

“INNOVATION REQUIREMENTS FOR THE DEVELOPMENT OF CACTUS PEAR GROWING FOR EXPORT: A NEW ITEM TO BE INCORPORATED TO THE CHILEAN FRUIT EXPORT SECTOR?”*

THE VIIIth INTERNATIONAL CONGRESS ON CACTUS PEAR AND COCHINEAL AND
THE VIIIth GENERAL MEETING OF THE FAO-ICARDA INTERNATIONAL TECHNICAL COOPERATION NETWORK ON CACTUS PEAR AND COCHINEAL AGADIR (MOROCCO), OCTOBER 17-22, 2010

MORA, M.¹, SÁENZ, C.², CORTÉS, M.¹ and SANHUEZA C.¹

¹ Departamento de Economía Agraria y ² Departamento de Agroindustria y Enología. Facultad de Ciencias Agronómicas, Universidad de Chile. Box 1004. Santiago. Chile. e-mail: mmorag@uchile.cl

*FUNDING: FOUNDATION FOR AGRARIAN INNOVATION (FIA). MINISTRY OF AGRICULTURE OF CHILE.

OBJECTIVE

The main objective of this study is to identify and describe technological, economic and commercial breakthroughs on cactus pear production chain in Chile and provide recommendations for their development as fresh fruit for export

A survey was designed and applied to 172 farmers located in the Valparaíso, Coquimbo and Metropolitan regions (representing 28.1% of producers in Chile and 44.2% of farmers in each region). The survey included issues like as productive resources, production management, marketing and socio-demographic aspects of the producers. The survey was developed with closed questions by 100% then the answers was a selection from the options gives and in the other hand from the valuation of affirmative or negative sentences using a Likert scale. Fieldwork was conducted between September and December 2009. The statistical treatment of data was performed using multivariate techniques like principal component analysis and nonhierarchical cluster analysis.

MAIN RESULTS

Two groups of producers were identified and characterized : “traditional farmers” (70.9%) and “innovative and informed farmers” (29.1%).The traditional farmers have the production and commercial dealings deficient. The second group, was characterized for its positive attitude towards improving the competitiveness and to export cactus pear like fresh fruit (Table 1).

Table 1. Classification of cactus pear producers in Chile

Factors related to attitudes	Traditional farmers (70.93%)	Innovative and informed farmers (29.07%)
Export and competitiveness (p = 0.381)	-0.04	0.10
Improvement and production (p = 0.000)	0.19	-0.46
Investigation (p = 0.195)	-0.06	0.15
Innovation in production (p = 0.038)	0.10	-0.25
Marketing problems (p = 0.000)	0.47	-1.14
Ignorance and distrust (p = 0.140)	-0.07	0.18

Table 2. Chilean exports of cactus pear (2002-2009)

Year	Dollars FOB	Volume (kg)	Export destination (all air transport)
2002	53 795	23 641	12 kg to Canada, the rest to U.S.
2003	37 829	18 766	35 kg to Japan, the rest to U.S.
2004	24 252	12 423	1.628 kg Saudi Arabia , the rest to U.S.
2005	29 497	17 152	234 kg a Canada (sea transport), the rest to U.S.
2006	54 626	17 168	560 kg to Saudi Arabia the rest to U.S.
2007	75 963	20 172	912 Kg to Spain, the rest to U.S.
2008	42 173	12 138	1.164 Kg to Spain, 64 Kg to UK and the rest to U.S.
2009	28 779	11 201	464 Kg a Spain, the rest to U.S.

