Organic Food Quality: Can it exist without Measurement?

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***Abstract* - Consumers who purchase organic foods are motivated primarily by the health benefits. What assurances are there that defining organic products based on inputs, methods, and ingredients will meet or exceed consumer expectations if there are no requirements to define, measure, and meet product quality standards? The future of the organic industry will depend on understanding and quantifying consumer expectations and then defining metrics for assessing organic product quality that satisfies these expectations. After establishing quantifiable product quality targets, the next challenge will be to correlate farming and processing methods so that the product quality criteria and consumer expectations are satisfied.**[1]

INTRODUCTION

An ACNielsen study conducted in November 2005 indicated that purchasers of organic foods are primarily motivated by the health benefits. For North American survey respondents, 58% stated that they purchased organics because it was healthier for them. In general, consumers are paying a premium price because they believe that they are purchasing a superior product compared to conventionally produced foods. However, in the United States, the former Secretary of Agriculture stated in 2000 that the organic label was a marketing tool and not a statement about food safety, nor was organic a value judgment about nutrition or quality. Instead, he stated that the organic program was about methods, practices, and substances used in producing and handling organic crops, livestock, and processed products. Furthermore, the U.S. government believes that the safety and healthfulness of non-organic foods has been adequately safeguarded by current regulations and farming methods

The present regulatory system in the U.S. is structured more to serve the interests of industry and government than to protect consumer interests. As such, how can consumers' organic product expectations be fulfilled if all farming methods allegedly yield healthy food? What assurances are there that defining organic products based on inputs, methods, and ingredients will meet or exceed consumer expectations if there are no requirements to define, measure, and meet product quality standards? The organic industry will need to address these issues to sustain market share in the food industry. Metrics must be established for quantifying the health benefits of consuming organic foods and defining the corresponding organic food quality. Farming methods and inputs must then be evaluated based on this target product quality. Without establishing these measurable targets there is no basis for validating or modifying acceptable organic farming methods, inputs, and ingredients. In the United States, undesirable precedents have been set to allow ingredients and practices that benefit the industry without measuring the impact on product quality and consumer health. If consumer health and expectations are to be respected, the ends will have to justify the means.

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QUANTIFYING CONSUMER EXPECTATIONS AND BENEFITS

The first challenge in reconciling consumer expectations with industry practices is to provide consumers with research data that correlates organic food consumption with human health benefits. This is a daunting field of research as there are many variables that affect human health beyond food choices. Useful research may have to span decades. No meaningful research on the benefits of consuming organics can be realized without defining measurable product attributes. Using the word "organic" to define a product is not a quantifiable attribute. Given the broad range of acceptable organic farming methods, inputs, and ingredients, the resultant product quality and attributes can be quite variable. This will necessitate defining organic food testing methods so that product quality can be quantified and then correlated to human health benefits. Attributes can range from the measurement of the absence of undesirable substances, to the measurement of the presence of desirable substances, and more broadly, the overall quality or vitality of the organic food. If the quality of organic foods is a product of the method of farming and farm inputs, then testing methods such as biocrystallization may be more suited for assessing food quality as an outcome of life processes.

CORRELATING PRODUCT QUALITY WITH FARMING METHODS AND INPUTS

Assuming that consumer expectations for organic foods can be quantified and correlated to quantitative product quality attributes, the next challenge is to correlate product quality with farming inputs and methods. Figure I illustrates the disconnect that presently exists between consumer expectations, product quality, and farming methods and inputs. There is no requirement to measure or quantify

consumer expectations or product quality, leaving a potential gap between consumer expectations and product performance and the corresponding farming methods and inputs.

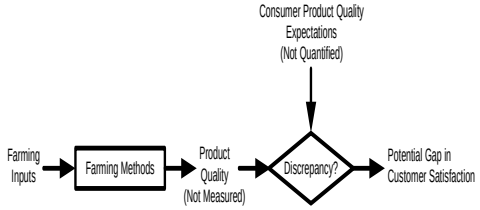

Figure 1. Present model for non-assessment of consumer satisfaction.

Figure 2 represents the scenario under which consumer expectations and product quality are measured and compared. If there is a discrepancy, farming inputs and methods are adjusted. The challenge will be in researching and correlating farming methods and inputs with the target product quality. Site specific influences and climatic variations could result in a complex array of variables and interactions. One shortcoming of this approach is that an entire production cycle with corresponding tonnage of product and measured quality must be completed before adjustments can be made to farming methods and inputs for the next production cycle.

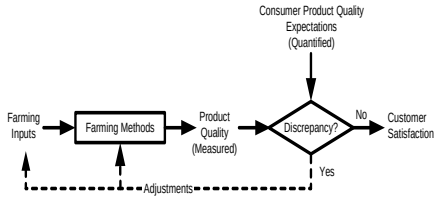

Figure 2. Simple model for modulating farming methods and inputs.

Figure 3 represents a more complex farming model. Inputs and methods are modulated throughout the production cycle based on environmental, site specific, and plant parameters that are known to affect product quality. This requires more extensive research to correlate farming methods and inputs and site specific considerations throughout the crop cycle. The potential advantage is that the farm is monitored and fine tuned in advance of the measurement of crop quality.

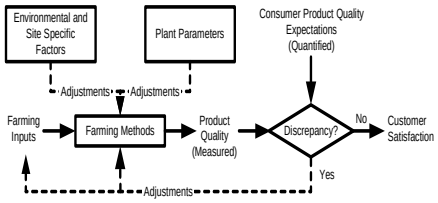

Figure 3. More complex model for modulating farming methods and inputs.

Addressing Government Limitations

As already stated, the U.S. government has excluded measurable product quality standards from the regulations. Ensuring that organic food is measurably healthier for consumers will require one of two modifications in organic standards, production, and labelling. The first would require the U.S. government to revamp the organic standards to implement product standards and performance that address consumer health benefits. Since the government does not wish to participate in any differentiation between food products from all production methods, this is unlikely to occur. The second option is for the organic industry to abandon the U.S. Organic seal and revert to niche marketing based on product quality and claims. Even this effort may be thwarted by the government since product health claims for all consumables must be approved by the government.

Conclusions

The future of the organic industry will depend on measuring, quantifying, and correlating consumer expectations with organic product quality, farming methods, inputs, and product ingredients. Without such a quantitative methodology there will be no framework to protect consumer interests and maintain the product quality that meets consumer expectations. Unfortunately in the U.S., government regulations may hinder this effort.

References

ACNielsen. [http://us.acnielsen.com]. “Functional Food and Organics – A Global ACNielsen Online Survey on Consumer Behaviour and Attitudes”. [http://www2.acnielsen.com/reports/documents/2005_cc_functional_organics.pdf]. (November 2005).

Glickman, D. [http://www.usda.gov]. “Release No. 0426.00 - Release of Final National Organic Standards, Washington D.C.”. [http://www.usda.gov.new/releases/2000/12/0426.htm]. (December 20, 2000).