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# *Economic possibilities in the integrated wheat production through the agri-environment measures in a Hungarian agricultural enterprise*

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**Keywords:** agri-environment measures, integrated target scheme, cost, earning capacity.

## *Summary findings, conclusions, recommendations*

The payment amount of the entry level scheme significantly exceeds the additional costs which arise from abiding by the regulations and with this the financial situation and competitiveness of the viable agricultural enterprises may improve.

Based on the pre-calculation in relation to the fortuituous entry into the integrated target scheme it can be concluded that the additional cost determined by the target scheme would only use up just about half of the surplus payment allotted through the integrated target scheme.

It is well-worth to make use of the opportunities given by these schemes, because through them the enterprise can obtain a regular, secure and significant income.

## *Introduction*

The agricultural producers receive significant payments from the Central government budget, and the from the co-financer EAGGF in case they agree to carry out their activities in accordance with the environment protection regulations. By joining the target schemes and by agreeing to the obligations those opting for the integrated ploughland entry level scheme have received in the past and may receive in the near future a significant payment (133.33 EUR/hectare).

I wanted to examine the advantages and consequences of entering the ploughland entry level scheme with the help of the cost and the turnover data by taking a medium agricultural enterprise of 1900 hectares in the county of Veszprém, and I also wanted to make a calculation for the same enterprise in the event of it fortuituously joining the integrated scheme.

## *Research materials and methods*

We have analysed the economic data applying the second method based on the data supplied by AGRO-BITVA Ltd. (calculation of product costing, annual report, balance, annexes).

## *Results*

Since the introduction of the basic programme an increase in crop average can be detected (this is most likely due to surplus of fertilizer) despite the fact that the examined years were years of drought and the effect of bad forecrop was felt too.

From such low-number data far reaching conclusions must not be drawn, and it cannot be talked about as a trend.

We have examined the results of the company in the case of wheat in the past 3 years (Table 3).

Table 1

**Comparison of crop averages**

	2003	2004	2005	2006
Average of Ltd.	3.3	3.9	3.8	3.8
Average of Veszprém county	2.1	4.2	4.3	3.7
National Average	2.7	5.2	4.6	4.1

Source: www.akii.hu and own research

Table 2

**The wheat sowing areas of the Ltd. and the average yield**

	2003	2004	2005	2006
Sowing area (he)	321	283	300	291
Total crop (t)	1062	1100	1150	1106
Crop average (t/he)	3.3	3.9	3.8	3.8

Source: own research based on the company's statements

Table 3

**Results of the Ltd. in wheat production**

	2003	2004	2005
Yield (HUF)	24,500,260	27,208,471	26,236,928
Cost (HUF)	26,419,803	36,106,951	33,701,853
Direct cost (HUF/t)	23,760	30,520	29,540
Income (HUF)	-1,919,543	-8,898,480	-7,464,925
Income (HUF/he)	-5,980	-31,443	-24,883

Source: own research based on the company's statements

It can be concluded that wheat production was loss making in every year at the Ltd.

I got a totally different picture when I added the amount payment per hectare

to the income per hectare. In this case it can also be seen as to what extent earning capacity had improved.

Table 4

**The yield of wheat production with and without payment**

	2003	2004	2005
Net earnings of wheat production per hectare (HUF /he)	-5,980	-31,443	-24,883
Amount of subsidy (HUF /he; eur:235 HUF)	0	0	23,000
Income from wheat together with subsidy (HUF /he)	-5980	-31,443	-1883

Source: own research based on the company's statements

*Agri-environment measures:*

We have come to the conclusion that the otherwise loss making wheat production is significantly compensated by the payment amount in 2005.

However these results have to be differentiated further because participation in the target scheme comes with significant additional costs:

Table 5

**The costs of meeting the regulations of the entry level scheme**

	For the whole area (HUF)	Specific
		(HUF /he)
<b>Subsidy</b>	<b>43,700,000</b>	<b>23,000</b>
Costs		
Additional cost of soil analysis (extensive )	120,000	63
Additional cost of pesticide	1,850,000	974
Surplus of subsequent delivery of nutrients	12,830,000	6,753
Additional cost due to prohibition of monoculture (+ heavy wheeling,+ soil cultivation post ploughing): on 450 acres	2,680,000	5,956
Additional cost of surplus administration	500,000	263
<b>Total cost</b>	<b>17,980,000</b>	<b>14,009</b>
<b>Result</b>	<b>25,720,000</b>	<b>8,991</b>

Source: own research

We can however also look at the taxed result per year of the company and the result according to the the balance be-

cause they show the effect of the payments on the company's financial situation well.

Table 6

**The results of Agro Bitva Ltd**

	2002	2003	2004	2005
Taxed result (Thou. HUF)	1,131	-12,370	-56,036	77,352
Result according to balance (Thou.HUF)	1,131	-12,370	-56,036	74,319

Source: own research based on the company's statements

Finally we have calculated and examined the activity, earnings, the more important indicators regarding its financi-

al condition concerning the last „unsubsidized” year and the year that followed it.

Table 7

**Major index for 2004-2005**

Indicators	Comprehension of indicators	2004.	2005.
Earning capacity of total capital (%)	(pre-taxation result + paid interest/ resources) *100	-9.77	21.10
Earning capacity of owners'equity (%)	(pre taxation result/ owners'equity)*100	-28.32	39.09
Cash-flow (1000 HUF)	result acc.to balance + devaluation write off	-35,535	103,286
Liquidation rate	working assets/ short-life obligations	0.91	1.01
Ratio of owners'equity (%)	(owners'equity / resources *100	49.02	57.16
Capitalization (%)	(owners'equity / invested assets)*100	81.44	94.79

Source: own research based on the company's statements

As an end result it can be concluded that the payment made accessible through the entry level scheme does not only cover the additional costs which arise from the compliance with environmental regulations and the higher production standard, but it also significantly increases the earning capacity of the economic organization as well, which can be the foundati-

on for the introduction of an environment-friendly, chemical-economic technology in the future.

*Integrated plant production target scheme:*

We have prepared an analysis for the Ltd in case they would take on the obligations of the integrated scheme.

Table 8

**The additional costs of the compliance with the regulations of the integrated target scheme and the amount of payment**

	For the whole area: 1900 hectare (HUF/year)	Specific (HUF/hectare /year)
<b>Payment</b>	<b>+17,784,000</b>	<b>+9,360</b>
Costs		
Cost of forecast (registering soil dwellers, traps, registering weeds)	-3,800,000	-2,000
Surplus cost of full-scope soil analysis (compared to the extensive one)	-931,000	-490
Additional cost of more expensive pesticides	-2,500,000	-1,315
<b>Total cost</b>	<b>-7,231,000</b>	<b>-3,805</b>
<b>Result</b>	<b>+10,553,000</b>	<b>+5,555</b>

Source: own research (beginning of 2007 Eur: 265 HUF)

It can thus be concluded that only about half of the surplus payments would be used up by the additional costs that arise from complying with the set obligations of the target scheme however, it also demands significant extra work.

We can be expected that the agricultural producers will henceforward receive the support of the field subprogram until

2009. Hopefully the applications will be published again for the next period, 2009-2013. In our opinion it would be more advantageous for the examined enterprises to apply for a special integrated program, because during the basic program the company prepared for meeting the higher level requirements of the program.

### *References*

(1) <http://www-akii.hu/>

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