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VALUE ADDED FARM MANAGEMENT STRATEGIES:
THE CASE OF NON-TRADITIONAL CROPS IN ONTARIO

by

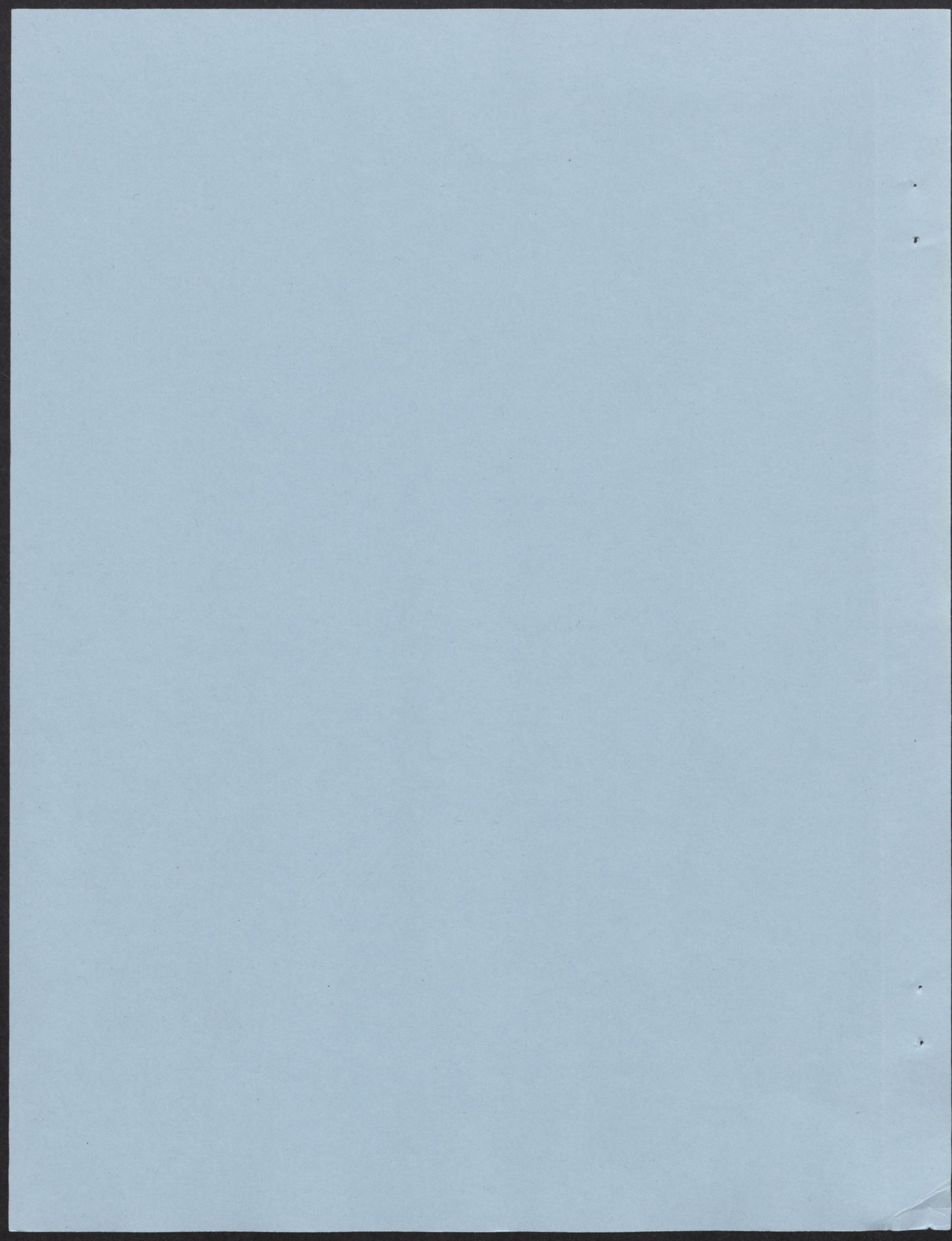
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WORKING PAPER WP97/07

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The authors are an Associate Professor and a former M.Sc. student, respectively. We thank the case participants for providing generous amounts of their time and their interest in the study, as well as the Ontario Ministry of Agriculture, Food and Rural Affairs for funding through the University of Guelph Research contract. We also extend thanks to Dr. David Hume, Crop Science and Dr. Truman Phillips for their valuable input into this study.

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Abstract

This paper applies a strategic management framework to farm businesses producing ginseng, evening primrose, garlic and sweet potatoes on in Ontario in order to assess the factors required for success in pursuing a value added farm management strategy based on non-traditional crops.

VALUE ADDED FARM MANAGEMENT STRATEGIES: THE CASE OF NON-TRADITIONAL CROPS IN ONTARIO

INTRODUCTION

Reduced protectionism, technological advances and increased microtization of markets are among the key trends buffeting Ontario's farm sector. These management challenges, along with Canada's relatively weak performance compared to countries such as the US and the Netherlands in increasing value added agri-food exports (Ewing, 1991) are fuelling interest in the development of farm management strategies focussed on adding value.

A value-adding management strategy requires that the seller creates some type of value for the buyer using one of several competitive premises such as higher quality, superior distribution or better fit with consumer needs. Only by providing products and services that customers are willing to pay more for can value added, the difference between the revenues derived from the sale of the product minus the total cost of raw materials, production, marketing and others, be improved.

