1980 Grape Update

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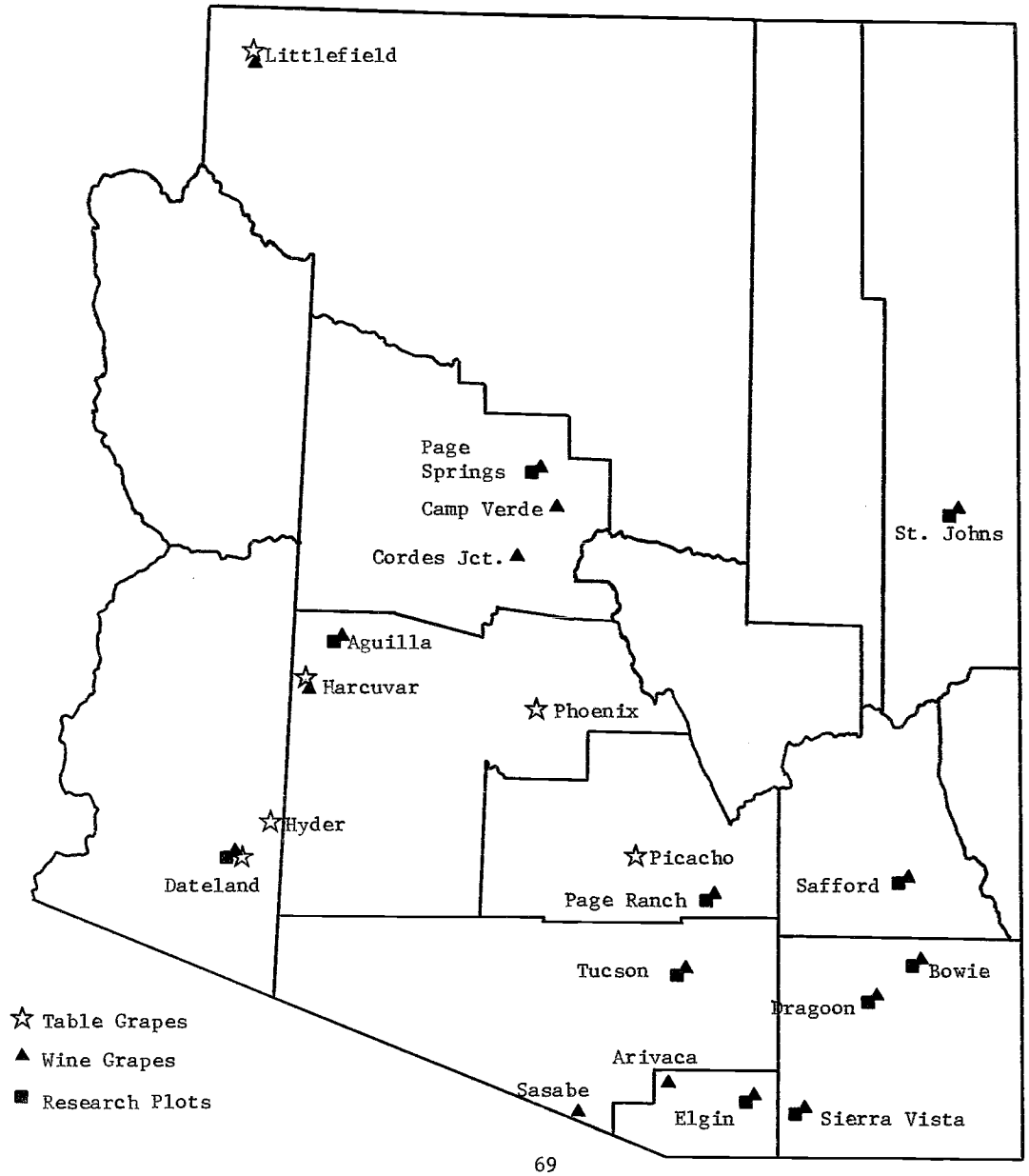
Summary

Grape plantings, both table and wine, are on the increase. Research to date now permits us to be able to recommend one or more varieties which should do well in most areas of the state. At the present a winery is under construction in the Tucson area.

After a decade of fairly steady decline in the total acres of grapes within the state, table grape plantings are once again on the increase. Removal of plantings in the Phoenix area have been due to a steady increase in the amount of farmland which found a profitable use in growing houses. New plantings in the past year have been in the Dateland/Hyder area, and new plantings are being considered in the Parker area. High prices for the early season grapes (as much as $28.50 for a 22 pound lug) have been the major consideration in the new plantings. A decline in the plantings in the Imperial and Coachella valleys has also been a consideration. Production cost run about $8.75 per lug with labor still being the highest cost.

