

Pest Damage on Mandarin Oranges and Consumers' Willingness to Pay

Abstract

Today, sustainable food production and consumption is required for the environment, producers, and consumers. On the other hand, the spread of environmentally friendly agriculture in Japan is slow. For mandarins, some agrochemicals are used to make the appearance clean, although these pests or diseases do not affect the taste or yield. This study investigates how consumers evaluate pest damage on the surface of mandarins. Using a sample of customers with experience of purchasing agrochemical-reduced mandarins, which typically have some pest damage on the surface, I conducted a discrete choice experiment using online and paper questionnaires. The experiment uses three attributes: price, agrochemical use, and appearance. I use mixed logit models to analyze the results. The results show that these customers have a negative preference for pest damage on the surface of mandarins, while they have a high preference for reduced agrochemical use. The price premiums for middle and high pest damage on the surface of mandarins are JPY -112 and JPY -287 per kg, and the price premiums for no agrochemicals and half reduction of agrochemicals are JPY 449 and JPY 223 per kg, respectively. The results suggest that these consumers are concerned about pest damage on the surface of mandarins, but purchase mandarins with similar damage because other factors, such as reduced use of agrochemicals, may outweigh the reduced WTP due to damaged appearance.