Farmers producing ginseng, garlic, sweet potatoes and evening primrose in Southwestern Ontario are among those pursuing a value added farm management strategy. Most of these farmers are providing these crops in addition to or as replacement to tobacco, which historically has been the crop with the highest per unit profitability in Ontario. Other farmers may be interested in learning from the farm management experiences of these non-traditional crop producers. To facilitate this learning this paper provides a brief description of a strategic management framework and then it uses this framework to analyse the factors that are relevant and critical to success with a value added farm management strategy based on non-traditional crops.

A FRAMEWORK FOR ASSESSING VALUE ADDED FARM MANAGEMENT STRATEGIES

Managing a successful farm requires management skills just like managing any other type of business. Therefore, this paper uses strategic management used in business schools concepts to assess the value adding farm management strategies of non-traditional crop businesses. Although strategy can be defined in many interrelated ways,¹ essentially it is the process for building, communicating and maintaining the direction of a business". Strategy takes the basic ideas on which a business is based such as goals and expresses them in terms that are useful for analysis and action.

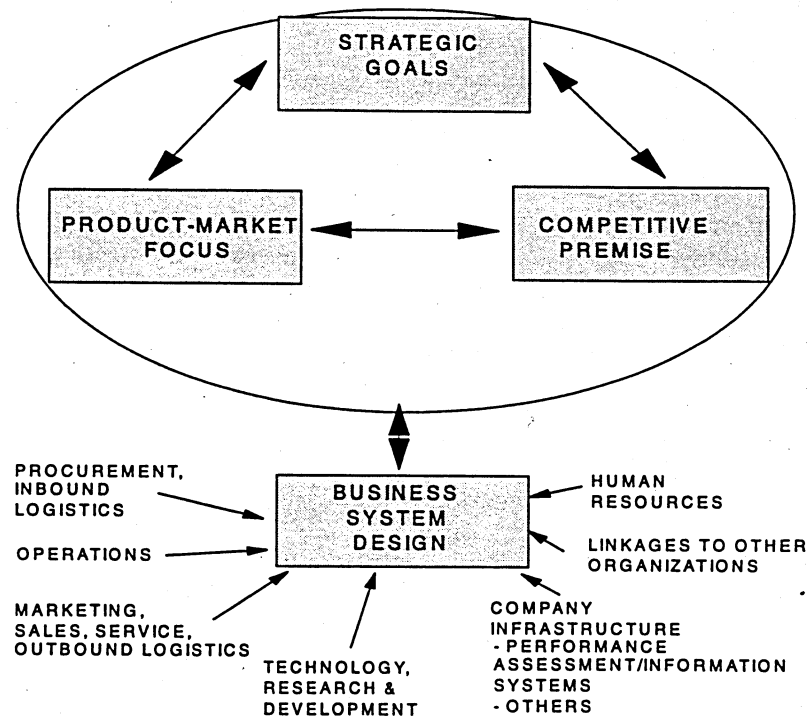
Figure 1 presents our depiction of a widely accepted strategic management model while the remainder of this section contains brief description of its key components. Strategic goals are concerned with what the farm wants to achieve with respect to criteria such as growth, profitability, market share. They may also include personal or family goals for the business. Product market focus deals with the products and/or services that the farm plans to sell and to what specific markets. Competitive premise asks how the farm intends to win in the market place or its competitive advantage. Finally, business system design, addresses

¹ The definition of strategy is the subject of active and abundant publication in the strategic management field. Readers interested in a short introduction to the diversity of views should read Mintzberg, H. "Five P's for Strategy", California Management Review, Fall 1987

what activities the farm needs to undertake to reach its strategic goals given its choice of product market focus and competitive premise as well as how it will conduct these activities. A business system comprises several activities which may be generally interrelated and may or may not add value. We adapted the categories from Porter's value chain (1985) for inclusion in our model of a farm business system. We include primary value adding activities of procurement and inbound logistics, operations, marketing, sales, service and outbound logistics. We also consider several support activities such as technology and research and development, human resources, company infrastructure and systems for managing information and assessing performance and linkages to other organizations, both private and government.

All components of the strategic management model should be internally consistent and appropriate for taking advantage of opportunities and dealing with threats external to the farm business.

Figure 1: A Strategic Management Model



OUR USE OF THE CASE RESEARCH METHOD

Our aim in assessing the value added farm management strategies of non-traditional crops producers in this study was to assess what factors were relevant, important and critical to their success. Therefore, we choose the case research method to conduct the study. Our reasons for using the case method, the analytical criteria and the case research procedures we used are discussed below.

Reasons for Using the Case Research Method

We used the case research method since our key objective was to analyse the nature of the relationships that various factors comprising a business strategy have to success with a value added farm

management strategy based on non-traditional crops. The case research method is appropriate for answering "how" and "why" questions involving a set of events over which the researcher has no control, namely its "real life context". It is also appropriate when the number of variables of interest substantially exceeds the number of data points (Yin, 1994).

