



2000 APPLE PRODUCTION BUDGET
Mature Trees
Years 4+
1 Acre

ITEM	EXPLANATION	PRICE PER UNIT	YOUR BUDGET
INCOME			
Apples ¹	19,200 lbs	\$0.24 /lb	\$4,608
VARIABLE COSTS			
Fertilizer ²			
N	20 lb	0.23 /lb	5
P ₂ O ₅	30 lb	0.28 /lb	8
K ₂ O	30 lb	0.13 /lb	4
Calcium Chloride	30 lb	0.25 /lb	8
Herbicides ³			15
Insecticides ³			110
Fungicides ³			220
Fuel, Oil, Grease			20
Repairs			15
Miscellaneous ⁴			15
Hired Labor ⁵			
Pruning	200 trees	2.00 /tree	400
Mowing and other	10 hours	7.50 /hr	75
Harvesting	400 bu	1.30 /bu	520
Marketing			
Cool Storage	400 bu	0.25 /bu	100
Selling Charges	6% of gross receipts		276
Bee Rental and Maintenance			70
Int. on Oper. Cap. ⁶	12 mo.	9.0%	167
TOTAL VARIABLE COSTS	-Per Acre		2028
	-Per Pound		0.11
FIXED COSTS			
Operator Labor Charge ⁵	10 hours	7.50 /hr	75
Mach. And Equip. Charge			38
Land Charge			85
Facilities and Equipment ⁷	\$ 30,000	15%	225
Management Charge	5% of gross receipts		230
TOTAL FIXED COSTS			653
TOTAL COSTS	-Per Acre		2682
	-Per Pound		0.14
RETURN ABOVE VARIABLE COSTS			2580
RETURN ABOVE TOTAL COSTS			1926

¹ Price and yield based on historical yield and price received in Ohio. Yield will vary with age of trees.
Yield and/or price may vary depending on variety and quality of fruit. Apple trees should reach maximum production by 7 years and if well maintained should sustain that for 15 to 20 years.

² Consult OSU Bulletin 458 "Fertilizing Fruit Crops" for specific recommendations

³ Consult OSU Bulletin 506A2 "Commercial Tree Fruit Spray Guide" for specific recommendations

⁴ Includes soil tests, small tools, utilities, harvesting equipment, etc...

⁵ Hired and seasonal labor is considered a variable costs, salaried and operator/unpaid family labor is considered a fixed cost.

⁶ Interest on all variable costs for 12 months at 9% interest rate

⁷ Facilities and equipment valued at \$30,000 expensed at 15% annually for 20 acres.

Example: $\$30,000 \times 15\% / 20 \text{ acres} = \225

Includes depreciation, interest, insurance, and repairs.

Expenses and Returns Over Life of Trees

Apple trees assumed to last 25 years.

Since an apple orchard lasts as many as 25 years, it is important to examine the time value of money associated with the enterprise. Time value of money is based on the premise that \$1 today is worth more than \$1 in the future. This is basically because the \$1 today can be invested and appreciate in value until some time in the future. Therefore in regards to the apple enterprise, \$1 of return in year one would be worth more than \$1 of return in year ten. Returns in future years need to be discounted to reflect the time value of money. The following table lists the future value and present value of returns from the enterprise.

		Returns Over Total Costs	Present Value
Year	0	-\$865	-\$865
Year	1	-\$2,729	-\$2,481
Year	2	-\$1,074	-\$888
Year	3	-\$1,074	-\$807
Year	4	\$1,926	\$1,315
Year	5	\$1,926	\$1,196
Year	6	\$1,926	\$1,087
Year	7	\$1,926	\$988
Year	8	\$1,926	\$898
Year	9	\$1,926	\$817
Year	10	\$1,926	\$743
Year	11	\$1,926	\$675
Year	12	\$1,926	\$614
Year	13	\$1,926	\$558
Year	14	\$1,926	\$507
Year	15	\$1,926	\$461
Year	16	\$1,926	\$419
Year	17	\$1,926	\$381
Year	18	\$1,926	\$346
Year	19	\$1,926	\$315
Year	20	\$1,926	\$286
Year	21	\$1,926	\$260
Year	22	\$1,926	\$237
Year	23	\$1,926	\$215
Year	24	\$1,926	\$196
Year	25	\$1,926	\$178
Total		\$36,630	\$7,652

Discount Rate = 10%

The discount rate is the degree to which the future values are discounted to reflect current values. It is generally assumed to be equivalent to the amount you could earn in alternative investment opportunities.

Over the life of the planting, the enterprise will generate \$36,360 in returns. However, since much of the return comes in future years, it is not the same as having \$36,360 in the operator's pocket today. The present value column indicates that if the operator was given the equivalent return in one lump sum today (present value), it would be worth \$7,652. The difference of the total returns and the present value returns is a result of the time value of money.