

*PN-II-ID-PCE-2007-1/ID 676*  
*The study of the local population of sheep raised in the North-East of the country,  
for meat improving production*  
**2007 RESEARCH REPORT**

**Executive Unit for Financing the Higher Education and University Researches  
(UEFISCSU)**

**Programme: PN-II-ID-PCE-2007-1**

**Project type: Exploratory research - IDEAS**

**Project code: ID 676**

**Financing: State budget – National Plan of Research, Development and  
Innovation - II**

**Contractor: University of Agricultural Sciences and Veterinary Medicine - Iasi**

**Topic: *The study of the local population of sheep raised in the North-East of the  
country, for meat improving production***

**Project manager: Prof. dr. PASCAL CONSTANTIN**

**2007 RESEARCH REPORT**

**Summary:**

**Introduction**

**Material and method**

**Results of investigations and discussion**

**Conclusions**

**Bibliography**

**The study of the local population of sheep raised in the North-East of the country,  
for meat improving production  
2007 RESEARCH REPORT**

## **INTRODUCTION**

Sheep meat production is a major concern justified by the fact that Romania ranks 5 in Europe in the number of sheep owned why they should take full advantage of this and try to win a place on the market World sheep. But to see real progress in raising sheep for meat production must be a correct assessment of the situation and update this sheep production, future trends which will be added and other major concerns which will serve to highlight potential Specific production of local populations for their meat.

For the initial phase of the project implementation plan were planned objectives and associated activities will serve to highlight the current situation outlined in sheep meat production.

## **MATERIAL AND METHOD**

**Biological material** was represented by indigenous sheep breeds and populations growing in agricultural and livestock farms located in the area represented by the Northeast Region of the country. For a correct assessment of the specific activities of all elements included in the objectives of the project implementation plan, assessments were sheep belonging to all age groups present in flocks at that time (fall 2007).

**Working methods** were appropriate for this kind of determination. Thus, to assess the situation, applied technology growth, factors, processes and future trends outlined in various areas and pools of sheep, especially meat, were designed questionnaire which included questions about the current situation to be recorded in sheep and others that have sought to find what they want to gain from increasing the main species of sheep breeders.

In assessing the main features on morphological features of sheep, in relation to meat production measurements and determinations were made of sheep body weight, according to age group. To accurately assess the exterior and other morphological features were made measurements of mass and conformation on adult and youth livestock were performed and measurements of growth.

The data were centralized and processed statistically, and were developed based on their preliminary findings.

## **ACHIEVED RESULTS**

### **GOAL I.**

**The evaluation of the current situation, of the technologies of applied rearing, of the factors, processes and the future tendency loomed in different zones and sheep raising areas, especially for meat**

Fulfillment of specific activities to achieve the first objective of the project plan was based on a laborious investigation and interviewing of key farmers in the area, referring to meat production, trying to take this opportunity to learn which are the major concerns that occurred in sheep new conditions in the form of ownership of cattle and agricultural land is very much changed from the period before 1990.

Questions in the questionnaire were referred to general issues but also other specific sheep for meat production. Were interviewed sheep are in all counties of the region northeast of the country regardless of their herd size, the main direction of sheep or membership of certain professional structures. Also, in order to deliver relevant conclusions, I insisted during the study to obtain complete answers, clear and concise.

### **QUESTIONNAIRE**

1. What is the size of your herd?
2. Do you consider to increase the flock on medium term?
3. What is the age structure of the flock?
4. Sheep are included in the Official Control?
5. Do you rear sheep for milk, wool or meat?
6. Do you accept to import crosses rams strain with good skills for meat production?
7. What is the technology applied in fattening sheep?
8. Do you apply rational feeding in fattening sheep?
9. Do you buy concentrates to feed the sheep?
10. What is better for you: to sell live animals or slaughtered?
11. What weight should be harnessed sheep to get the best price?
12. Which age group is more appreciated for meat production and selling?
13. What is the calendar that are required for sheep meat?
14. Acquisition price of living sheep are different depending on the stage of weight gain?
15. Between local populations of sheep there are differences in price when valuing for meat?
16. Recovery of live sheep for slaughter is based on grading?
17. If you sell carcasses, where the sheep are slaughtered?
18. What do you do with meat produced?
19. Veterinary treatments are effective according to the protocol?
20. Analyses are made mandatory for control of meat in a timely and efficient?
21. What is the dressed weight (approximately)?
22. Which part is best-selling as carcass cut?
23. Which part is the least required cut?
24. If you want to slaughter animals in a slaughterhouse, how far it should go through to get to it?
25. How do you carry animals away?
26. Consider that foreign purchasers are a viable solution when valuing sheep for meat?

