

Tree Fruit Extension Economics Research Highlight

Economic Issues Related to Long-Term Investment in Tree Fruits

By Reetwika Basu and R. Karina Gallardo¹

Asset fixity in agricultural production deals with investment in inputs and how these inputs adjust in the long run. The formulation and implementation of policies to mitigate the problematic of asset fixity is complex. In general, policies should vary based on the characteristics of the fragmented agricultural production and marketing sectors and should include tax collection, price supports, and production control; direct income transfer should be specific to production and marketing regions.

When identifying targeted crops for policies oriented to mitigate asset fixity, tree fruits stand out from annual row crops (Table 1 and Table 2). The investment in orchard infrastructure is extensive and irreversible, and there is a lack of secondary market for such capital goods. The recuperation period on the investment is longer for tree fruits, proving that asset fixity problems are exacerbated for tree fruits compared to annual row crops. Policies directed to mitigate asset fixity in tree fruits as described in the literature could range from contracts and revenue insurance, as market price stability is crucial in ensuring positive returns in the future.

Table 1: Costs and Revenues for Selected Tree Fruit Crops Grown in the United States

	Unit	Almonds ^a	Walnuts ^b	Apples Honeycrisp ^c	Sweet Cherries ^d	Plums ^e
Tree density	Trees /acre	130	64	1,452	134	202
Costs						
Establishment—year 1	\$/acre	8,584	8,262	24,672	6,040	7,436
Preproduction—year 2	\$/acre	2,830	2,861	9,344	3,238	2,237
Preproduction—year 3	\$/acre	-	2,907	-	3,352	-
Production—year 3	\$/lb	9.51	-	1.69	-	0.66
Production—year 4	\$/lb	6.39	6.89	1.20	3.77	0.60
Production—year 5	\$/lb	3.44	2.96	1.06	3.51	0.53
Production—year 6	\$/lb	-	1.63	1.06	-	-
Production—year 7	\$/lb	-	1.05	-	-	-
Gross revenues—full production year	\$/lb	2.50	1.00	1.07	2.06	0.57
Profits—full production year	\$/lb	-0.94	-0.05	0.02	-1.45	-0.05

^aDuncan et al. (2019).

^bHasey et al. (2018).

^cGallardo and Galinato (2020).

^dGrant et al. (2019).

^eDay et al. (2019).

Table 2: Costs and Revenues for Selected Annual Row Crops Grown in the United States

Annual Row	Unit	Corn ^a	Soybean ^a	Wheat ^b	Canola ^c	Alfalfa ^d
Costs						
Land costs	\$/lb	0.02	0.11	0.03	0.05	0.03
Non-land costs	\$/lb	0.06	0.06	0.07	0.12	0.06
Total costs	\$/lb	0.08	0.17	0.10	0.17	0.09
Gross revenues	\$/lb	0.06	0.14	0.10	0.13	0.12
Profits	\$/lb	-0.02	-0.03	0	-0.04	0.03

^aLattz and Zwilling (2019), Schmitkey (2020).

^bUniversity of Minnesota Extension (2020).

^cJohnson (2020).

^dTexas A&M AgriLife Extension (2020).

¹ Reetwika Basu is PhD Graduate Student, School of Economic Sciences, Washington State University.

R. Karina Gallardo is Associate Professor, Extension Specialist, School of Economic Sciences, Washington State University.

This paper is published in Choices.

Reference: Basu, R. and R.K. Gallardo. 2021. "Economic Issues Related to Long-Term Investment in Tree Fruits." Choices, Quarter 2. Available online: <https://www.choicesmagazine.org/choices-magazine/theme-articles/trends-and-challenges-in-fruit-and-tree-nut-sectors/economic-issues-related-to-long-term-investment-in-tree-fruits>.