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m.milerski@seznam.cz

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Effect of new support regime on sheep production profitability in the Czech Republic.

M.Milerski¹, V.Mátlová¹, J.Kuchtík², V. Mareš³,

¹Research Institute of Animal Production, Přátelství 815, 10401 Prague -Uhřetěves, Czech Republic,

²Mendel University of Agriculture and Forestry, Zemědělská 1, 61300, Brno, Czech Republic.

³Sheep and Goats Breeders Association in CR, Palackého 1-3, 61242, Brno, Czech Republic.

Introduction

Since the year 1990 huge transformations of sheep production systems in the Czech Republic have occurred. Wool sheep breeds (Merino), which represented 63% of total number of sheep kept in CR in 1990, have been replaced by breeds of meat or combined utilization. (Table 1) The number of sheep decreased from 430.000 in 1990 to 84.000 in 2000. In 1998 the direct subsidies paid by Government per ewe kept in Less Favoured Areas (LFA) were introduced. In years 2000-2002 the individual payment per ewe was 2000 Czech crowns (Kč) in mountain areas and 1500 Kč in other LFAs. As the response to that arrangement the number of sheep increased up to 103.000 in 2003 according to the official statistics (Table 2).

Table 1: Changes in breed structure of sheep population in the Czech Republic in %

Year	Type of breed			
	Wool	combined utilisation	meat	prolific and dairy
1990	62.9	36.4	0.6	0.1
1995	1.9	70.6	25.8	1.7
2000	0	61.2	34.3	4.5
2003	0	57.0	36.0	7.0

Table 2. Changes in numbers of sheep in the Czech Republic

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
N (x1000)	430	429	342	254	196	165	134	121	94	86	84	87	96	103

Subsidies available for sheep farmers in 2002-2003

(without ecological farming and national parks)

Ewe premium (pastured animals)

Mountain areas up to 2000 Kč/ewe $\cong$ 63.0 €/ewe

Other LFAs up to 1500 Kč/ewe $\cong$ 47.3 €/ewe

Pasture premium

0.400-0.800 livestock unit(LU)/ha 1500 Kč/ha $\cong$ 47.3 €/ha

0.801-1.500 LU/ha 2100 Kč/ha $\cong$ 66.2 €/ha

Defavorized areas (LFA) – grasslands (0.2-1.5LU/ha)

Mountains 1 2067-3100 Kč/ha $\cong$ 65.1-97.7 €/ha

Mountains 2 1867-2800 Kč/ha $\cong$ 59.1-88.2 €/ha

Other LFAs 1	1800-2700 Kč/ha	≅56.7-85.1 €/ha
Other LFAs 2	1667-2500 Kč/ha	≅52.5-78.8 €/ha
Other LFAs 3	1467-2200 Kč/ha	≅46.2-69.3 €/ha
Other LFAs 4	800-1200 Kč/ha	≅25.2-37.8 €/ha

Livestock units in 2002 – 2003

Ewe, ram at last 12 month old	0.2 LU
Lamb up to 12 month of age	0.1 LU

Structure of subsidies in 2004

In year 2004 new support regime was introduced. Number of supported ewes is quoted (individual limits). The national quota for the CR is 66 733 individual limits despite the fact that the number of ewes over 1 year of age registered 31.12.2003 in the central database was 96.000. Due this fact the farmers in mountain got 100% of proclaimed individual limits, but the farmers in other LFAs got only individual limits equal to 80% of the registered ewes and farmers outside the LFA only 60% of registered ewes. The individual payment per one individual limit (ewe) in 2004 was 700 Kč (22€).