**The study of the local population of sheep raised in the North-East of the country,  
for meat improving production  
2007 RESEARCH REPORT**

27. Is profitable sheep breeding for meat production?  
 28. Consider that local sheep populations can be used for meat production?  
 29. Using foreign breeds which produce more efficient hybrids would increase sheep meat production?  
 30. The professionals in the area offer help if you have problems or if you need information?  
 31. In what way do you think that the state you could help you in sheep meat raising?

### GOAL II

#### The morphological and productive evaluation of sheep from the area.

Specific climatic conditions of the north-east of the country creates optimal conditions for sheep farming and mining. Design and geographic diversity of conditions imposed by the specific topography that are sheep in the north - east of the country is a unique and different from the many national races and local populations that are growing are operating in this area of Romania.

After 1990, the transition to a market economy has fostered the emergence of new trends that have significant imprint on the further development of the workforce. Major changes occurred in the structure of the current race, many farmers are effective rețurcanizării followers at the expense of cultural races are clearly more productive and therefore more profitable farm. Return to Țurcană is based on the consideration that, being high for a long time in this region, is resistant to diseases and climatic conditions and is not demanding to maintenance and food requirements. This fact will affect this branch of animal husbandry, and if the trend will continue will be large importers of fine wool and semi but sheepmeat.

To reduce the negative effect that could occur if this trend continues it is essential that decision makers at national, county and local level to assist farmers who have sheep breeds best but under current conditions, yields obtained from these have a high demand market. Arguing that statement should make it clear that the global wool and meat prices are slightly increasing and it is possible that in a not too distant future these productions to fully contribute to relaunching sheep.

Also as a future concern, for cost effectiveness sheep should be on and derluarea an improvement of all breeds and local populations to increase the degree of precocity, to improve breeding indices, etc.. It also requires developing a new zoning maps of local breeds and issue for each of the programs to include accurate and achievable goals within a shortest possible time.

**Mixed wool breeds of sheep raised in the North East of the country.** Sheep belonging to this group plays an extremely important area within the area located to the northeast of the country and race are Țurcană.

*Table 1. Body weight in Țurcană sheep*

| Variety | Sheep category | Statistics                |     |
|---------|----------------|---------------------------|-----|
|         |                | $\bar{X} \pm s_{\bar{x}}$ | V % |
| Black   | Rams           | 77.616 ± 0.038            | 6.4 |
|         | Ewes           | 44.505 ± 0.085            | 7.2 |
|         | Young rams     | 56.212 ± 0.022            | 4.2 |
|         | Young ewes     | 40.117 ± 0.033            | 4.7 |
| Grey    | Rams           | 77.133 ± 0.111            | 3.5 |
|         | Ewes           | 41.607 ± 0.122            | 7.0 |
|         | Young rams     | 47.044 ± 0.047            | 5.5 |
|         | Young ewes     | 37.011 ± 0.131            | 7.1 |
| White   | Rams           | 81.300 ± 0.012            | 4.4 |
|         | Ewes           | 44.800 ± 0.077            | 6.6 |
|         | Young rams     | 60.024 ± 0.033            | 6.2 |
|         | Young ewes     | 37.900 ± 0.180            | 5.4 |



a



b

**Fig. 1. Țurcană breed- a. grey variety; b. black variety**

**Table 2. Main body measurements in Țurcană breed (cm)**

| Color variety | Height | Croup height | Trunk length | Chest width | Croup width | Chest depth | Perimeters |        |
|---------------|--------|--------------|--------------|-------------|-------------|-------------|------------|--------|
|               |        |              |              |             |             |             | thorax     | cannon |
| - white       | 65.14  | 65.98        | 68.77        | 18.78       | 17.98       | 37.65       | 81.68      | 7.98   |
| - black       | 66.98  | 67.54        | 69.13        | 18.32       | 19.67       | 36.34       | 88.74      | 8.43   |
| - grey        | 64.23  | 66.67        | 68.64        | 17.94       | 18.45       | 37.42       | 87.34      | 7.72   |

