

DISCONTINUANCE OF FARM INNOVATIONS

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"There is nothing so sure as death and taxes" is an old saw which needs to be amended. In our modern times nothing is so sure as change. Changes in technology have created problems, albiet a better life, for all of us.

In striving for improvement, we adopt new methods and new products as we become aware of them and are convinced of their usefulness. But, some persons stop using an innovation after making it work for a period of time. Ideas that are rejected after having been adopted are called discontinuances.

Discontinuances

In farming, the discontinuance of approved practices occurs at a surprisingly high level. One often thinks of discontinuance as a natural accompaniment of obsolescence. But, this accounts for only a small part of all discontinuances that occur. Farmers are continually changing their operations, e.g., from hogs to dairying, with the result that the practices for hogs and related crops are dropped. In other instances, the innovation may not seem to have brought the promised return, or one less valuable than its cost. Some farmers discover that use of a new idea is more troublesome than they had anticipated, or requires more advance planning than they habitually engage in.

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Discontinuance, if accompanied by adoption of a practice better-suited to the farmer's farming operation, is desirable. Costly and inefficient farm operations result, however, if he rejects a practice because he can not adapt to the planning demands of the new practice or is unwilling to make the necessary adjustments in his farm enterprise.

A recent Wisconsin study by rural sociologists indicates that discontinuances occur at about the same rate as the adoption of innovations. In a Kentucky county, over a ten-year period 18 percent of the approved practices were discontinued. In Ohio, about 50 percent of a state-wide sample of 79 farmers discontinued at least one improved practice in the six year period between 1957 and 1963.

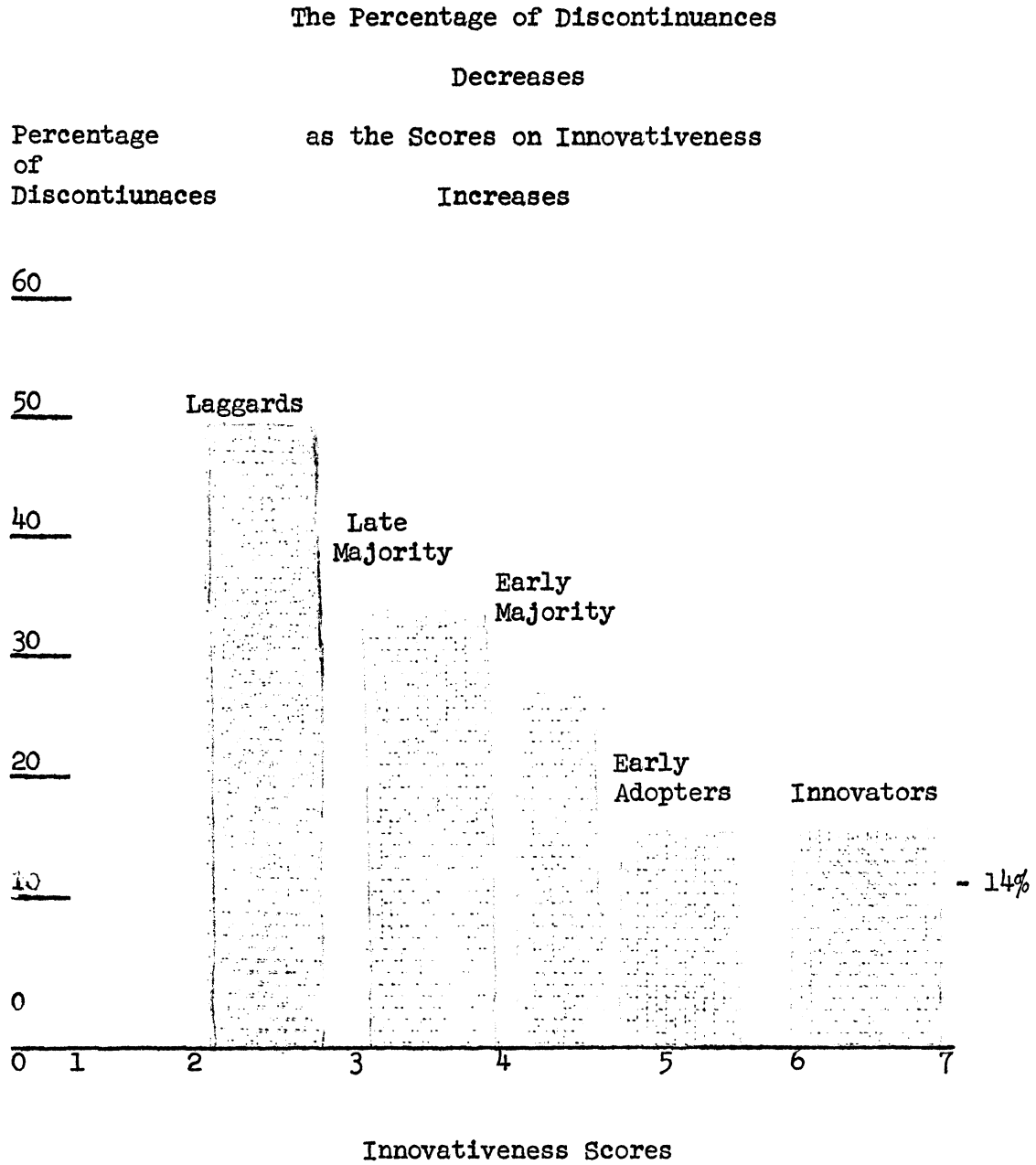
While these figures indicate that improved farming practices have relatively short life-expectancies, it is not the overall rates which are important for improvement in farming. Instead, it is the question: who has discontinued the practice and when in the course of change in technology has the discontinuance occurred? A partial answer is provided by information from Ohio farmers.

