THE USE OF BARREN LANDS – SOURCE OF IMPROVING FORAGE BASE IN ORDER TO ENSURE THE OPTIMUM MILK CONSUMPTION

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Abstract

Country's arable land is 8.4 million hectares, of which 1.26 million hectares (15%) are barren. Average recommended consumption of milk is 240 l/year/person, while in developed countries it is between 280 and 440 l/year/person. The objective of this paper is to determine whether cultivating barren lands could bring an increase of production so as to ensure an optimum consumption of milk and dairy products. If the barren lands from the NE area of development would be cultivated with forage crops, it might get a production of about 873 thousand t of fodder. In Neamt county, from the use of barren lands, the optimal consumption for milk and dairy products should be provided (303 l/inh.), counties such as Suceava and Botosani making even surplus yields (740 l/inh., respectively 528 l/inh.). In Iasi, Vaslui and Bacau counties, it could only be realized a minimum or a little over minimum consumption (192 l/inh, 210 l/inh., 207 l/inh.).

Key words: forrage base, milk consumption, barren lands

MATERIALS AND METHODS

The methodology used in the paper had the specific marketing methods and geo-economic study based on the investigated area, direct observation, agricultural statistics, analysis of comparative economic record, economic experiment, monographic method, simple division method and comparison method, analysis and synthesis.

The study was conducted based on data reported by Romania's Central Technical Secretariat from General Agricultural Census, which took as the reference date 1st of December 2010. Barren lands are agricultural lands that have not been worked in the reference year of the census, were not included in the rotation system and it is not maintained in good agricultural and environmental conditions. The analysis was made on the North-East region of development, which includes the counties Bacau, Botosani, Iasi, Neamt, Suceava and Vaslui.

RESULTS AND DISCUSSIONS

Although Romania is the middle ranking of the largest milk producing country, with a volume of 232 l / capita, ahead of most markets in the region and on a level with England and the Czech Republic, local industry is insignificant in the market milk of European Union. Only 1 in 5 liters of milk reaches the processing industry and 40% are for self-consumption.

According to Eurostat, the whole country, in 2010, fallown land totaling 904,000 hectares. If it...
had cultivated with forage crops could get a yield of about 9040000 t. This production could feed a herd of about 496,703 dairy cows.

Average milk production throughout the country is 3528 l / head, we may appreciate that after cultivation of fallown land, we could get a surplus of milk production of about 17.522 million hl.

Adding the existing surplus production 3.944 million tons, we obtain a value of 39457.5 million hl. This production involves milk consumption of about 183 l / capita, a value much closer to the optimal consumption of milk and dairy products.

In the NE region, the largest area of fallown land is located in Bacau, while in Suceava County there is the lowest area of fallown land (figure 1).

In case the barren land would be cultivated with forage crops (table 1), the production obtained by each county would have the following values:

- Iasi: 7.1 • 9087.38 = 64520.4 to;
- Vaslui: 11.2 • 15886.57 = 177929.6 to;
- Bacau: 15.9 • 24225.57 = 385186.5 to;
- Suceava: 17.2 • 2320.63 = 39914.8 to;
- Botosani: 11.3 • 12514.32 = 141411.8 to;
- Neamt: 12.1 • 5312.42 = 64280.3 to.

The total development area of forage production derived from barren land cultivation would be 873240.4 to.

Average consumption per fed cattle is 50 kg fodder x 365 days = 18.2 to. In these conditions, the production of feed obtained from cultivation the barren lands can feed a herd of around 48 thousand heads: Iasi: 64520.4 : 18.2 = 3545 heads; Vaslui: 177929.6 : 18.2 = 9776 heads; Bacau: 385186.5 : 18.2 = 21164 heads; Suceava: 39914.8 : 18.2 = 2193 heads; Botosani: 141411.8 : 18.2 = 3532 heads; Neamt: 64280.3 : 18.2 = 3532 heads (table 2).
Table 2

Total milk yield obtained from cultivation of barren lands

<table>
<thead>
<tr>
<th>County</th>
<th>Present livestock (heads)</th>
<th>Present average yield (l/head)</th>
<th>Total yield (thou. hl)</th>
<th>Suplimentary livestock (heads)</th>
<th>Total suplimentary yield (thou. hl)</th>
<th>Total feasible yield (thou. hl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iasi</td>
<td>70676</td>
<td>2143</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Vaslui</td>
<td>52890</td>
<td>1509</td>
<td>1514</td>
<td>3554</td>
<td>76</td>
<td>1590</td>
</tr>
<tr>
<td>Bacau</td>
<td>59781</td>
<td>1839</td>
<td>1099</td>
<td>21164</td>
<td>389</td>
<td>1488</td>
</tr>
<tr>
<td>Suceava</td>
<td>147624</td>
<td>3493</td>
<td>5156</td>
<td>2193</td>
<td>77</td>
<td>5233</td>
</tr>
<tr>
<td>Botosani</td>
<td>99958</td>
<td>2200</td>
<td>2199</td>
<td>7770</td>
<td>171</td>
<td>2370</td>
</tr>
<tr>
<td>Neamt</td>
<td>67877</td>
<td>2389</td>
<td>1621</td>
<td>3532</td>
<td>84</td>
<td>1705</td>
</tr>
<tr>
<td>Vaslui</td>
<td>498806</td>
<td>13130</td>
<td>12387</td>
<td>47989</td>
<td>944</td>
<td>13331</td>
</tr>
</tbody>
</table>

7 = 4 + 6

Figure 2 Evolution of total milk production before and after cultivating fallown lands (thou. hl)

After ensuring an optimum milk consumption of 300 l/inh., in Suceava and Botosani counties can be noticed an excedent of 440 l/inh., respectively 228 l/inh. Meanwhile, milk production in Neamt county could not be excess. In Iasi, Vaslui and Bacau counties, it could only be realized a minimum or a little over minimum consumption (192 l/inh, 210 l/inh, 207 l/inh) (table 3).

Table 3

Consumption of milk and dairy products per capita after cultivated barren lands

<table>
<thead>
<tr>
<th>County</th>
<th>Milk yield (thou. hl)</th>
<th>Population (inh.)</th>
<th>Consumption/inh. before cultivating barren land</th>
<th>Consumption/inh. after cultivating barren land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iasi</td>
<td>1590</td>
<td>829973</td>
<td>182</td>
<td>192</td>
</tr>
<tr>
<td>Vaslui</td>
<td>945</td>
<td>450269</td>
<td>177</td>
<td>210</td>
</tr>
<tr>
<td>Bacau</td>
<td>1488</td>
<td>716176</td>
<td>153</td>
<td>207</td>
</tr>
<tr>
<td>Suceava</td>
<td>5233</td>
<td>706720</td>
<td>729</td>
<td>740</td>
</tr>
<tr>
<td>Botosani</td>
<td>2370</td>
<td>448423</td>
<td>490</td>
<td>528</td>
</tr>
<tr>
<td>Neamt</td>
<td>1705</td>
<td>562489</td>
<td>288</td>
<td>303</td>
</tr>
</tbody>
</table>

CONCLUSIONS

The total forage yield derived from cultivation of barren lands, per total development area would be 873,240.4 to, production with which dairy herds could increase by about 10 %. Milk production obtained from this livestock would be of 944 thousand hl, which would ensure optimum consumption in the counties of Suceava, Botosani and Neamt and ensure a minimum consumption for...
counties Iasi, Vaslui and Bacau. The highest per capita consumption growth is recorded in the county of Bacau, Vaslui county with 35 % and about 19 %, this due to the large surface of barren area.

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