

## Tree Fruit Extension Economics Research Highlight

### What is the most optimal licensing-royalty fee scheme for a new plant variety developed by a University breeding program?

By Sherzod Akhundjanov, R. Karina Gallardo, Jill McCluskey, and Brad Rickard<sup>1</sup>

Plant breeding programs in U.S. land grant universities are increasingly developing improved plant varieties. One wonders what the optimal licensing royalty scheme for such developments would be to guarantee the continuity of such university programs. We tested three royalty and licensing schemes: a flat licensing fee per plant, a per-unit sale royalty fee, and a dual licensing and royalty fee; all three under either an exclusive or a non-exclusive contract. The goal was to

infer which one will maximize the joint profits, that is, profits for both the University plant breeding program and the grower who adopts the new variety. Results suggest that the licensing scheme that maximizes the joint profits is the per-unit sale royalty scheme under an exclusive contract.

Further, this result holds when the industry consists of a small number of firms.

However, when the number of firms is large, as is the case of the Washington apple industry, the joint profits are the largest under a nonexclusive contract.

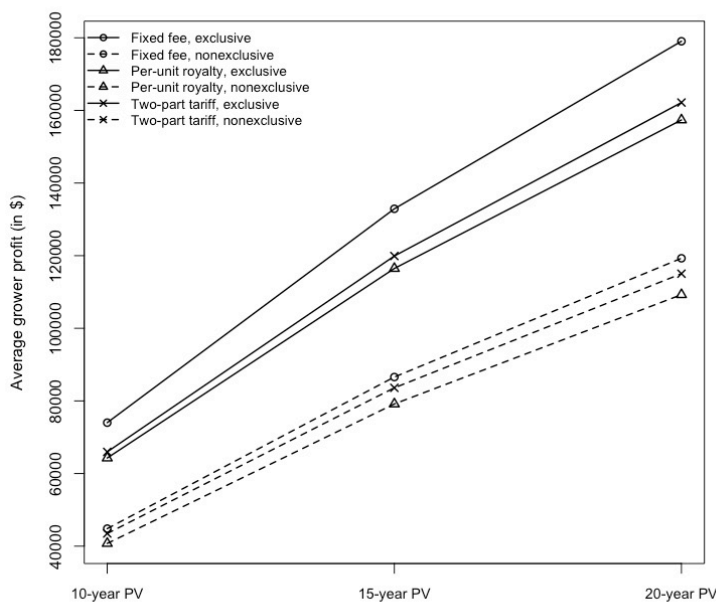


Figure 1. Average empirical joint profits under different licensing arrangements.

<sup>1</sup> Sherzod B. Akhundjanov is Assistant Professor, Department of Applied Economics, Utah State University. R. Karina Gallardo is Associate Professor, Extension Specialist, School of Economic Sciences, Washington State University. Jill McCluskey is Director and Regents Professor, School of Economics Sciences, Washington State University. Brad Rickard is Ruth and William Morgan Associate Professor, Charles H. Dyson School of Applied Economics and Management, Cornell University.

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