and medium-sized farms. The general conclusion is that there are no significant economies based on size.

6. KERN COUNTY CASH CROP FARMS

In this area the 640-acre unit was most efficient. After that point costs per revenue dollar began to climb. The following table indicates the economies based on size:

CASH CROP FARMS, KERN COUNTY, CALIF.—TOTAL COST PER DOLLAR OF CROP REVENUE FOR 3 CROPPING PROGRAMS

Farm size (acres)	Cost-revenue ratio for—		
	Cotton-alfalfa farms	Cotton-alfalfa-potato farms	Cotton-alfalfa-barley-milo farms
80	1.06	1.06	1.00
160	.96	.94	.93
320	.92	.91	.91
640	.91	.89	.89
1,280	.94	.93	.91
3,200	.96	.93	.92

Source: Calculated from data in Faris and Armstrong study. California Experiment Station; Giannini Foundation Research Report No. 269.

7. WHEAT FARMS IN THE COLUMBIA BASIN OF OREGON

In Oregon, 1-man wheat farms achieve lower average costs than the two or three man farms. However, on farms smaller than 1,000 acres the costs were slightly higher. The following table indicates that increases in size beyond 1,000 acres resulted in increased costs.

COLUMBIA BASIN WHEAT FARMS: AVERAGE COST AND OPERATOR EARNINGS FOR SELECTED FARM PLANS USING THE MOLDBOARD FALLOW OPERATION

Farm size	Basic resources		Full-utilization farm plan		
	Men	Tractors	Acres	Operator income	Cost-revenue ratio
Small	1	1 30 to 40 horsepower	1,000	$3,669	0.85
Medium	1	1 50 to 60 horsepower	1,600	5,629	.86
Medium-large	2	2 50 to 60 horsepower	2,500	5,429	.91
Large	3	2 50 to 60 horsepower, 1 25 to 35 horsepower	3,600	5,252	.94

8. DAIRY FARMS

(*a*) *New England*

The most efficient unit on dairy farms in New England was a 2-man operation with 70 cows and costs estimated at $2,000 a year for labor and management. However, if no charge is made for labor, the 1-man operated farm with 35 cows achieved lower costs.

(*b*) *Iowa Dairy Cash Grain Farms*

On farms in Iowa in this category there was only a slight reduction in costs as herds were expanded from 34 to 58 cows. The cost revenue ratio was relatively higher—90 cents expended for $1.00 of gross income.

(*c*) *Arizona Dairies*

Average costs declined sharply up to a herd of 150 head. However, management difficulties typically occurred when the herd reached a size of 150 to 175 cows. This problem resulted from (1) feed waste increases with herd size; (2) difficulty in varying the level of grain feeding relative to each cow's production because of variation among cows, and (3) management, supervision and coordination duties became more difficult with resultant decline in efficiency of operation.

(*d*) *Minnesota Dairies*

A study based on dairying in Minnesota indicates that the 2-man dairy with 87 cows and a farm of 490 acres achieved a cost revenue ratio of 0.82. A 1-man, 48-cow, 290-acre operation was slightly less efficient. The cost revenue ratio was 0.84 on this farm size.