructions for Risk Assessment Worksheets".

Public Relations Risk Assessment Worksheet

Undesirable outcome: inability to obtain a permit, change the business, start a new business, or secure credit; lawsuits, or time and money spent fighting complaints

Risk Events (Cause or Source of undesirable outcomes): negative impacts on neighbors due to operations (odor, water/land contamination, water use, obstructed view, loss of aesthetic value, noise, lights, road use, etc.); zoning/land use restrictions, nuisance complaints, public hearings, poor public image of yourself and/or your farm, poor public image of your industry, urban sprawl, etc.

A <u>Risk Event</u>	B	C	D	E <u>Risk Management Strategy</u>
What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	What are some ways to address this risk event (may be more than one way)

¹ See "Scoring Instructions for Risk Assessment Worksheets".

Other Risk Assessment

Categorizing risks is not an exact science. There is crossover and there are risks that don't easily fall under a certain category. The exercise of categorizing helps channel our thinking, yet in the attempt to simplify some risks may be overlooked. The "Other" category includes a variety of other potential risks and sources of risk that either may not be easily categorized, or may have been overlooked. Some specific categories to think about are:

5 D's (Death, Disability, Disaster, Disagreement, and Divorce):

The 5 D's were mentioned in the production and human resources worksheets. However, the reason for separating them out here and giving them special attention is that they tend to have the equivalent characteristics of being 1) sources of risk that are often lurking in the background, but often ignored until it is too late, 2) potentially very devastating if they occur, and 3) often easily and inexpensively addressed if done beforehand. Finally, while there are certainly external legal agreements, contracts, insurance, etc. for addressing the impact of the risk if it occurs, there are also many creative internal practices that can help reduce the source of risk from ever occurring in the first place. For example, a prenuptial agreement can protect the business against divorce; however, good communication, date nights, and babysitting the kids so the other spouse can have an afternoon out are risk mgt. strategies that might prevent divorce from happening in the first place! Finally, disaster, in this case, is referring to the more catastrophic type of events (flood, fire, etc.).

Examples include dad suddenly dies or becomes disabled, dad and son disagree over the future of the operation, new daughter-in-law and son are having stress in their marriage, 100 year flood, barn burns down, hail destroys the corn crop, etc.

Legal Risks:

Sources of legal risks were also a part of most all other categories, but again, they tend to be risks that are not thought of until it is too late. Legal risks include any lawsuits, settlements, fines, or formal complaints accruing from employees, partners, suppliers, neighbors, and others with respect to injury, property damage, contractual arrangements; leasing arrangements; governmental regulations; etc. Examples include a property line dispute with a neighbor, heifer raiser not fulfilling contract obligations, partner's use of assets to pay gambling debts, neighbor's child killed by your bull, neighbor's child killed in a joy ride on your tractor, etc.

Lack of Management Skills/Experience:

While it may be odd to think of it as a risk, lack of your own skills might result in undesirable outcomes. Said another way, improving your own management skills might reduce the risks you face. Broadly, business management skills include planning, organizing, communicating, coordinating, controlling. Other, more specific skills, include commodity marketing, brand identity marketing, financial record-keeping and analysis, human resources, business arrangements, and taxes. Finally, knowledge and understanding, itself, is an important management skill such as understanding the structure of agriculture, government policy, world trade and implications, general economy, etc.



Risk Assessment Worksheet

A	B	C	D	E
<u>Risk Event</u>				<u>Risk Management Strategy</u>
What is the Cause or Source of an Undesirable Outcome	Probability that it will Happen (0, 1, 2, or 3 score) ¹	Impact if it does Happen (0, 3, 6, or 9 score) ¹	Risk Position ¹ (sum columns B & C)	What are some ways to address this risk event (may be more than one way)

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