Wine grapes are once again becoming a commercial crop in Arizona. Following the enactment of state prohibition by the first legislature in 1913, the small but significant wine industry collapsed leaving only the table grape industry. Following the repeal of prohibition in 1933, the efficient, low



cost transportation system allowed the "dumping" of the surplus California wines in not only Arizona, but across the nation. Recently the increase for wine in the United States has led to a new interest in wine grapes in the western United States. It is projected that per capita wine consumption will double by 1985. If that is to happen, plantings will have to double. California with approximately 650,000 acres can increase their planting slightly, but cannot double them unless they remove existing crops. Grape land in the Napa Valley is currently selling for $20,000 per acre. Washington with approximately 3,000 acres of European wine grapes can increase their plantings to about 50 to 100,000 acres in newly developed regions. Oregon's wine grape industry has grown to about 150 acres in the past 10 years.

Wine grape plantings in Arizona are now approximately 60 acres (see map). Of the 60 commercial acres 53 were planted in 1980 and 3 in 1979. Present growers plan to increase their plantings over about a 10 year period, and without any new growers the 1990 plantings should total about 1300 acres.

Land being planted to grapes falls into 2 categories, that which has not been cultivated in the past (it is mostly in low productive range) or cropland which has been previously devoted to agronomic crops. Grapes, particulary wine grapes, require little water. Research at the Water Resources Laboratory in Phoenix have shown the table grapes can be produced with only 19 inches of water applied during the growing season. Experiments at the University's Page-Trowbridge Experimental Range, where the grapes are grown with only trapped rainfall, have shown that the grapes can be produced with an annual supplemental irrigation (from trapped excess runoff) of 120 gallons per vine. New plantings in the Elgin area have been made with consideration of runoff farming techniques in mind. With the use of a trickle irrigation system it has been determined that a 50 gpm well could easily handle 40 acres. With conventional irrigation, a well with a 320 gpm rating would be required for 40 acres. Under the state's new groundwater law a 35 gpm well which would be exempt, should be able to handle 30 acres of grapes.

An increase in energy, and thus water costs, has led many agronomic crop producers to consider other crops with a higher value per water input unit. To date extensive acreages of pecans and apples have been planted on former cotton, grain and alfalfa land. These crops along with grapes pose new problems to the grower. The first of which is the different nature of the crop. Anyone who plants a perennial fruit crop has to be an optimist as it can be 3 to 7 years before the crops start to produce and 6 to 15 years before the breakeven point is reached. This means that long term financing must be available. The perennial fruit crop has a 20 to 100 year commercial life expectancy. Due to the long establishment period, it is difficult to change cultivars or crops. Cultural operations practiced during one growing year (or perhaps not done), not only affects the crop during that growing season, but for one or more crop seasons in the future. These last two concepts are difficult to grasp by growers who are used to planning and working in 3 to 6 month periods with annual crops. The change is not difficult, merely one of reeducation. Large farming companies have solved the problem by having the resources available to hire a person (or persons) with expertise in the area. The answer for the smaller grower is to start small and learn about the new crop with time, and assistance from County and University Extension Specialists. This also allows the grower to spread the cost of developing the planting over several years. The costs for establishing and producing wine grapes under irrigated conditions are shown in the following tables. These tables are based on California studies which have been modified for Arizona costs.

Perennial fruit crops, especially grapes, offer growers the opportunity to increase their profits by growing crops with a higher value per unit of input, or a reduction in the number of input units. In a state where water will continue to become a more limiting factor in production of agricultural commodities, grapes grown with the desert farming, water harvesting techniques will offer a possibility for continued agricultural production.

TABLE 1. Cost of establishing trellised, irrigated wine grapes in a hot region.

