ISHS INTERNATIONAL SYMPOSIUM

INNOHORT

Innovation in Integrated & Organic Horticulture

Avignon, France

2015

June 8 - 12

PROGRAM AND ABSTRACT BOOK

ISHS

INNOHORT is organized by

INRA SCIENCE & IMPACT

UNIVERSITÉ D'AVIGNON

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produce consumers can directly connect to this system, receive and update information pertaining to the status of the product. Although there is a plethora of data management systems existent within fresh produce supply chains, these systems analyse archival data and this model is an improvement due to the real-time data analysis component involved within the system.

Keywords: food supply chain, cloud integration, intelligent transport, real-time traceability

SIMULATING IMPACTS OF MARKETING STRATEGIES ON PINEAPPLE GROWERS AND GROWER ORGANIZATIONS' PROFITS ON REUNION ISLAND

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Fruit Grower Organizations (GO) may potentially sell growers' fruits on different markets (local, export, industry, organic, etc.). Selecting markets combine (i) considerations regarding prices offered, required quantity, and quality specifications and (ii) growers' abilities to supply required batches at a cost satisfying both GO and growers' profits. This communication presents an approach aiming to support GO and growers designing marketing strategies fulfilling their economic objectives and fruit buyers' requirements. This approach has been developed in the frame of the Queen Victoria pineapple production on Reunion Island, which amounts for 16 million tons dedicated to a steady local market but a growing demand from export and industry outlets. It is based on the coupling of two simulation tools, which assess economic impacts for a pineapple GO and its growers of a given marketing strategy. The first tool, named FRUITPLANT, calculates the profit gained by GO according to (i) the distribution of collected pineapple quantities between a range of outlets, (ii) the price offered by each outlet, (iii) the specific processing costs linked to each outlet, (iv) the price paid to each grower according to his delivered batches (quantity and quality). FRUITPLANT also calculates each grower's gain according to his production area, his technical sequence, his yield, his production costs and his purchase price. Pineapple yields are estimated based on the use of a crop model SIMPIÑA that can predict fruit weight and harvest dates according to the grower's natural environment and practices. Fruits are oriented to different outlets according to their weight. The support approach was tested with a GO specialized in export. We illustrate its use with three scenarios: (i) decreasing pineapple quantities that growers dedicate to the GO, (ii) getting smaller fruits from poorer climatic conditions and, (iii) modifying the balance between export and processing industry outlets.

Keywords: pineapple, industry, export, fruit supply chain, simulation tool, scenario.

AN ANALYSIS OF YIELDS, REVENUES, AND PRICES FOR SELECT ORGANIC FRUITS AND VEGETABLES IN WASHINGTON STATE, USA

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As demand for organic fruits and vegetables continues to grow in the USA, growth in domestic supply has not kept up. This has led to an increase in the organic premium that is generating interest from potential new entrants into organic farming. However, many of them, particularly those that have no background in farming, lack the financial information to evaluate this production option. A study of actual sales and production by certified organic farms in Washington State, USA, showed a wide range in organic horticultural crop yield in comparison with conventional. Crops such as juice grapes and onions yielded as well as or better than the conventional benchmark, while raspberries, hops and snap beans yielded much less. Yield, price, and revenue varied by crop, grower size, market channel, and geographic region. For blueberry, organic yields in central Washington were higher than in western Washington and appeared comparable to conventional yields. Also, simple nonparametric methods were used to characterize yield and price distributions, in contrast with average values used in most published comparisons of organic and conventional yields. The study also estimated the statewide farmgate value of specific organic horticultural crops for the first time.

Keywords: organic yields, prices, revenue, blueberry, vegetable.

LONG-TERM ECONOMIC EVALUATION OF FIVE CULTIVARS IN TWO ORGANIC APPLE ORCHARD SYSTEMS IN VERMONT, USA, 2006-2013

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Apple growers may use several systems to establish orchards intended for organic management, including the planting of new nursery trees and top-grafting existing orchards to convert to selected cultivars. Long-term economic analysis of certified organic orchard systems is critical to evaluate potential profitability of the enterprise. The overall objective of this project was to evaluate long-term economic performance of five apple cultivars ('Ginger Gold', 'Honeycrisp', 'Liberty', 'Macoun', and 'Zestar!') grown in a newly planted orchard (Orchard 1) and in a top-grafted established orchard (Orchard 2). Actual management costs including labor, equipment, and inputs costs were recorded and commercial grades for fruit and projected net income per hectare for each cultivar for each system were assessed over the study period. There were few differences among cultivars for the percentage of fruit in each grade. Mean separation of fruit grade distribution within each cultivar was