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HOW BIG IS BIG

by

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Purdue University
October 18, 1960

For nearly 100 years we have seen a trend for the size of farms to increase. Since 1920 we have seen a trend for the number of farms to decrease.

Since the end of World War II the rate of both of these trends has been markedly increased. And since 1950 we have had a very sharp increase in the number of large farms and a very rapid decline in the number of small farms.

In recent years about 25% of the commercial farms of the United States have produced 75% of the agricultural products - and have made nearly all of the earnings from agriculture. These are the farmers who are winning the race to stay in business, to be successful.

In order to meet the competition, these farmers have increased the size of their businesses. They have improved efficiency through the use of new technologies. And they have specialized in enterprises most advantageous to them. In doing this, these farmers have greatly increased their capital investments.

The remaining 3/4 of our farmers have found it impossible to keep pace with agricultural progress. Their incomes from farming have fallen at a very rapid rate.

They are moving out of farming and into nonfarm occupations at a very rapid rate. Most of them have substantial nonfarm incomes. Nearly half of them have nonfarm incomes greater than their farm income. Their total income per capita is somewhat higher and their purchasing power about the same as it was in 1947.

Result of Shifts

Within the next 10 or 15 years somewhere from a million to a million and a half farmers will produce at least 90% of the farm products of the United States.

These farms will be big, well-capitalized, and extremely well managed.

In the Corn Belt they will be from 300-500 tillable acres in size with capital investments of \$200,000 and up.

There is no doubt that the 80-acre farm, the 5-cow dairy herd, and the 100-hen flock are rapidly disappearing. But this does not necessarily mean that we must have 3,000 acres, or 10,000 hens or 500 cows to stay in business. Here's why:

During the past few years agricultural economists at Purdue University have conducted a series of research studies to try to determine the importance of size of various enterprises.

Farm size: The results of these studies show that returns to labor and capital increase very rapidly as the size of farm moves from 80 tillable acres to about 200 acres. From 200 to 500 tillable acres, farm returns to capital and labor hold about steady. But, as the size of farm increases beyond this point, returns to capital and labor tend to drop off slightly.

Hog numbers: These studies also show that when you have reached somewhere between 20 and 40 brood sows in one herd you have reduced the unit costs of production about as much as you can through size of enterprise.

In the dairy business this is somewhere around 25-50 cows.

In laying flocks it's about 1,000 birds.

In beef cattle feeding it is around 75-100 steers.

These numbers are much above the average size of herds and flocks today. This explains in considerable degree the pressure to increase size of farm and size of enterprise.

But we all know that many highly successful farmers go well beyond these numbers. If no savings are to be made, why do they do it?

The primary reason for increasing the size of enterprise above these numbers is because they are too small to make a man a good living. And, it is easier for a farmer--having learned how to be a good dairyman--to add to the size of this enterprise than it is for him to learn and keep up to date on all the highly complex technology of production in a new enterprise.

What then will be the limits on size of enterprise on a farm? There are two fundamental factors which will govern this maximum size.

First, and in many cases most important, is the fact that up to a certain point various enterprises complement each other, but beyond this point they are competitors.

This is particularly true in crop and livestock production. We can use the same labor force and much of the same machinery and equipment for both crop and livestock production at different times of the year. Where crops and livestock are grown on the same farm, manure is an asset. But in highly specialized livestock enterprises not connected with crop production, manure is a liability.

Second limitation on the size of the business is the managerial capacity of the operator.

Farming is not completely a science and many decisions have to be made from day to day, hour to hour--they are on-the-spot judgments. In

most livestock enterprises, complexity of operation multiplies fully as rapidly as numbers. Therefore, size of business is greatly limited by the capacity of the operator.

Although many operators can manage a 10-sow herd, relatively few farmers can manage a 50-sow herd--and very few farmers can manage a 200-sow herd.

Since there are not enough farmers who can manage the very large herds to provide enough livestock for the nation, the practical limit for most operators is at a considerably lower level.