Our use of the case research method also satisfies the four tests that any empirical social science research must meet to be considered of "high quality" (Kidder and Jidd, 1986; Lincoln and Guba, 1981). First, the test of construct validity is met because we use strategic management concepts, mainly the value chain, to assess the relationships between specific components of strategy and the creation of value (which is required for a business to be successful). Second, the test of internal validity is met because we use individual and cross case methods for drawing inferences about which factors contribute to success with a value added farm management strategy. Third, the test of external validity is met because we are concerned with analytical generalization of our results. We are attempting to demonstrate that the application of strategic management concepts, in particular Porters' value chain, to farm management strategy issues provides useful insights. We are not attempting to provide statistical evidence of the impact of specific factors involved in strategy on business' performance with such strategies. Fourth, the test of replicability is met. The results presented in this paper are based on the authors' separate interpretations of the detailed interviews. Given the "audit trail" we have generated for this study another researcher could replicate the results of this case study.

Analytical Criteria

To analyse the nature of the relationships that various factors comprising a business strategy have to success with a value added farm management strategy based on non-traditional crops, it was necessary to establish analytical criteria. We used the following constructs. A relevant factor was defined as any factor pertinent to formulating and/or implementing the strategy, while an important factor was one that was significant and had a considerable influence on its success. Finally, critical success factors were defined as those as necessary or sufficient for success. Necessary factors are those that are essential, indispensable and required to formulate and/or implement the strategy successfully. Thus, they are critical to success through a negative relationship; if they are not present, success cannot occur even if the sufficient factors are present. Factors sufficient for success are those, that if present, will lead to success. These factors are critical to success through a positive relationship; if they are present they will lead to success provided the necessary conditions have been met. The application of these criteria is discussed further in the analysis and results sections.

Case Research Procedures

The farmers selected for our case studies were selected because they were considered to be among the most successful in their industries, by trade associations and industry experts or because they were the only surviving producers of the four selected non-traditional crops (Table 1).² In each of the cases, the farm manager-owner was asked if he judged himself to be successful with his farm management strategy. We used this verification of whether a given case participant was successful because farmers pursuing non-traditional crops may be involved in these businesses for varying objectives. In only three of the sixteen cases did an originally identified "best" non-traditional crop farmer have to be replaced because that producer did not

² Many non-traditional crops have niche markets either domestically or globally. Therefore, one would expect that there would be very few producers of these crops in any given location.

meet these criteria or want to participate. The criteria for choosing ginseng, garlic, evening primrose and sweet potatoes as the non-traditional crops for case studies are also summarized in Table 1. Four non-traditional crops were chosen in order to obtain variety across industries, and four to six case studies were done within each industry to obtain variety and thorough coverage within each industry. We obtained nineteen separate analyses through cases for seventeen non-traditional crop producers because two producers were involved in both garlic and sweet potatoes.

In-person interviews with the owner-managers of the non-traditional crops business were conducted from May to July of 1995. These interviews lasted approximately three hours and were often accompanied by a tour of the business premises. After the interview, a detailed transcript was prepared and sent to the interviewee for verification and approval for use in this study. The interviews with the owner-managers were conducted with the aid of an interview guide which contained questions designed to ensure that the interview addressed all components of the strategic management model but allowed the interviewers flexibility to pursue non-anticipated issues.

ANALYSIS

A combination of individual and cross-case analysis was used to determine which factors were relevant, important and critical to success with value adding farm management strategies incorporating non-traditional crops. The details of this analysis are presented in Appendix 1. Relevant factors and important factors were identified for each individual case study, while necessary and sufficient, and thus critical success factors, were determined using cross-case analysis.

Factors Relevant to Success: Any factor mentioned as being part of an owner-managers' farm management strategy was considered to be relevant to success. Factors involved in the goals, product-market focus, competitive premise and the business system comprising a business strategy may be relevant to success since they involve choices relating to the correct direction and assumptions for the business.

Factors Important to Success: The content of each individual case study was analyzed to determine which factors the owner-managers considered to be important to their farm management strategies. In some instances, the owner-manager provided this assessment in his answer in response to another question, while in other instances the interviewer solicited the assessment through the use of a question on the interview guide or a probing question. Again, factors involved in the goals, product-market focus, competitive premise and the business system comprising a business strategy may be important to success.

Factors Critical to Success: There are several definitions of critical success factors (CSFs) in the strategic management literature. Although almost all are unsatisfying, these definitions do have some common traits. CSFs are few, focused towards an organization's performance and they change with time and other external circumstances. CSFs are not necessarily controlled by managers. Some may be organization specific while others are a function of the external environment in which the organization operates (industry specific). They may reside within a specific functional area of the organization or integrate contributions from various functional areas. However, the main deficiency of the literature on CSFs is the lack of clear, consistent criteria for determining CSF's ex ante.

Given this deficiency in the strategic management literature with respect to the identification of CSFs, we employ the concepts of necessary and sufficient conditions to define CSFs. A factor may be

necessary and/or sufficient to be critical to success. Analysis of necessary and sufficient conditions was done for the activities comprising the business system. This approach assumes that the goals, product-market focus and competitive premise have been chosen, and that the owner-manager must configure the business system to be successful given his choices with respect to these other components of strategy.

Factors necessary for success are those activities that are essential and indispensable — without them the business could not pursue any particular part or the whole of the farm management strategy (a negative relationship). We used cross-case analysis to assess whether a factor was necessary using the following criteria. If all individual cases for a non-traditional crop indicated that an activity was relevant to their farm management strategy or if the product could not physically exist without an activity, we assessed it to be necessary to a farm management strategy for that particular crop.

