Investigation Into the Feasibility of Maclura pomifera as a Commercial Source of Pectin

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The current pectin industry is built around the utilization of orange peels (citrus sinensis) as the most commercially viable option for pectin harvesting. Current estimates of pectin content of oranges are between 20 and 30 percent dry mass (Khanami 1). Use of orange peels is currently brought with significant disadvantages such as infeasibility of obtaining pectin in the winter climates, the spread of orange-specific diseases to the trees reducing yields (USDA), instability in the national orange market (USDA), and pesticide applications on orange peel skin (Annelie Kruve et al). This science fair project aims to investigate the pectin composition of a much larger, cold-hardy, deterioration-resistant species named Maclura pomifera, and determine if the pectin composition of this species has any feasibility for its use in the food-grade pectin industry or other industries in the U.S. This study will specifically answer the research question: “Is Maclura Pomifera a feasible source of pectin for production in the U.S?”

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