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A Premise for Investigating the Qualities of a Farm Manager by the Results of his Farming

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The Judge though tired through with company
Missed not a farmer's weighty duties. He
himself betook him to the well. For best
At eventide the master may review
The state of his livestock; not left he e'er
This overlooking to his servants; well
The judge knew master's eye makes fat the horse.

A. Mickiewicz — Master Thaddeus

One of the basic factors influencing the results of farming is the personality of the manager. Upon his personal qualities such as education, professional status, experience, organizational abilities, willingness and efficiency in action, ability to deal with people, devotion to work etc., depend to a great extent the achievements of the farm he runs. The importance of the personal qualities of managers has been dealt with in our country by a number of authors, among others by Górka-Niwiński [1], Hrycyk [2], Manteuffel [3], Moszczeński [4] etc. They have emphasized the influence of managers, especially in the field of the organization of the work and in the conscientious utilization of the means of production at their disposal. However not all the qualities of a manager can be measured, and it is therefore impossible to reduce them to a common denominator for a synthetic appraisal of their influence. That is why in this report only four very simple numerical qualities were taken into consideration for investigating the linkage between the results of farming with each of these qualities separately, namely:

- (1) The number of years of agricultural practice.
- (2) The number of years of work on a given farm.
- (3) The age of the manager.
- (4) Education.

For the appraisal of this relationship three indexes were taken: the rentability index, market production in zlotys per person employed, and

per ha. of agricultural land. These indexes were compared with the value of each particular manager's qualities. The aim was to verify the existing opinion that the personal qualities of a manager have or ought to have an influence upon the results of his farming. Further, an attempt was made to value these qualities and to use them as a basis for ranking the managers into two groups, the one highly likely to obtain results better than the average of all the farms, the other where for the time being one would expect results below this average. This was done by investigating

Table 1. Farms Investigated According to Voivodships

Voivodship	Number of state farms	Voivodship	Number of state farms
Białystok	80	Olsztyn	350
Bydgoszcz	323	Opole	56
Gdańsk	263	Poznań	206
Katowice	7	Rzeszów	81
Kielce	22	Szczecin	291
Koszalin	463	Warszawa	88
Lublin	70	Wrocław	375
Łódź	48	Total	2723

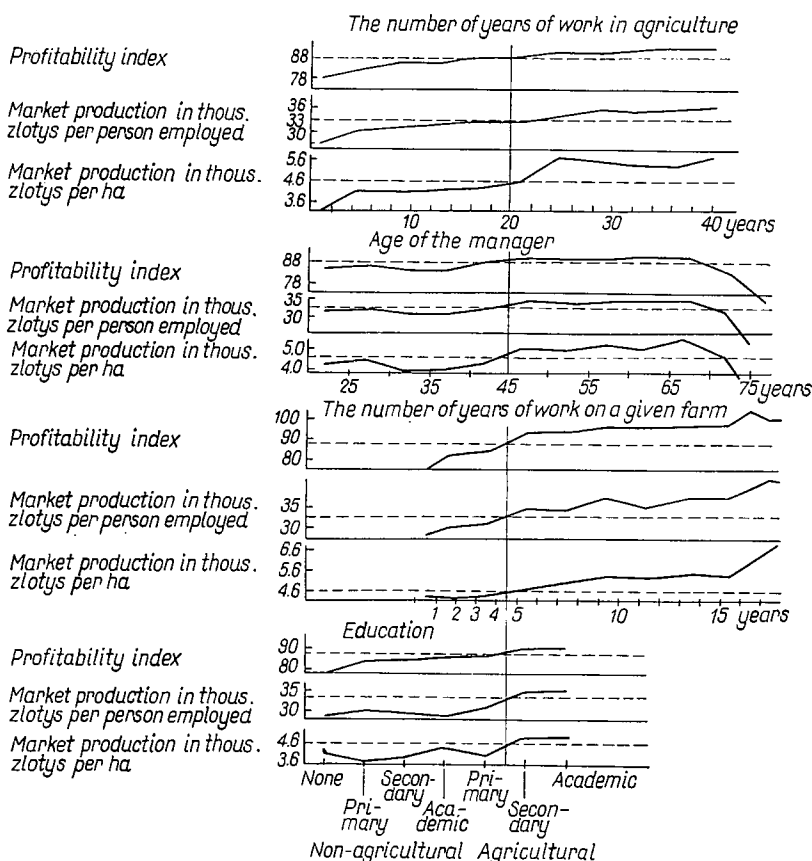
the graphs crossing the weighted averages of the various classes of qualities, to confirm the existence of, and to find out the characteristic points of the graphs so that the whole population could be divided into those distinctly better or worse, from the point of view of the standard of appraisal. It was decided to carry out this division depending on the relationship of the graph to the weighted average of all the farms investigated. The appraisal standards of the rate of influence of the several qualities of the managers upon the results obtained on the farms were chosen in such a way as to make it possible to take account of the aim of the state farms' operations, namely: the optimal market production taking economic considerations into account, indicating a logical dependence upon the manager's personality, eliminating so far as possible the influence of qualities other than those of the manager. It appears that all these requirements are fulfilled by the profitability index, i.e. the value of the farm production multiplied by 100 and divided by the cost of production. The value of market production per person employed measures to some extent the manager's ability in the organization of the work.