Factors sufficient for success are those activities that, if conducted, will lead to success (a positive relationship). Again, we used cross-case analysis to determine whether a factor or activity met the conditions of sufficiency for success using multiple criteria. For activities identified as "important" in at least one of the individual cases, we determined whether the activity (1) allowed the products produced and marketed by the businesses to compete successfully with the offerings of competitors, (2) made a significant contribution to value as perceived by buyers of the product and (3) was difficult for competitors to imitate. If an activity was judged to be sufficient for success.

RESULTS

The results of our case study research are presented by discussing factors related to goals, product-market focus, competitive premise and the business system. For the activities comprising the business system the results are discussed for each non-traditional crop. Any factors mentioned in any of the case studies are summarized in Table 2, while the details of the information collected are summarized for each of our analytical criteria in Appendix 1. In appendix 1 shaded cells indicate which particular components of strategy and which specific activities are relevant for each case participant. Factors considered important are indicated by an "*", while factors necessary to success for each non-traditional crop are summarized by "N"s in the last column for the relevant subsections.

Goals

The owner-managers involved in farm management strategies involving non-traditional crops in our cases tend to have several goals for pursuing these strategies. They tend to be interested in increasing farm profitability (95%), enterprise diversification (68%), more effective use of resources (53%) and meeting a variety of family(21%), personal (32%) and professional (26%) goals. Personal goals generally reflected lifestyle preference while family goals included continuing in the family business or continuing some type business on the family farm. Professional goals generally meant a love of learning production techniques for a new crop and enjoyment of small scale, effort intensive agriculture

Product-Market Focus

All owner managers in our non-traditional crop cases focused some or all of their efforts on producing the raw product. Even the cases which did substantial processing (21%) devoted the vast majority of their crop production for sale as raw product for final consumption or for processing by another business. International sales occurred through brokers for ginseng and through contracts for evening primrose. Several

niche markets such as farmers' markets or on farm sales (42%), health stores (11%) and gourmet stores (11%) were used for domestic sales.

Competitive Premise

Nearly all the case participants indicated that their competitive premise was to produce a raw product of a high quality with the aim of achieving the best possible price (95%). A small proportion of cases produced all or a portion of their raw product for processing by their own business as a value added product (21%), and a small proportion of cases aimed to differentiate their product from imports (16%) or increase their volume marketed by also selling other producers' products (5%).

Business System

All specific activities comprising the primary and support activities that make up the business system of the case participants were assessed using a combination of individual and cross-case analysis to determine whether they met the criteria of being important, necessary and/or sufficient, and thus critical to a business' success.

Procurement and Inbound Logistics: Although many activities related to procurement and inbound logistics are relevant to individual non-traditional crop producers, only a few meet the criteria for being necessary for each of the four non-traditional crops.

Ginseng: All participating ginseng growers indicated that growing infrastructure (posts, netting) had to be obtained. However, land may or may not have already been available, growing equipment could be sourced in different ways (modification, shared, purchased new). All case participants used seasonal and/or part-time labor and several also had family members who were involved in the business. Fertilizers, fungicides, pesticides etc. were purchased on a spot basis by all case participants but were readily available and could have been purchased using other approaches.

Garlic: For garlic was already available in most cases. All garlic producers in the study used equipment modified from other uses (generally tobacco) and some purchased new equipment or shared it with other growers. Labor was acquired in the form of part-time, seasonal and offshore workers as well as family members. In all cases, labor used for garlic was used in conjunction with other crops. Again, fertilizers, fungicides, pesticides etc. were purchased on a spot basis by all case participants but were readily available using other approaches.

Evening Primrose: For evening primrose producers land was already available or obtained in other ways. Labor was generally sourced from family members. At one time or another all of the case participants used equipment that was modified from other uses and two cases also shared it with other growers since it was one of the most costly inputs into the production process. Again, fertilizers, fungicides, pesticides etc. were purchased on a spot basis by all case participants but were readily available and could have been purchased in advance or through other approaches.

Sweet Potatoes: For sweet potatoes producers land generally was already available. Growing equipment was typically shared with other growers. Labor was sourced from family members. Part-time and offshore seasonal workers were also used. Again, fertilizers, fungicides, pesticides etc. were purchased on a spot basis by all case participants and were readily available.

Summary: Although selected procurement and inbound logistics activities were considered relevant to all participating ginseng, garlic, evening primrose and sweet potato producers none were considered important to individual producers, and thus none met the criteria of being sufficient for success. Also, with the exception of obtain growing infrastructure for ginseng, none of the activities considered relevant to all producers for a given non-traditional crop appears to indispensable to success since different approaches to that activity have been or could be used.

Operations: Although the specific operations activities that are necessary to success vary by non-traditional crop, in general operations activities are necessary to success since many of them are truly indispensable and relevant to all of the case participants.

Ginseng: Most operations activities listed in table 2 are necessary to growing ginseng. The operations activities considered to be important to ginseng growers include soil or field preparation, construction of growing infrastructure, disease control, washing and cleaning of the harvested product and drying and curing. However, none of these important activities met the criteria of being sufficient to success.

Garlic: Most of the operations listed in table 2 are necessary to growing garlic with the obvious exception of growing infrastructure and the not so obvious exception of disease control which was discussed by only two garlic producers. Operations activities considered to be important include seed preparation, planting, cultivation, disease control, harvesting, cleaning, drying or curing and sorting or grading. None of these activities was sufficient for success, although cleaning comes closest.