Farmers Who Discontinue Practices

Farmers have been classified as to the relative speed with which they adopt new ideas: Innovators, Early Adopters, Early Majority, Late Majority, and Laggards. Innovators are the first farmers to adopt new ideas, and Laggards are the last.

The more new ideas a person adopts, the greater the chance that in the course of time someone of them will be found wanting and will be discontinued. In six years about seven out of ten Innovators and Early Adopters who had adopted the most practices, had discontinued at least one improved practice. By contrast, only half of the Laggards had discontinued an innovation during the same period of time.

Figure 1. Total Discontinuances compared to total innovations.



The 39 farmers who discontinued some practice (out of the total sample of 79) had a slightly higher social status; more education, and more gross farm income; and were a few years younger than farmers who had not discontinued practices.

However, when we consider the rate of discontinuance, instead of the number of discontinued, a different pattern emerges. The proportion of practices discontinued to total adopted declines directly with the total number adopted. This can be seen by comparing Early Adopters and Laggards as to the percentages of practices discontinued (Figure 1). The tendency to discontinue improved practices is more than twice as great, proportionately, for Laggards as for Innovators and Early Adopters. It seems apparent that Laggards discontinue many innovations for reasons other than their economic value. This conclusion is strengthened by consideration of the actual practices discontinued.

Practices Discontinued

The thirteen practices studied represent some of the many ideas recently adopted by farmers in Ohio and other parts of the country. Some practices, such as soil testing, commercial fertilizer top dressing for pastures, and soil conservation farm plans, have been available for use for two decades or more, while others are relatively newer.

Table 1 shows the total number of adoptions and discontinuances for each practice. The discontinuances counted in the table do not include cases in which the farmer had abandoned the enterprise and, thereby, the practices that go with it. If a farmer had stopped raising hogs, for example, hog mange control no longer applies to him and was not counted as a discontinuance.

Table I. - Discontinuance of Thirteen Farm Practices by Ohio Farmers

Practice	Number of Farmers Who Have Adopted	Number of Farmers Who Have Discontinued	Percentage of Farmers Who Have Discontinued
Stibesterol in Beef Cattle Feeding	11	6	55
Nitrogen-Side-Dressing of Corn Crop	26	9	35
Commercial Fertilizer Top Dressing of Pastures & Meadows	40	11	28
Clintland Oats	55	11	20
Soil Testing for Fertilizer Application	61	10	16
2-4-D for Weed Control in Corn	65	6	9
Atrazine for Weed Control in Corn	11	1	9
Soil Conservation Service Farm Plan	30	2	7
Warfarin-Decon for Rat Control	65	3	5
Self-Unloading Wagon For Corn	46	1	2
Wheel-track Planting-corn	3	0	---
Auger Feeding for Livestock	13	0	---
Lindance or Benzine Hexachloride for Hog Mange Control	33	0	---
Total	449	60	13

Soil testing for fertilizer application, commercial fertilizer for pastures, and nitrogen-side-dressing of corn are among the five practices having the highest rates of discontinuance in Ohio. Of these three related soil practices, soil testing has the highest adoption but the lowest discontinuance. On the other hand, nitrogen-side-dressing of corn has the lowest adoption and the highest rate of discontinuance. This does not reflect a general relationship between the extent of adoption and discontinuance, but rather certain differences between the practices themselves. As a practice, soil testing depends on decisions with respect to a variety of crops and soil conditions, whereas fertilization depends only on decisions relating to specific crops. In its application soil testing thus is a more general practice than is the fertilization of specific crops.

The five practices that were highest in discontinuance also have certain characteristics in common compared to the remaining practices. All five have been in use for ten years or more, which increases the mathematical chance for farmers to stop using them. Moreover, a number of variable factors, such as the availability of liquid funds, credit, land on which the crop will be planted, size of acreage to be planted, etc., affect decisions to use the practices or some, for example soil testing, require relatively greater advance planning, which must be done each year. A variety of conditions, therefore, may lead to the disuse of one of these practices in any one year. If the conditions change, the farmer may use the practice again. The relatively high rates of discontinuance for these five practices thus quite probably reflect more the periodic nature of their application, especially by Laggards and Late Adopters, than that they have been completely rejected.

Ideas with lower percentages of discontinuance, such as a soil conservation farm plan, have been more completely integrated into long-range farm plans. In some cases, the ideas are relatively new and have had, as yet, a smaller chance to be discontinued. Or, there is less opportunity for frequent decisions as to their use.

Summary

Discontinued eventually occurs for all practices and among all farmers. Probably many discontinuances are justified. However, to avoid premature discontinuance the value of many innovations needs to be explained and integrated more fully into the farming programs of those who adopt them. This is especially true for farmers who are slow to adopt in the first place. Discontinuance is more likely where practices require multiple decisions and when adoption of a practice is affected by complex relationships to other farming operations.

Farmers will continue to take up new ideas and lay aside the out-moded and uneconomical practices. But if losses in effort, time and money because of unwise discontinuances are to be avoided, a more complete information and education program must accompany each innovation.