The value of production per ha., however, depends more perhaps than any other of these standards, upon other factors, and especially upon the natural conditions on the farms, although it is an expression of the manager's ability to adapt his production to the existing natural and economic conditions.

Investigations were carried out on the basis of data of the 1962-1963 period collected from 2723 state farms located throughout the country. Location of the farms according to voivodships is presented in Table 1. It should be added that the total number of farms was higher than this but some, where for various reasons it was impossible to obtain definite data, were rejected. Certain features which bore no substantial influence upon the results (as for instance the civil status of the managers) were also omitted.

DISCUSSION

A comparison of the weighted average indexes with the values of particular qualities showed a great correlation. Thus it is possible to determine a quite distinct boundary dividing the whole population into two groups in accordance with the aim of the work. More details are presented



The influence of manager's qualities upon the results of farming.

in the tables for particular qualities as well as in the figure illustrating the whole problem.

THE INFLUENCE OF THE NUMBER OF YEARS OF PRACTICE OF MANAGERS UPON THEIR RESULTS

Among the qualities of managers considered it appeared that experience, measured by the number of years of agricultural practice, was the quality most closely bound up with the results of farming. Calculations showed that this assumption was justified, because along with the increase in the number of years of practice the weighted averages of the various indexes also grew. The regularity of this correlation is illustrated in Table 2.

Table 2. Weighted Averages of Indexes According to the Number of Years of Managers' Agricultural Practice

The number of years of practice	Profitability index	Market production, thous. zlotys	Market production, zlotys per ha.	The number of managers	Percentage of managers
Up to 2	77.8	27.1	3155	84	3.1
3-6	82.2	30.3	3981	164	6.0
7-10	85.4	31.3	4053	347	12.7
11-14	85.0	31.5	4138	409	15.0
15-18	88.0	32.4	4175	471	17.3
19-22	88.2	32.6	4452	269	9.9
23-26	90.6	33.9	5619	323	11.9
27-30	91.3	35.4	5562	225	8.3
31-34	92.0	35.2	5427	122	4.5
35-38	92.9	35.6	5345	162	5.9
Over 39	93.1	36.1	5690	147	5.4
Total	88.0	32.0	4586	2723	100

Data presented in Table 2 and the corresponding graphs in the figure show a tendency of the weighted average indexes to increase along with the increase of years of agricultural practice. Comparing these values for particular groups of years with the average for the whole population it is possible to state:

(1) Up to 16 years of practice (the centre of the 15-18 class) the values of the average profitability index and the weighted average of market production per person employed ran constantly below the average for the whole population while from 17 years they were above this average. The group of managers with less than 16 years' practice comprised 46% of those investigated.

