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# **The Human Factor in Agricultural Management**

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## **The Adoption of New Working Routines and the Speed of Adaptation of the Labour Input**

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The adoption of new labour saving working routines on a farm may have two main results. It makes it possible either to reduce the labour input or to increase the labour tasks. Of course an adaptation of labour input to the objective labour requirement after introducing new working routines may also be reached with a combination of these two possibilities.

The reduction of labour input need not result in all cases in a saving of wages or in distributing the residual labour income to fewer persons, either as a compensation for higher mechanization costs or to increase labour productivity. This is only possible if family or hired workers can be actually sent away at least as part-time workers outside the farm and receive their incomes in total or in part outside the farm.

The increase of labour tasks may result from more labour-intensive (root) crops instead of labour-extensive (cereals), and in this case normally no additional capital input is necessary. To increase labour tasks by increasing production, using more land, live-stock and buildings, involves a considerable amount of capital input.

In all cases this process of developing a farm is a challenge for a farm manager, where individuals—besides differences in objective factors and their influence—show different skill and success according to their abilities. Especially the speed of change from the old equilibrium to the new will be different for each individual and farm managers need time for adaptation.

An idea of how long it may take can be derived from a comparison of results of two investigations on the same problem on different occasions. The problem under investigation was the size of the gap between labour input and objective labour requirement [1, 2]. Results of the two occasions are listed in the Table. Methodological and data problems are discussed in detail in the original report which may be consulted [1, 2].

Besides the fact that the gap between labour input and labour require-

*Comparison of Development of Farm Groups with Less than 50 acres (20 ha.)*  
(AK/100 ha. = labour unit)

Land, farming type	Labour input	Labour requirement	Land, farming type	Labour input	Labour requirement
<b>Schleswig-Holstein</b>			GH 1956/57		
HG 1956/57	18.5	12.8	1965/66	20.2	11.3
1965/66	13.3	10.2	F 1956/57	16.1	8.1
GH 1956/57	17.2	12.4	1965/66	19.5	12.0
1965/66	10.8	9.0	1965/66	12.0	11.1
GF 1956/57	15.0	10.5	<b>Hessen</b>		
1965/66	10.2	8.1	H 1956/57	23.4	14.4
F 1956/57	13.3	7.7	1965/66	14.6	9.9
1965/66	10.9	7.4	HG 1956/57	23.3	14.1
<b>Nieder-sachsen</b>			1965/66	13.7	8.4
Z 1956/57	22.9	16.7	GH 1956/57	20.1	11.9
1965/66	13.8	10.6	1965/66	13.0	7.0
K 1956/57	21.8	14.2	F 1956/57	20.4	10.0
1965/66	14.8	11.2	1965/66	12.3	6.8
HG 1956/57	23.0	11.8	<b>Rheinland-Pfalz</b>		
1965/66	12.5	8.1	H 1956/57	23.2	13.5
HF 1956/57	17.7	10.5	1965/66	17.4	10.5
1965/66	13.4	8.2	HG 1956/57	20.7	12.0
GH 1956/57	18.6	11.1	1965/66	14.6	8.3
1965/66	11.3	7.7	GH 1956/57	19.0	11.6
F 1956/57	18.0	10.5	1965/66	12.8	7.2
1965/66	11.7	8.9	GF 1956/57	16.7	8.4
<b>Nordrhein-Westfalen</b>			1965/66	12.9	7.2
Z 1956/57	22.4	16.8			
1965/66	13.1	10.9			
HG 1956/57	21.1	13.9			
1965/66	14.4	9.3			
HF 1956/57	18.1	10.8			
1965/66	15.4	8.9			

*Note.* Farms with: Z — more than 25% sugar beets; K — more than 25% potatoes; H — more than 25% root crops; HG — more than 15-25% root crops, less than 50% foddercrops; HF — more than 15-25% root crops, more than 50% foddercrops; GH — more than 10-15% root crops, more than 30% cereals; GF — more than 0-15% root crops, 30-60% cereals; F — 60% foddercrops, less than 15% root crops.

ment has been reduced during the last 10 years, it is evident that the labour input in 1965-1966 in many cases corresponded approximately with the labour requirement in the former period, 1956-1957. In other words, our farms with less than 50 acres (20 ha.) could be worked with the labour input of today and with the degree of mechanization available in 1956-1957, that is with a much lower degree of mechanization than is really available today. Mechanization therefore runs almost ten years ahead to the actual labour input.

However, the samples of farms for the two periods of the investigation

may not be identical. It can be assumed that some of the farms of 1956-1957 were switched over to other groups according to farm size or to farm type (by intensification or extensification of land use). On the other hand, smaller farms (by combining two size groups) may have expanded into these groups, and it cannot be said how these differences balance out. It may be assumed that the speed of adaptation is rather higher on average than would appear from the comparison, because the better farm managers especially develop their farms by expansion and intensification and so disappear from their original groups in the statistics. This hypothesis that better farmers do this instead of reducing their labour forces is suggested, because on family farms with only two persons or even fewer at work the possibility of reducing the labour force is slight unless part-time jobs are taken outside the farms, a possibility which is of course limited and not available for all farms with shortage of land.

For the extrapolation of the results of the past period with respect to speed of adaptation it must be considered that in the past it was possible to some extent to diminish the labour force on family farms by reducing the number of workers. In future the process of adaptation may be more difficult, because it must be done increasingly in the more difficult way of capital investment in land, buildings and livestock and because market capacity, the ability to sell all that is produced at acceptable prices, is limited too.

A further differentiation of the development process and a higher impact of managerial ability is evident.

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