

# A Geographical Study on the Variety Renewal Process of Fruit Production Areas in Japan and Brazil

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## Abstract

In this research, I have continuously elucidated the diffusion process for new varieties from a marketing perspective through the cases of two regions that are under different market structures, namely Suzaka and the area surrounding the Petrolina city.

The results of our continuous examination of the diffusion of new varieties show that variety renewal is encouraged when the markets that fruit producing areas belong to enter critical conditions. Since Suzaka is a fruit producing area that ships its products only to the domestic markets, it faces severe competition from other domestic production areas due to a decrease in the consumption of agricultural goods in Japan and the influx of agricultural goods from overseas. Accordingly, Suzaka attempts to distinguish itself from other production areas by actively adopting new varieties. In contrast, the area surrounding the Petrolina city in northeast Brazil is the Brazilian region that exports the largest quantity of grapes and mangoes. The area surrounding the Petrolina city found itself in a harsh sales environment, primarily regarding sales of grapes, when prices for exported agricultural goods decreased due to the global financial crisis. This harsh business environment stimulated an increase in the varietal renewal of its fruits.

Additionally, it is clear that, during the diffusion of new varieties, there are permanently innovative producers and temporarily innovative producers. Temporarily innovative producers adopt new varieties due to changes in agricultural management or because they find themselves in a leadership position regarding agricultural management.

However, returning to the marketing viewpoint, it is clear that differences in the method by which producers perform variety renewal are dependent on the shipping form of the producer. Producers attempt to maximize the profit they obtain from adopting new varieties in proportion to their innovativeness. In such cases, it is necessary to sell the new variety when it is very rare, and hence producers attempt to perform variety renewal at an early stage. When deciding whether to adopt a new variety, early variety renewal is relatively possible when there are fewer entities involved in the decision-making process. Producers that privately ship their goods have an advantage on this point.

Additionally, in Japan, producers that ship to shipping cooperatives represented by JAs perform variety renewal from the early to the intermediate stages. Among producers that ship to JAs, producers that renew varieties at an early stage are highly independent and are proactive in collecting information about new varieties. The partners with whom they interact regarding the collection of information are sellers and developers of new varieties, such as research institutions and nursery companies. Producers that renew varieties in the intermediate stage adopt new varieties through production guidance from sources such as variety examination meetings held by their respective shipping cooperatives. The management policy of the shipping cooperative has a considerable effect on the way in which its members perform variety renewal. This is because shipping cooperatives are the main entities that

distribute the fruit cultivated by their members. New varieties grown by producers cannot be shipped unless the shipping cooperative is willing to handle the produce. Accordingly, producers have only a limited ability to produce varieties that are not handled by their respective shipping cooperatives. At these times, if shipping cooperatives have a passive attitude regarding the adoption of a new variety, then that variety will not diffuse to the members of the shipping cooperative.

Producers that implement variety renewal in late stages are those that ship to distribution entities that deal with low-priced fruits. Small farms also renew varieties in late stages. These kinds of producers, which have low independence and are not conscientious regarding the collection of information on new varieties, obtain information about new varieties in a passive manner. Most information that such farms obtain comes from distribution entities or from neighboring farms.

There are some passive producers that deliberately renew varieties. These producers ship fruits as gifts. There is a lot of demand for gifts that include traditional varieties, but only a small amount of demand for gifts with new varieties. Therefore, as producers that ship fruits as gifts get little benefit in adopting new varieties, these producers tend to be passive about the variety renewal. However, some producers that ship fruits as gifts consider adopting new varieties in case demand increases, and hence they collect information about such varieties.

It is clear that some special producers also exist that are active in adopting new varieties but do not aim to maximize profits from the sales of these newly adopted varieties. These producers manage recreational farms. At recreational farms, there are many opportunities for producers to have face-to-face contact with consumers. As a result, producers that manage recreational farms use new varieties as an opportunity to communicate with consumers. Since fruit is sold directly to consumers at recreational farms, producers are not conscious of the demand for new varieties and, instead, emphasize the rarity and unique characteristics of each variety.

In this way, a close relationship can be seen between shipping form and variety renewal, and differences in the shipping form or differences in marketing for each producer lead to differences in how each producer performs variety renewal.

Keywords: Diffusion of new varieties, marketing, continuity, fruit tree production area, Suzaka City in Nagano Prefecture, Petrolina city of Pernambuco