(2) Deviation of the lowest values of the indexes from the average was much greater than deviations of the corresponding highest values. This difference was greater in the lower group of years because in the group of 1 year's work in agriculture, where the number is 13 the weighted profitability index is 74.2 and the weighted market production per person employed, 25.0. Thus the first index is lower than the average by $88 - 74.2 = 13.8$, and the second by $32.8 - 25.0 = 7.8$. Corresponding deviations comprise, however, $93 - 88.0 = 5.0$ and $36.1 - 32.8 = 3.3$. This is illustrated also on the diagram by the shape of the graphs, which are steeper at the beginning. It would confirm to a certain extent observations of Górka-Niwiński [1] that the increment of professional knowledge takes place at a considerably quicker rate in the earlier years of practice than later. According to Górka-Niwiński's opinion the slackening of the increment takes place after 5 years. Data of the present work confirm that.

(3) The market production per ha. runs a somewhat different course because a distinct bending of the graph appears between 22 and 23 years of practice, and the difference between these two numbers of years comprises almost 1200 zlotys per ha. After that point the weighted market production per ha. is consistently a good deal higher than the average for the whole population, although the graph of this segment is somewhat depressed. The groups of years of more than 23 years embrace 35% of the population investigated.

THE INFLUENCE OF THE NUMBER OF YEARS OF WORK ON A GIVEN FARM

A knowledge of the productive capacity of any given farm, i.e. a thorough acquaintance with its locality, is an indispensable condition for achieving results. Each adjustment to new conditions, even an acquaintance with natural and economic conditions, with the psyche and capabilities of the working staff, even with highly experienced agriculturists and organizers, takes time during which losses through ignorance of the new conditions must be met. This is illustrated in Table 3.

There is a common opinion that at least 2 years are needed to get thoroughly acquainted with the production conditions of a farm. Our computations distinctly indicate, however, that it takes 4 years, because it was only after 5 years that the weighted indexes exceeded the average of the total population. A distinct turning point appeared between 4 and 5 years, because all indexes of the group of 5-6 years were higher than those of the class 3-4 years by over 11%. Groups of up to 4 years inclusive comprised more than 50% of the population. All the indexes showed a tendency to increase, as may be seen on the diagram, the market pro-

duction per hectare manifesting the least differences in increments. It is worth while to note that the profitability index exceeded 100 only after 17 years of constant growth of the weighted average.

THE INFLUENCE OF THE AGE OF THE MANAGER

The influence of the age of a manager should be a resultant of experience and efficiency. Data for the appraisal of this quality are presented in Table 4.

Table 3. Weighted Averages of Indexes According to the Number of Years of Work on a Given Farm

Number of years	Profitability index	Market production, thous. zlotys per person employed	Market production per ha.	Number of managers	Percentage of managers
Up to					
1 year	74.2	28.1	4192	13	0.5
1-2	81.7	30.3	4047	1058	38.9
3-4	84.1	31.3	4354	507	18.6
5-6	93.5	34.7	4835	427	15.7
7-8	94.8	34.7	5054	276	10.1
9-10	96.5	37.7	5280	125	4.6
11-12	96.6	35.3	5285	107	3.9
13-14	97.7	37.7	5462	78	2.9
15-16	97.9	37.5	5377	65	2.4
17-18	101.5	42.0	5581	37	1.3
19-20	100.6	39.4	5278	9	0.3
Over 20	103.1	42.6	7833	21	0.8
Total	88.0	32.8	4581	2723	100

In analysing the data presented in Table 4 and the corresponding graphs in the diagram it is possible to state that the whole population was divided into three groups, namely: (1) one up to 44 years of age where the weighted indexes reached values below the average of the whole population; (2) one from 45 up to 69 years where the weighted indexes were over the average of the whole population and showed a tendency to increase; (3) the group over 70 years, where the weighted averages were falling, and reached, after 75 years of age, the lowest of the whole population. The first group comprised 55.3, the second 44.3 and the third 0.4% of the whole population.