Evening Primrose: Again most operations listed in Table 2 are necessary to growing evening primrose with the exception of construction of growing infrastructure. Important factors include proper harvesting, washing and/or cleaning, drying and/or curing and appropriate weather. However, only proper cleaning of evening primrose meets the conditions of sufficiency for success.

Sweet Potatoes: As with the other non-traditional crops in the study most operations listed in Table 2 are necessary to growing sweet potatoes. The important factors are the same as for evening primrose, namely include proper harvesting, washing and/or cleaning, drying and/or curing and appropriate weather. However, none of the operations activities meet the conditions of sufficiency for success.

Summary: Although operations activities are generally necessary for success only a few are important to success. Only one operations activity, proper cleaning, is sufficient for success and then only for garlic and evening primrose.

Marketing, Sales, Service and Outbound Logistics: Several diverse activities are included in this category and some require additional explanation. Developing a viable market refers to identifying and serving a market at its required volume with a predictable product or at the required times. Marketing and/or negotiating ability refers to developing the required functional skills and deploying them successfully. Dealing with variability, of either an economic or political nature refers to being able to deal with associated risk and making any required changes due to these factors. Providing information to consumers and/or buyers refers to providing information on product attributes to consumers/buyers with the expectation that it will increase the demand for the product. Product development and quality control have been combined under the marketing category since they tended to be discussed together by the case participants who deemed them relevant.

Ginseng: All of the ginseng producers provided on-farm storage of ginseng. This is a necessary activity since all or large proportion of each producers' crop is sold to brokers on a spot basis. All of the participating producers indicated a viable market was important to their success. A viable market is also sufficient for success since of all the activities conducted it most readily satisfies the sufficiency criteria. With the exception of one participant who was gearing the growth of his business to processing all of the ginseng producers indicated that establishment of continuous relationships with brokers was important to their success. Dealing with economic and/or political variability was considered important. Providing information to consumers and/or buyers on product attributes and engaging in product development and/or quality control was also considered important. As well both these activities met the criteria of sufficiency for success.

Garlic: No particular marketing activity was considered relevant by all garlic producers in the study, so no one activity was identified as necessary to success. However, a variety of marketing activities were identified as important including providing storage, developing a viable market, establishing continuing relationships, providing information on product attributes to consumers and/or buyers. Of these important activities only providing storage did not meet the criteria of sufficiency for success.

Evening Primrose: No particular marketing activity was considered relevant by all evening primrose producers in the study, so no one activity was identified as necessary to success. However, developing a viable market and obtaining a contract with a buyer were considered important to success. Of these factors only developing a viable market meets the criteria of being sufficient for success since obtaining a contract is easily imitable.

Sweet Potatoes: Again no particular marketing activity was considered relevant by all sweet potato producers in the study so no one activity was identified as necessary to success. However, developing a viable market and obtaining and hiring a person with marketing knowledge were considered important to success. Again of these important factors only developing a viable market meets the criteria of being sufficient for success since hiring a person with marketing knowledge is easily imitable.

Summary: Marketing activities account for a large proportion of activities considered to be important by non-traditional crops and are the most likely to meet the criteria for sufficiency for success. Therefore although no particular marketing activities appear to be necessary to success some form of marketing activity is necessary. Developing a viable market was considered to be sufficient for success for all four non-traditional crops, although the tactics involved in doing this vary. Establishment of continuous relationships, providing information on product attributes to consumers and/or buyers were considered sufficient for success in the ginseng and the garlic industries. In the sweet potato and evening primrose industries hiring a person with marketing knowledge or obtaining a contract, respectively, were considered important to success, but not sufficient.

Technology, Research and Development: Technology, research and development activities were grouped under specific activities conducted by public agencies (government, universities etc.) by industry associations and those that occurred within the farm business.

Ginseng: Disease control research conducted by public agencies was considered necessary and important to success by ginseng producers. For individual ginseng producers this public research would not meet the criteria for sufficiency for success. If Ontario ginseng producers are considered collectively, public research could given them a competitive attribute that may be difficult for producers in other jurisdictions to imitate. However, since this attribute is not valued by buyers disease research does not meet the criteria

of sufficiency for success. Since all participating ginseng producers considered industry involvement in disease research relevant to their success it was also assessed as being necessary to success. Modifying equipment that was already owned by the farm business was also considered important to success in the ginseng industry. This is because tobacco drying kilns are important to drying the product so that it can be sold at a higher price.

Garlic: Oddly, the participating garlic producers were not unanimously of the opinion that the industry association's involvement in developing and testing a seed variety suitable for Ontario was relevant to their value added farm management strategies. Also garlic producers did not identify any aspect of technology, research and development as being important to their success.

Evening Primrose: Producers of evening primrose all considered the continuous learning that they were engaged in with respect to production and marketing of the crop as relevant to their farm management strategy. However, none considered it a factor important to their success.

Sweet Potatoes: All participating sweet potato producers considered that the modification of equipment they were engaged as a relevant component of their business strategy. None of them considered this activity or any other relating to technology and research and development as important to their success.

Summary: Technology, research and development activities can be important to success with a non-traditional crop strategy but none of them are sufficient for success.

