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The Influence of Managers' Qualifications upon the Efficiency of Work on Peasant Farms

Z. MAŁANICZ

Agricultural University, Warsaw, Poland

Two groups of factors influence the efficiency of work in agriculture. To the first belong all the factors which influence the yield of agricultural production, to the second, those which decrease the inputs of labour. Thus, an increase of efficiency can result from an increase of production or from a reduction of the number of people employed—or from both these factors simultaneously.

On the farms we investigated, divided into groups according to the level of education of the users, both factors were at work *.

In investigating the influence of the educational level (the basic element in a manager's qualification) upon the efficiency of work on peasant farms, the results of individual farms keeping agricultural accounts in 1957-1958 were studied. 1135 farms were analysed. They were divided into two groups. In the first were the farms where the farmers had 4-grade primary school education. In the second were those where the farmers had a 5-grade primary school education or more.

There were 388 farms in the first group and 747 in the second. Subsequently, the second group was divided again to make a group numbering 140 in which the farmers had secondary school education. Next, the influence of some factors which could have an essential bearing on the results of farming was eliminated from the whole. These factors were the natural conditions (soil fertility and climatic conditions), the size of farms and the land utilization. The conclusions drawn from the investigation in this field are as follows:

(1) The quality of soil in the different groups was very similar, so it appeared to have no significant influence upon the differences in the results. In all groups, however, the percentage of arable land was somewhat lower than it is for the conutry as a whole.

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* The efficiency of work is the sum of the products produced by the workers in a given unit of time. This is the "economic efficiency of work".

(2) The differences in climatic conditions, if any, between the groups were so insignificant that they could not influence the results.

(3) The structure of the farms so far as their size was concerned was similar in the first two groups but considerably different in the third. The percentage of small farms (up to 7 ha.) in this group was much lower than in the first and second groups, and there were 19.1% more farms of more than 10 ha. in size in the third group than in the first.

(4) The differences in land utilization between the groups were very small.

The farming results depending upon the educational level of the farmers are shown in Table 1.

Table 1. Agricultural Production Results

Denomination	Educational level of farmers				
	the value of products in zlotys per ha. of agricultural land			index (I group = 100.0)	
	I	II	III[a]	II	III
Total production	9571	10630	11533	111.1	120.5
Plant production	5121	5852	6237	114.3	121.8
Animal production	4433	4767	5288	107.5	119.3
Net production	4905	5492	5892	110.1	120.1
Final production	6422	7297	8075	113.6	125.7

[a]Similar in size structure as in group I.

As the education level varied, so

(1) A considerable increase in yield of all crops is evident.

(2) Changes in the distribution of cultivated crops took place. The share of cereals and potatoes decreased in favour of industrial crops, fodder crops, and others (among them the field cultivation of vegetables). Owing to yield increases the value of the production of cereals rose along with a decrease of area. Thus a decrease of cereal area was compensated for by an increase of yields.

(3) In the distribution of cereal crops there was an increase in wheat and barley and a decrease in rye.

(4) The share of industrial crops in the cropping was considerably higher than the average for the farms in the country as a whole. However, in the first group this increase comprised only 21.2%, in the second it amounted to 71.7% and in the third as much as 113.2%. These considerable increases in the growing of industrial crops on these farms took place simultaneously with the increase of yields.

(5) An analysis of the growing of fodder crops indicates a considerable increase of the area under alfalfa and clover in the second and third

groups, mainly at the expense of seradella. From the agricultural point of view this is fully justified.

From all these investigations it appears that along with the increase of the educational level of the farmers a general development and intensification of plant production took place.

Table 2. Labour Inputs in Agricultural Production

The educational level of the farmers	The number of people permanently employed in agricultural production		The work inputs on agricultural production per day					
			per farm			per ha. of agricultural land		
	per farm	per 100 ha. of agricultural land	total	family members	hired workers	total	family members	hired workers
I	3.20	40.5	518	507	11	65.7	64.3	1.4
II	2.91	34.9	505	459	46	60.5	55.1	5.4
III	2.91	27.0	548	455	93	50.8	42.2	8.6

Investigation of animal production indicated that along with the rise of educational level of the farmers:

(1) The value of animal production per ha. of agricultural land rose in all the size-groups of farms.

(2) There was an increase in the level of cattle, and especially of cow, rearing. The same can be said of hog production.

Table 3. Total, Net and Final Production per Work Day of One Person Employed on the Farms Investigated
(in zlotys)

Denomination	The educational level of farmers					
	I	taken as 100	II	index	III[a]	index
Total production	145.7	100.0	175.7	120.6	227	155.8
Net production	76.2	100.0	90.8	119.2	116	152.2
Final production	97.7	100.0	120.6	123.4	159	162.7

[a]The size structure of the farms identical with the first group.

(3) An intensification of milk production took place.

As a result of these investigations we come to the following conclusions. Along with the rise of the educational level of these farmers a many sided development and increase of agricultural production took place.

The labour inputs in the farms investigated are illustrated in Table 2.

The manual labour inputs per hectare of agricultural land were lower in the second group by 7.9% and in the third group by 22.7% than in the first group.

As appears from the data quoted, the increase of production per ha. of agricultural land took place with decreasing labour inputs. As stated before, both groups of factors upon which the efficiency of labour in agriculture depends were in operation here.

Along with the rise of the level of education of farmers a considerable increase of efficiency of work took place.