Subsidies available for sheep farmers in 2004

(without ecological farming and national parks)

Ewe Premium (quotas - individual limits)

700 Kč/ewe	≅22.0 €/ewe
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Direct payment per ha of agricultural land (expectation)

Cca 1800 Kč/ha	≅56.7 €/ha
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Pasture premium

0.5 -1.0 LU/ha	2890 Kč/ha	≅ 91.0 €/ha
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Meadows premium (alternative to pasture premium)

>0.2 LU/ha	1920 Kč/ha	≅ 60.5 €/ha
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Defavorized areas (0.15-1.5LU/ha)

Mountains A	4680 Kč/ha	≅ 147.5 €/ha
Mountains B	4014 Kč/ha	≅ 126.5 €/ha
Other LFAs – A	3490 Kč/ha	≅ 110.0 €/ha
Other LFAs - B	2820 Kč/ha	≅ 88.9 €/ha

Livestock units in 2004

Sheep – all categories	0.15 LU
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Example of sheep farmers incomes structure in years 2002 and 2004.

Structure of sheep farmer incomes depends on region and the livestock density. At tables 3-6 examples of farmers incomes structure in mountain, submountain and lowland areas in years 2002 and 2004 are compared. 1.5 of reared lambs per ewe and constant income for sheep products sold per ewe are assumed. According to Bucek et al. (2004) in commercial sheep flocks the slaughter lambs present 91%, slaughter ewes 6% and wool 3% of incomes from selling sheep products.

Table 3: Example - structure of incomes of sheep farmers in years 2002 and 2004 according to density of ewes per ha of grassland – Mountains – A - in €

2002										
Ewes per ha	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Lambs per ha	0,75	1,50	2,25	3,00	3,75	4,50	5,25	6,00	6,75	7,50
LU per ha	0,18	0,35	0,53	0,70	0,88	1,05	1,23	1,40	1,58	1,75
Products sold	33,3	66,7	100,0	133,4	166,7	200,1	233,4	266,7	300,1	333,4
Pasture prem.	20,7	41,4	47,3	47,3	66,2	66,2	66,2	66,2	0,0	0,0
LFA premium	0,0	83,3	83,3	83,3	83,3	83,3	83,3	83,3	0,0	0,0
Ewe premium	27,6	55,1	94,5	126,0	157,6	189,1	220,6	252,1	0,0	0,0
Totally per ewe*	163,2	246,5	216,7	195,0	189,5	179,5	172,4	167,1	66,7	66,7
Totally per ha	81,6	246,5	325,1	390,0	473,7	538,6	603,4	668,3	300,1	333,4
2004										
Ewes per ha	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5
Lambs per ha	0,75	1,5	2,25	3	3,75	4,5	5,25	6	6,75	7,5
LU per ha	0,19	0,38	0,56	0,75	0,94	1,13	1,31	1,50	1,69	1,88
Products sold	33,3	66,7	100,0	133,4	166,7	200,1	233,4	266,7	300,1	333,4
Pasture prem.	34,1	68,3	91,1	91,1	91,1	0,0	0,0	0,0	0,0	0,0
Meadows prem.	37,8	15,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
LFA premium	147,5	147,5	147,5	147,5	147,5	147,5	147,5	147,5	0,0	0,0
Ewe premium	11,0	22,1	33,1	44,1	55,1	66,2	77,2	88,2	99,3	110,3
Direct paym./ha	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7
Totally per ewe*	641,1	376,4	285,6	236,4	206,8	156,8	147,1	139,8	101,3	100,1
Totally per ha	320,5	376,4	428,4	472,7	517,1	470,4	514,8	559,2	456,1	500,4

Note: * in €/ewe

Table 4: Example - structure of incomes of sheep farmers in years 2002 and 2004 according to density of ewes per ha of grassland – Other LFA – A (Submountain areas) in €/ha