Human Resources: Human resource activities of some sort are a component of any business system although they may not be explicitly considered. We considered the role of hired labor, family labor and the owner-operator's management skills.

Ginseng: Farm labor was performed by seasonal workers, part-time workers, family members or through a combination of these sources. None of the case participants considered any of these sources of labor important to their success. Being able to understand and motivate workers was considered relevant to success by selected case participants. Understanding all aspects of the production was determined as relevant by all participants and thus necessary to success. It was also considered important to success by two case participant, but did not meet the criteria of being sufficient for success.

Garlic: The case participants who produced garlic viewed farm labor quite similarly to ginseng producers. Also, being able to understand and motivate workers was considered relevant to success by selected case participants. Understanding all aspects of the production was also determined as relevant by selected participants. One garlic producer considered understanding and motivating workers, understanding all aspects of the production process and self-discipline, patience and being a self-directed learner as important to success. However, none of these management skill meets the criteria of sufficiency for success.

Evening Primrose: Evening primrose producers either performed all the farm labor required by themselves or in conjunction with family members. Interestingly all case participants felt that understanding all aspects of the production process as well as self-discipline, patience and being a self-directed learner as important to success but none of these management skills meets the criteria of sufficiency for success.

Sweet Potatoes: As with ginseng and garlic, farm labor was performed by seasonal workers, part-time workers, family members or through a combination of these sources on the sweet potato farms in the study. None of the case participants considered any of these sources of labor important to their success. All

sweet potato producers in the study considered being able to understand and motivate workers as relevant, and thus necessary to their success. Several of them also considered it important to their success. However, this management skill does not meet the criteria of sufficiency for success and neither do understanding all aspects of the production process and self-discipline, patience and being a self-directed learner (which were also identified as being important to success).

Summary: Use of a particular form of farm labor was not considered as being necessary or important to success by any of the non-traditional crop producers involved in the study. Several management skills were considered important to success and there was variation by industry and individuals. However, none of these management skills met the criteria of being sufficient for success.

Financial Management Skills: The relationship of financial management skills to success varied considerably across the non-traditional crops we considered.

Ginseng: Several financial management skills were considered relevant to success in the ginseng industry. Several of the case participants indicated that they needed the income generated by other farm enterprises to be able to enter the ginseng industry. Being able to analyze the tradeoffs between income and risk was also considered relevant by some producers. All ginseng producers in the study indicated that one had to be able to do multi-year budget and income projections to be successful. Therefore, it is considered to be necessary to success. This skill was also considered important by some ginseng producers. However, it does not meet the criteria of being sufficient for success.

Garlic: Garlic producers were mixed in terms of the financial management skills they considered relevant to their success, so none were judged to be necessary to success. None of them considered a specific financial management skill as being important.

Evening Primrose, Sweet Potatoes: None of the evening primrose or sweet potatoes producers indicated any financial management skills to be relevant to their success.

Summary: Although non-traditional crops are generally perceived as having relatively higher per unit profitability than other crops and thus requiring more intensive financial management skills, only ginseng producers judged these skills to be germane to their success.

Linkages: The role of linkages to businesses in other industries and to other levels of the same industry was also examined.

Ginseng: A growing number of ginseng producers are beginning to process the product into a variety of products for sale in several markets. The types of linkages that they can take advantage of include being able to use lower quality raw product for processing, gaining a better understanding of buyers' needs and improved knowledge about final consumers. This knowledge will gain in strategic importance as the competition and relative profitability of producing ginseng for sale to international brokers continues to decline.

Garlic: A small proportion of garlic producers in Ontario are beginning value added processing of their product. These producers gain the same benefits as integrated ginseng producers-processors. All case participants who produced garlic indicated that they produced their own seed mainly to ensure availability of the correct variety.

Evening Primrose, Sweet Potatoes: Producers of these non-traditional crops did not have any linkages that they considered relevant to their success.

Summary: Linkages to other industries or other levels of the same industry are being developed in some non-traditional crop industries but they are not necessary or important to success in the ginseng, garlic, evening primrose or sweet potato industries.

Government Support: The role of government support in achieving success with a non-traditional crops strategy was also considered.

Ginseng: Since ginseng has been promoted as an alternative to tobacco production for over a decade, nearly all the case participants indicated that some form of government program had been relevant to their success. Several of them had received funding to diversify out of tobacco, while others indicated that the production information provided through public organizations had been beneficial. One ginseng producer indicated that regulations regarding fungicide use were unnecessarily restrictive.

Garlic: Government has also suggested that garlic is a viable alternative to tobacco. Only one of the case participants indicated that government funding had influenced his decision to enter the garlic industry, and that was to support value added processing. All six of the garlic producers who participated in our study indicated they were pursuing the garlic business to diversity with or out of tobacco. Four of these cases indicated that information from the government had encouraged this diversification. These cases also indicated that the information provided by the government suggested there was a viable market, but focused on production information and did not deal with marketing strategy for garlic.

Evening Primrose: Government support was irrelevant to the current strategies pursued by evening primrose producers, although two businesses indicated that a program aimed at enabling native communities to run their own businesses had been relevant in the past.

Sweet Potatoes: Sweet potato producers indicated that government funding, information and regulations were relevant to their success. The sweet potato producers who indicated that information provided by the government focused on production and did not deal with the key ingredient for success, namely how to market the crop.