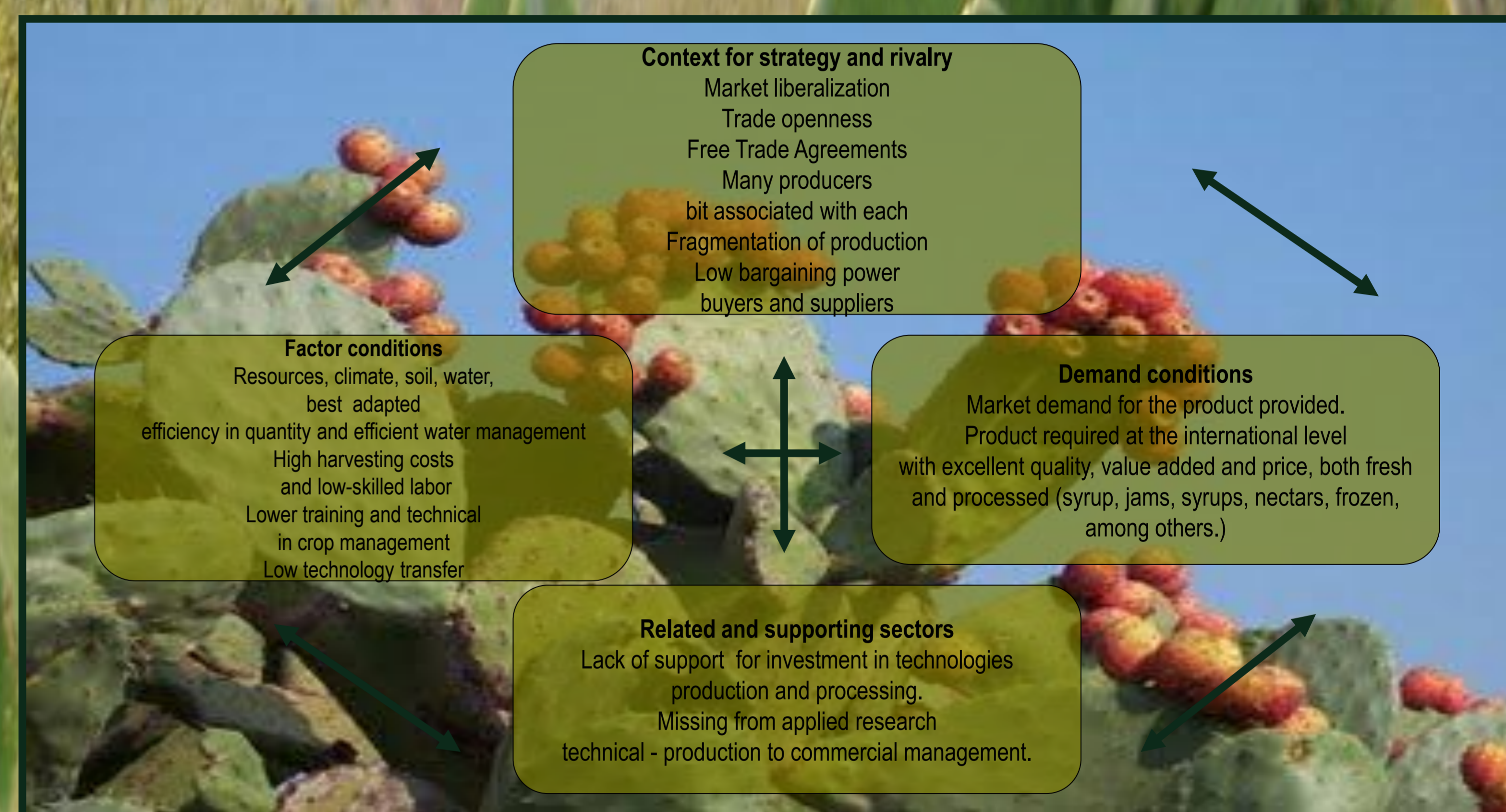
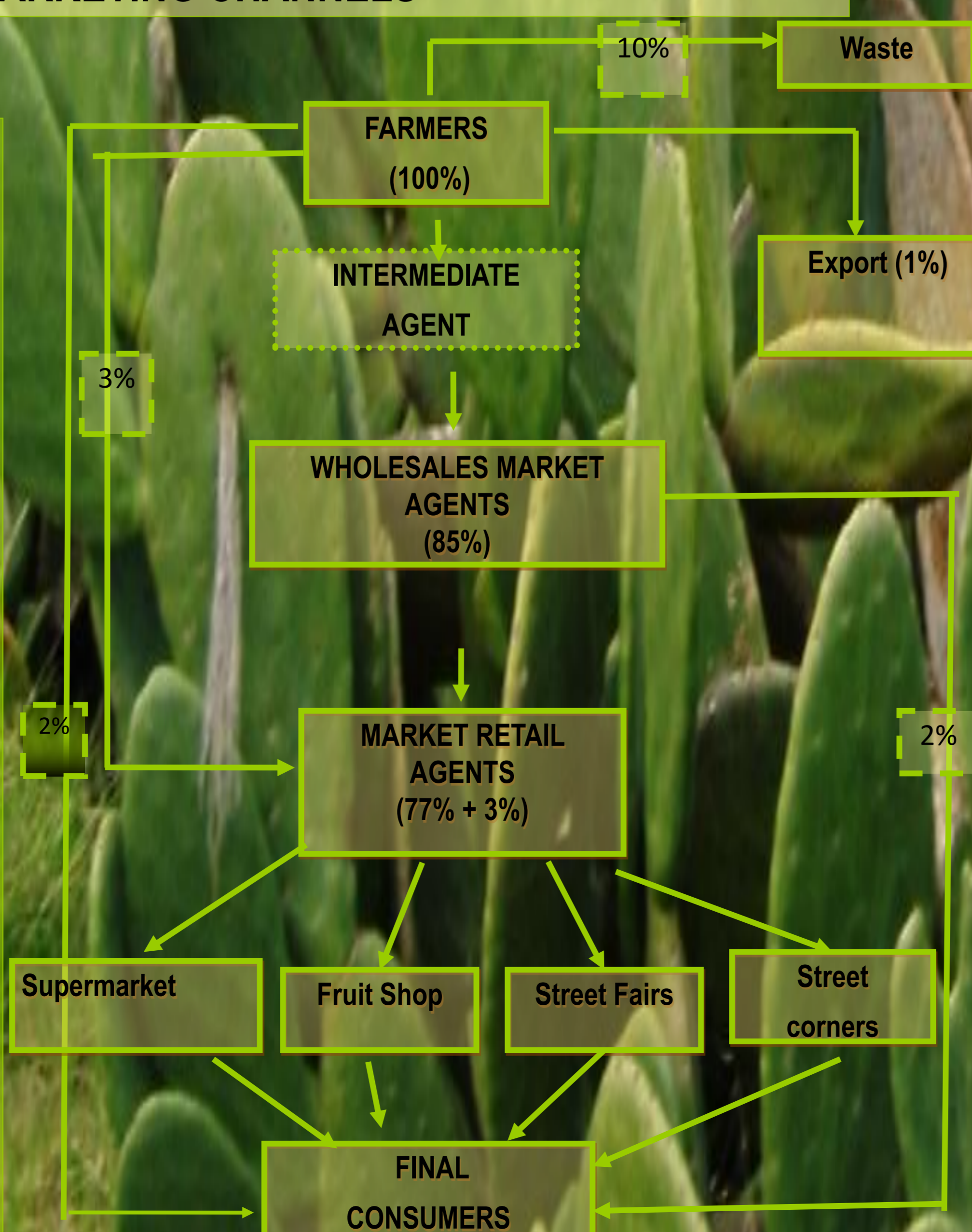