2002										
Ewes per ha	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5
Lambs per ha	0,75	1,50	2,25	3,00	3,75	4,50	5,25	6,00	6,75	7,50
LU per ha	0,18	0,35	0,53	0,70	0,88	1,05	1,23	1,40	1,58	1,75
Products sold	33,3	66,7	100,0	133,4	166,7	200,1	233,4	266,7	300,1	333,4
Pasture prem.	20,7	41,4	47,3	47,3	66,2	66,2	66,2	66,2	0,0	0,0
LFA premium	0,0	72,5	72,5	72,5	72,5	72,5	72,5	72,5	0,0	0,0
Ewe premium	20,7	41,4	70,9	94,5	118,2	141,8	165,4	189,1	0,0	0,0
Totally per ewe*	149,4	221,9	193,8	173,8	169,4	160,2	153,6	148,6	66,7	66,7
Totally per ha	74,7	221,9	290,7	347,6	423,5	480,5	537,5	594,5	300,1	333,4
2004										
Ewes per ha	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5
Lambs per ha	0,75	1,5	2,25	3	3,75	4,5	5,25	6	6,75	7,5
LU per ha	0,19	0,38	0,56	0,75	0,94	1,13	1,31	1,50	1,69	1,88
Products sold	33,3	66,7	100,0	133,4	166,7	200,1	233,4	266,7	300,1	333,4
Pasture prem.	34,1	68,3	91,1	91,1	91,1	0,0	0,0	0,0	0,0	0,0
Meadows prem.	37,8	15,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
LFA premium	126,5	126,5	126,5	126,5	126,5	126,5	126,5	126,5	0,0	0,0
Ewe premium	8,8	17,6	26,5	35,3	44,1	52,9	61,8	70,6	79,4	88,2
Direct paym./ha	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7
Totally per ewe*	594,7	351,0	267,2	221,5	194,0	145,4	136,7	130,1	96,9	95,7
Totally per ha	297,3	351,0	400,8	442,9	485,1	436,2	478,4	520,5	436,2	478,4

Note: * in €/ewe

Table 5: Example - structure of incomes of sheep farmers in years 2002 and 2004 according to density of ewes per ha of grassland – Areas outside LFA (lowland areas) - in €/ha

2002										
Ewes per ha	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0
Lambs per ha	0,75	1,50	2,25	3,00	3,75	4,50	5,25	6,00	6,75	7,50
LU per ha	0,18	0,35	0,53	0,70	0,88	1,05	1,23	1,40	1,58	1,75
Products sold	33,3	66,7	100,0	133,4	166,7	200,1	233,4	266,7	300,1	333,4
Pasture prem.	20,7	41,4	47,3	47,3	66,2	66,2	66,2	66,2	0,0	0,0
LFA premium	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Ewe premium	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Totally per ewe*	108,0	108,0	98,2	90,3	93,2	88,7	85,6	83,2	66,7	66,7
Totally per ha	54,0	108,0	147,3	180,6	232,9	266,2	299,6	332,9	300,1	333,4
2004										
Ewes per ha	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5
Lambs per ha	0,75	1,5	2,25	3	3,75	4,5	5,25	6	6,75	7,5
LU per ha	0,19	0,38	0,56	0,75	0,94	1,13	1,31	1,50	1,69	1,88
Products sold	33,3	66,7	100,0	133,4	166,7	200,1	233,4	266,7	300,1	333,4
Pasture prem.	34,1	68,3	91,1	91,1	91,1	0,0	0,0	0,0	0,0	0,0
Meadows prem.	37,8	15,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
LFA premium	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Ewe premium	6,6	13,2	19,9	26,5	33,1	39,7	46,3	52,9	59,6	66,2
Direct paym./ha	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7	56,7
Totally per ewe*	337,3	220,1	178,4	153,8	139,0	98,8	96,1	94,1	92,5	91,3
Totally per ha	168,6	220,1	267,7	307,6	347,6	296,5	336,4	376,4	416,4	456,3

Note: * in €/ewe

As could be seen in tables 3,4 and 5 under the new support regime relatively more money are paid on land and less directly on ewes than under the former system of subsidies in the Czech Republic. In lowland areas the total amount of incomes from sheep farming is higher now than before. In Less Favourable Areas with lower ewes density the new support regime bring also more money to farmers, on the contrary under average ewe density cca 3-4ewes/ha of grasslands the total income of farmer is less than before.

Conclusions

New support system is focused more on land payment and less on headage payment on ewe than old one. In the majority of cases the sheep farmers total incomes are higher under the new support system. The reasonable and stable system of subsidies is important for landscape management and sustainable development of sheep production in the Czech Republic.

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