Summary: Despite government efforts to facilitate the development of successful non-traditional crops businesses, its efforts through provision of funding programs and information have not been important to the success of these business. The information provided by government may have had a negative impact on some non-traditional crops businesses since it focused on production assistance and was interpreted as suggesting that marketing would not be a problem.

CONCLUSIONS

Farms pursuing value added strategies based on non-traditional crops are generally motivated by hopes of high profitability and some personal or family goals. Most of these businesses focus their product-market efforts on the sale of raw product in a commodity type market, although there are some exceptions for some business which are also pursuing market niches with a value added product. The competitive premise of most of these business is not conducive to a sustainable competitive advantage since they are generally geared towards producing the highest quality product for sale at the highest possible price; hardly a novel idea.

For the primary business system activities, there are very few specific activities involved in procurement and inbound logistics that are either necessary or sufficient for success with any of the non-traditional crops. Several specific operations activities are necessary for success for each of the non-traditional crops although the specifics vary. However, no operations activities are sufficient for success for any of the non-traditional crops. Several marketing, sales, service and outbound logistics activities are necessary and/or sufficient for success. Of these, the establishment of a viable market was the only activity considered to be sufficient for success for all four of the non-traditional crops. Establishment of continuous relationships, providing information to buyers and/or consumers and product development and quality control were considered to be sufficient for success by a subset of the businesses.

Within support business system activities, there are some activities which are necessary for success but they are not the same for all four non-traditional crops. None of these activities met the criteria of sufficiency for success. Of the various activities comprising government support none of them are considered necessary or sufficient for success with a value added farm management strategy based on non-traditional crops.

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Table 1: Description of Case Study Participants and Non-Traditional Crops Selected for the Study

	Ginseng	Garlic	Evening Primrose	Sweet Potatoes
Industry	<ul style="list-style-type: none"> - established success in export markets; growing domestic popularity; complicated, high risk multi-year crop requiring specialized infrastructure and equipment 	<ul style="list-style-type: none"> - product that continues to increase in popularity as it moves from a specialty to more commonplace food; faces import competition 	<ul style="list-style-type: none"> - currently still a low volume health products; market may be approaching size at which pharmaceutical firms become interested; many other low-cost foreign sources 	<ul style="list-style-type: none"> - product that continues to increase in popularity; faces special harvest challenges; faces import competition
Case 1	<ul style="list-style-type: none"> - 50 years as a family business, processes about 10% of 6 acre crop (no other crops) - sells raw product in export and processed product in domestic market - owner-manager, 4 full time and part time employees, seasonal labour as needed 	<ul style="list-style-type: none"> - young business - produced garlic for about 10 years - 2-5 acres per year - crop sold to domestic fresh market and for seed - also produces tobacco, corn, oats, tomatoes - owner-manager, 4 seasonal full-time and 15 seasonal part time employees 	<ul style="list-style-type: none"> - young business, began producing evening primrose in 1989, currently produces 5 acres - also produces corn - sold on contract, when available - owner-manager and family labour 	<ul style="list-style-type: none"> - starting producing sweet potatoes in the early 1990s, currently produces only 2 acres - produces tobacco (80 acres), garlic (5 acres), tomatoes (4 acres), onions (1 acre) and 2 acres of other crops - owner-manager and 10 seasonal labourers
Case 2	<ul style="list-style-type: none"> - young business (about 10 years) - processes 50% of 10-12 acre crops (no other crops) - sells raw and processed product in export markets, processed product is also sold domestically - owner-manager, 5 full time and 5 part-time employees, seasonal labour as needed 	<ul style="list-style-type: none"> - recently left the tobacco industry entirely, now produces garlic (about 3 acres per year), various vegetables, strawberries and rents out some land (total acreage not available) - sells garlic for the domestic fresh market and for seed - owner-manager, 2 other family members work full time, 5 part time employees 	<ul style="list-style-type: none"> - young business, began with evening primrose in 1988, produces 8-14 acres per year, also produces various types of tobacco (small acreage) - sells on the spot market, prefers a contract, when available - owner-manager, 1 seasonal employee 	<ul style="list-style-type: none"> - began producing sweet potatoes in 1988, currently produces 13 acres, also grows Christmas trees - had experience growing tobacco, but never produced it on his own farm - sells for the domestic fresh market - owner-manager, other adults in the extended family held as needed (but they all work off the farm)
Case 3	<ul style="list-style-type: none"> - established tobacco business which began growing ginseng 10 years ago - 1.75 acres, none is processed - product is sold entirely through brokers for export - owner-manager, 4 part-time employees, seasonal labour as needed 	<ul style="list-style-type: none"> - starting producing 2-3 acres of garlic in 1992, also produces tobacco and rye on 45 acres - has sold in the fresh market but is commencing processing - owner-manager, seasonal employees as needed for tobacco and garlic 	<ul style="list-style-type: none"> - established cash crop business which began producing evening primrose in 1991 and now produces 25-30 acres per year, also produces corn (200-300 acres), soybeans (200-300 acres), wheat (50-100 acres) - sells on the spot market - owner-manager, with help as needed 	<ul style="list-style-type: none"> - established tobacco business (24 acres), produces sweet potatoes for a few years from 1993 to 1995 (8 acres in 1994), also produces raspberries and garlic (1.5 acres) - sells sweet potatoes to supermarket chains - owner-manager and 10 seasonal employees
Case 4	<ul style="list-style-type: none"> - former tobacco grower who started growing ginseng in 1985 and processing in 1994 - grows other specialty crops in small volumes, processes all of 2 acres of ginseng for sale into niche markets - owner-manager, part-time, family members and seasonal employees are used as needed 	<ul style="list-style-type: none"> - young business, began producing garlic in 1990 - currently produces 7 acres, - also produces tobacco (60-65 acres), wheat (100 acres), white beans (60-70 acres) - sells garlic for the domestic fresh market - owner-manager, typically 6 seasonal employees 	<ul style="list-style-type: none"> - former producer, now a contract buyer involved in the business for over 10 years 	<ul style="list-style-type: none"> - started producing in 1986, currently produces 18 acres, also produces tobacco (85 acres), potatoes (30 acres) - sells to supermarket chains, spot basis - owner-manager, seasonal employees as needed
Case 5	<ul style="list-style-type: none"> - former tobacco grower who has been in out of ginseng since the mid 1980s - 5 acres of ginseng (200 plus acres each of wheat, corn, soybeans); all is sold through brokers for export - owner-manager, 10 seasonal labourers 	<p>Same as sweet potatoes # 3</p>		
Case 6		<p>Same as sweet potatoes # 1</p>		