Figure 1. Technological, economic and trade breakthroughs to improve the competitiveness of the cactus pear for fresh marketing

Among the most important results are productive and economic gaps that limit the development of this specie, which is linked to lack of varieties, lack of knowledge of water and nutritional requirements of the cactus pear, lack of management of pest and diseases, lack of knowledge of the behaviour of this fruit during post-harvest, lack of costs records and high informality in the marketing of cactus pear in the domestic market. However, cactus pear was exported periodically as fresh fruit between 2002 and 2009, in marginal volumes mostly sent by air to the United States, with an average unit value of more than \$ 2.5 per kilo FOB. In this context, the production of cactus pear could have a promising potential for exportation as fresh fruit, because in Chile there are significant land extensions in the north of the country (Atacama and Coquimbo regions) that could be used for its cultivation, considering that cactus pear can be developed under conditions of arid and semiarid which are prevailing in the regions above mentioned.

MARKETING CHANNELS

The farmer has a 10% loss in production as wastes, then a 90% enters to the marketing channel. The farmer sells directly to final consumers only 2% of its production, about 3% sells to the market retail and 84% is sold to wholesale market agents. The last agent sells the fruit to market retail agent, about 77% of domestic production, 2% sells to final consumers and they have a loss of about 5%. The export of cactus pears is a very small percentage of domestic production (1%). The fruit exported is of high quality and its main destination is the USA by air (Table 2). However, export volumes have been in a small scale, due to low development of production and low interest from producers.



MAIN BIBLIOGRAPHY

- SÁENZ, C., BERGER, H., CORRALES, J., GALLETI, L., GARCÍA DE CORTÁZAR, V., HIGUERA, I., MONDRAGÓN, C., RODRÍGUEZ-FELIX, A., SEPÚLVEDA, E. and VARNERO, M. T. 2006. Utilización agroindustrial del nopal. Boletín de Servicios Agrícolas de la FAO N° 162. FAO, Roma. 165 Pág.
- SAGARPA. 2004. Plan rector sistema producto nacional nopal segunda fase: base conceptual de referencia estructura estratégica documento validado por el comité sistema producto nopal en sesión del 9 de diciembre de 2004 SAGARPA, MÉXICO D. F. 63 p.
- SANHUEZA, C., 2010. Identificación y caracterización de los agentes participantes y encadenamientos productivos en el agronegocio de la tuna. Departamento de Economía Agraria. Universidad de Chile.
- SUDZUKI, F., C. MUÑOZ and H. BERGER. 1993. El Cultivo de la tuna (Cactus Pear). Universidad de Chile, Facultad de Ciencias Agronómicas Departamento de Producción Agrícola. Primera Edición. 88 p.
- ROYO, A., MORA, M., KERN, W. 1997. Alternativas de producción y comercialización de tuna para productores de las comunas de El Sauce y El Huacho, Región de Coquimbo. INDAP PRODECOP-IV Región. Informe Técnico. Departamento de Economía Agraria. Universidad de Chile.