	Costs Per Acre		
	1st Year	2nd Year	3rd Year
YIELD (Tons/Acre)	-	-	4
Pre-Harvest Cash Costs:			
Fumigate:	$235.00		
Pre-plant weed control:	19.00		
Land preparation: chisel, disc, float, etc.	65.00		
Rootings: 519 (+25, 2nd yr) @ 25¢	129.75	$ 6.25	
Trim and misc. planting labor: 8 hr + 1 1/2 hr 2nd yr	28.80	5.40	
Machine planting: $36/A	36.00		
Stakes (treated): 519 7-ft @ $1.00		519.00	
End posts (treated): 11 8-ft @ $4.65		51.15	
Stakes and set end posts: 8¢ stakes + 2.50 end posts		69.02	
Wire: 246 lb 13 guage high tensile (3 wires @ 26/lb)		63.96	
String three wires and staple		44.00	
Training and suckering: 40 hr, 2nd yr; 10 hr, 3rd yr		144.00	$ 36.00
Tying materials		13.00	7.00
Prune and tie: 5 hr, 2nd yr; 12 hr, 3rd yr		18.00	43.20
Rabbit control	10.00	5.00	
Irrigation labor: 5 hr each yr @ $4.60	23.00	23.00	23.00
Water-power and/or district tax	54.00	66.00	80.00
Irrigation preparation and weed control: 6 hr labor + 4 tractor hr, 1st yr; then 8 hr labor + 4 tractor hr	38.00	45.20	45.20
Fertilizer: 30¢ applied (30 lb N, 2nd yr, 50 lb N, 3rd yr)		9.00	15.00
Mildew control: 2 hr labor + 1 1/2 tractor hr - materials $5.00			18.35
Pest management			45.00
Misc. labor and materials, including 1 hr labor + 1 tractor hr	22.00	18.00	22.00
County taxes	40.00	40.00	60.00
Repairs, except tractor	20.00	18.00	20.00
Business and office costs, operating capital, insurance	41.61	58.86	31.18
TOTAL PRE-HARVEST CASH COSTS	762.61	1216.64	465.93
Harvest Costs:			
Contract - $35/ton - pick and haul	--	--	140.00
TOTAL HARVEST COSTS			140.00
TOTAL CASH COSTS	762.61	1216.64	605.93
Depreciation:			
Irrigation system: $300, 20 yr life	15.00	15.00	15.00
Bldgs. & equip, except tractor: $160, 12 yr life	13.33	13.33	13.33
Tractor: $2.00/hr	10.00	10.00	12.00
TOTAL DEPRECIATION	38.33	38.33	40.33
Interest on Investment at 8%			
Irrigation system: 1/2 cost $150	12.00	12.00	12.00
Bldgs. & equip., except tractor: 1/2 cost $80	6.40	6.40	6.40
Tractor: $1.00/hr	5.00	5.00	6.00
Land: $2000/A	160.00	160.00	160.00
Interest on accumulated costs	--	58.09	153.19
TOTAL INTEREST ON INVESTMENT	183.40	241.49	337.59
TOTAL COST FOR THE YEAR	984.43	1496.56	983.85
CREDIT FOR FRUIT @ $125/TON	--	--	500.00
NET COST FOR THE YEAR	984.43	1496.56	483.85
TOTAL ACCUMULATED COST	984.43	2480.80	2964.65

TABLE 2. Cost of producing trellised, irrigated, wine grapes in a hot region.

YIELD: 8 tons/acre	Cost per acre
Pre-Harvest Cash Costs:	
Pruning - contract	88.23
Brush disposal - contract	5.00
Fertilizer - 60 lb N @ 30¢ applied	18.00
Mildew control = 2 hr labor + 1 1/2 tractor hr + materials	18.35
Pest management	55.00
Irrigation preparation and weed control: 4 hr labor + 4 tractor hr	26.80
Irrigate - 5 hr labor @ $4.60	23.00
Water-power and/or district tax	90.00
Misc. labor - 3 hr labor + 1 tractor hour	13.90
Misc. materials	20.00
County taxes	60.00
Repairs: except tractor	20.00
Business and office costs, operating capital, insurance	38.30
TOTAL PRE-HARVEST CASH COSTS	478.58
Harvest Cost:	
Pick and haul: contract	272.00
TOTAL HARVEST COSTS:	272.00
Depreciation:	
Vines, stakes, trellis: cost $2901, 30 yr life	96.70
Irrigation system: $300, 20 yr life	15.00
Bldgs. & equip, except tractor: $160, 12 yr life	13.33
Tractor: 6 1/2 hr @ $2.00	13.00
TOTAL DEPRECIATION	138.03
Interest on Investment @ 8%:	
Vines, stakes, trellis: 1/2 cost $1450	116.00
Irrigation system: 1/2 cost $150	12.00
Bldgs. & equip, except tractor: 1/2 cost $80	6.40
Tractor: 6 1/2 hr @ $1.00	6.50
Land: $2000/A	160.00
TOTAL INTEREST ON INVESTMENT	300.90
TOTAL COST FOR YEAR	1189.51
CREDIT FOR FRUIT: 8 tons @ $300	2400.00
NET RETURNS	1210.49