Table 2: Factors Mentioned as Relevant to Value Added Farm Management Strategies Based on Non-Traditional Crops

Goals

- achieve high farm profitability, diversification with/out of tobacco, make better use of resources, family reasons, personal reasons, scale, intensive

Product-Market Focus

Raw products

Domestic: cooperatives, food terminals / wholesalers, supermarkets, restaurants, health food stores, gourmet/upscale/specialty foods stores, farmers' markets / farm sales or tours and pharmaceutical / cosmetics firms.

US/International: brokers, contracts.

Internal Use: processing, seed

Processed products

- variety of domestic and foreign retail outlets

Competitive Premise

- produce a raw product of high quality, differentiate from imports, produce raw product for processing, process value added product, increase volume by selling for others

Business System

Procurement and inbound logistics: long term inputs readily available, land already available, infrastructure has to be constructed; growing equipment (purchased new, modified from other uses, shared with other growers); labor (use seasonal workers, use in conjunction with other crops, family members; fertilizers/fungicide etc. (readily available, purchased on a spot basis, purchased for volume discounts, computer and other equipment for marketing processed products)

Operations: seed/seedling preparation, soil/field type preparation, infrastructure construction, planting, cultivation (includes irrigation), disease / weed / pest etc. control, harvesting, washing / cleaning, drying and curing, sorting and/or grading, processing (transformation generally contracted out), weather

Marketing, Sales, Service, Logistics: provide storage, viable market (volume, predictability etc.), establish continuous relationships, marketing and/or negotiating ability, variability (economic and/or political), provide information to consumers/buyers, product development, quality control, package and label design, hire someone else who knows how

Technology, Research & Development: Public (disease/pest etc. control), industry association (seed variety testing/development), on farm (equipment modification, continuous learning experience)

Human Resources and Learning: Hired labor (readily available, seasonal / part-time, same people from year to year), family labor (available, flexible, have skills), management skills (understand and motivate workers, understand all aspects of production, self-discipline, patience/directed learning)

Financial management: Need income from other crops/jobs to get financing required to enter the business, do multi year budget/income projections, do risk income tradeoff analysis

Other: Internal vertical linkages

Government Support: funds, information, regulations

Appendix 1: Assessment of Value Added Farm Management Strategies Involving Non-Traditional Crops

[illegible]

Appendix 1: Assessment of Value Added Farm Management Strategies Involving Non-Traditional Crops

	Ginseng					Garlic					Evening Primrose				Sweet Potatoes				
	1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	1	2	3	4
BUSINESS SYSTEM																			
Procurement and Inbound Logistics																			
- long term inputs readily available											N								
- land already available																			
- infrastructure has to be constructed					N														
- growing equipment																			
- purchased new																			
- modified from other uses											N				N				N
- shared with other growers																			
- labor																			
- use seasonal workers					N														
- use in conjunction with other crops											N								
- family members																			
- fertilizers, fungicide etc.																			
- readily available																			
- purchased on a spot basis					N														
- purchased for volume discounts																			
- computer and other equipment for marketing processed products																			
Operations																			
- seed/seedling preparation																	*		
- soil/field type preparation					N										N		*		N
- infrastructure construction					N					*					N				N
- planting					N										N				N
- cultivation, included irrigation					N			*		*					N				N
- disease / weed / pest etc. control	*		*		N		*	*					*	*	N		*	*	N
- harvesting	*	*	*	*	N		*	*	*	*			*	*	N		*	*	N
- washing / cleaning	*	*	*	*	N		*	*	*	*	*		*	*	N		*	*	N
- drying and curing	*	*	*	*	N		*	*	*	*	*		*	*	N		*	*	N
- sorting and/or grading					N										N				
- processing																			
- transformation contracted out																	*	*	
- weather																	*	*	N
Marketing, Sales, Service, Logistics																			
- provide storage					N				*	*							*	*	N
- viable market (volume, predictability etc.)	*	*	*	*	N S		*	*	*	*	S		*	*	N S		*	*	N S
- establish continuous relationships	*	*	*	*	S		*	*	*	*	S		*	*					