The frequent changes of farms may partly explain the poorer farming

results of the younger managers. These changes are the main reason why the time in a given farm is too short. A manager of a state farm begins to acquaint himself with the problems of his farm only on the day he starts work on it. The contrary is the case with individual farmers who have many opportunities to gain experience at the side of their fathers. Data presented in Table 3 show that good farming results can be obtained after 4 years' work on a given farm whereas the group of managers of up to

Table 4. Weighted Averages of Indexes According to the Age of Managers

The age of manager in years	Profitability index	Market production, thous. zlotys per person employed	Market production per ha.	Number of managers	Percentage of managers
Up to 24	84.5	31.7	4284	79	2.9
25-29	86.4	32.7	4471	138	5.1
30-34	84.3	31.4	3873	343	12.6
35-39	84.5	31.1	4001	415	15.2
40-44	88.6	31.9	4296	530	19.5
45-49	91.1	34.0	5143	356	13.1
50-54	89.6	33.9	5027	330	12.1
55-59	89.5	34.5	5266	286	10.5
60-64	90.7	35.1	5016	186	6.8
65-69	91.2	35.0	5560	50	1.8
70-74	89.3	32.1	4642	7	0.3
Over 75	75.0	21.7	2833	3	0.1
Total	88.0	32.8	4581	2723	100

30 years worked only 2.2 years on the same farm. A young manager is usually sent to a farm where the conditions of work are more difficult, and he therefore loses interest while looking for a more promising job. In that event a new young married manager who has children and is looking for a place with schools etc. comes to the farm.

While considering the influence of age it is advisable to pay attention to the fact that those managers who were 45 years old at the time when the data were collected were born in 1917. Thus, at the beginning of the Second World War they were 22 years old. Those who were 22 year old when the data were collected (the middle of the lowest class of age) were born in 1940. The question arises, therefore, whether the differences which appeared in the population investigated so far as this quality is concerned, were connected with the disturbances caused by the war. These doubts could be clarified only by a repetition of the investigation and a comparison of data then obtained with those considered here.

THE INFLUENCE OF MANAGER'S EDUCATION

A correlation between the farming results and the education of the farm managers are presented in Table 5 and in the figure.

On the basis of the data in Table 5 the whole population can be divided into two groups: (1) the managers with agricultural, academic and secondary education; (2) the rest of the managers.

In the first group all the weighted indexes are above the average. On the other hand, in the second group all the indexes are below it. The greatest differences appear in market production per ha., and in this respect both kinds of education in the first group differ also. The weighted indexes

Table 5. Weighted Averages of Indexes According to the Education of the Managers

Education	Profitability index	Market production per employed, thous. zlotys	Market production, zlotys per ha.	Number of managers	Percentage of managers
No education	78.0	29.1	4130	27	1.0
Non agricultural					
primary	85.2	30.6	3691	241	8.9
secondary	85.2	29.6	3898	206	7.6
academic	86.5	28.0	4450	20	0.7
Agricultural					
primary	86.3	31.4	4014	541	19.9
secondary	89.0	33.9	4826	1243	45.6
academic	90.1	34.5	5419	445	16.3
Total	88.0	32.8	4581	2723	100.0

show unequal dependence upon education. This is especially so in both indexes of market production. It may be assumed that these discrepancies were caused by the fact that managers with lower general education (non-agricultural) worked formerly at lower kinds of work (physical, for instance) and thus had a better knowledge of agricultural work. Thus they were able to organize it better than the other managers who had no agricultural education. As a result they obtained higher market production per person employed. The others, however, were better at seeing the opportunities for obtaining market production of higher value in zlotys per ha.

The group of workers with agricultural secondary and academic education comprised 62% of the whole population investigated.

FINAL REMARKS

The results of the appraisal of these particular qualities give a picture of a manager who did better than others or who exceeded the average

of the population investigated from the point of view of the qualities and indexes which we took into account. For a synthesis of the appraisal of managers' qualities an attempt was made to determine on the diagram a dividing line between the managers who qualified for the group which obtained better-than-average results and those who obtained worse. That line indicates the following values:

- (1) 20 years of agricultural practice.
- (2) Between 4 and 5 years of work on a given farm.
- (3) 45 years of age.
- (4) Between primary and secondary agricultural education.

In the figure the group whose qualities fall on the left of the dividing line did less well than the group with values to the right. Obviously, in both groups cases of obtaining better or worse results than the average occurred, but the division gives a high probability that the results will fall in conformity with the characteristics of the given group.

There is a possibility, however, that the dividing line would move to one side or the other if there were an increase in the number of cases or if the investigation were to be repeated in connexion with the suggestion made in discussing the age of the manager.

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