**Table 3. Productive performance achieved by Țurcană sheep**

| Sheep category | Wool production - kg    |     |                         |      |                         |      |
|----------------|-------------------------|-----|-------------------------|------|-------------------------|------|
|                | Black Țurcană           |     | White Țurcană           |      | Grey Țurcană            |      |
|                | $\bar{X} \pm s \bar{x}$ | V % | $\bar{X} \pm s \bar{x}$ | V %  | $\bar{X} \pm s \bar{x}$ | V %  |
| Rams           | 4.841 ± 0.108           | 9.0 | 6.242 ± 0.038           | 10.1 | 4.435 ± 0.120           | 9.4  |
| Ewes           | 3.182 ± 0.035           | 8.4 | 3.961 ± 0.157           | 9.3  | 3.000 ± 0.088           | 10.2 |
| Young rams     | 4.401 ± 0.077           | 9.9 | 4.722 ± 0.155           | 10.2 | 4.551 ± 0.033           | 9.8  |
| Young ewes     | 2.919 ± 0.122           | 8.2 | 2.970 ± 0.121           | 12.2 | 2.717 ± 0.083           | 8.8  |

**Table 4. Main reproduction traits in Țurcană breed (%)**

| Sheep category | Fecundity | Prolificacy | Fertility |
|----------------|-----------|-------------|-----------|
| Adult          | 98.4      | 108.7       | 107.7     |
| Youth          | 96.7      | 105.5       | 104.6     |

**Semi-fine wool sheep breeds raised in the North East of the country.** Semi-fine wool sheep with a group is important in the sheep at both national and local levels and especially in the specific area of north-east areas. National group of sheep that occupy an area located mainly in mountain areas and premontane placed around the Carpathian arc. Semi-fine wool breeds with the largest share is held by race skilet, at least for the north-east of the country, plus sheep bred and imported Coopworth improving attributes of race to achieve domestic sheep populations wool and semi-early cross-breed.

**Table 5. Body weight in Țigaie sheep**

| Ecotype           | Sheep category | Statistic               |     |
|-------------------|----------------|-------------------------|-----|
|                   |                | $\bar{X} \pm s \bar{x}$ | V % |
| Black head Țigaie | Rams           | 80.311 ± 0.212          | 3.5 |
|                   | Ewes           | 48.900 ± 0.042          | 6.2 |
|                   | Young rams     | 60.324 ± 0.103          | 6.8 |
|                   | Young ewes     | 42.301 ± 0.108          | 5.9 |
| Alpine Țigaie     | Rams           | 74.035 ± 0.211          | 3.5 |
|                   | Ewes           | 48.720 ± 0.155          | 4.5 |
|                   | Young rams     | 41.654 ± 0.021          | 7.2 |
|                   | Young ewes     | 40.011 ± 0.130          | 5.1 |
| Țigaie of hills   | Rams           | 77.012 ± 0.303          | 4.4 |
|                   | Ewes           | 47.361 ± 0.015          | 7.1 |
|                   | Young rams     | 48.011 ± 0.041          | 4.2 |
|                   | Young ewes     | 41.111 ± 0.031          | 4.4 |

The existence of differences between populations can be made primarily on different technologies applied in semi-wool sheep in three counties. However, since the differences are more evident when existing population in Iasi County can say that selection of sheep for body weight is more advanced in this county.

**Table 6. Main body measurements in Țigaie breed (cm)**

| Ecotype or variety | Height | Croup height | Trunk length | Chest width | Croup width | Chest depth | Perimeters |        |
|--------------------|--------|--------------|--------------|-------------|-------------|-------------|------------|--------|
|                    |        |              |              |             |             |             | thorax     | cannon |
| - of hills         | 60.23  | 62.48        | 68.15        | 18.26       | 25.32       | 29.67       | 82.58      | 7.63   |
| - Alpine           | 59.03  | 59.98        | 67.28        | 17.54       | 22.89       | 25.88       | 80.98      | 7.12   |
| - black headed     | 76.33  | 77.83        | 87.77        | 22.23       | 29.24       | 32.65       | 101.34     | 9.87   |

The largest differences are between groups of youth from the previous year. Thus, Black-headed variety belonging miorii have a higher body weight 18.67 kg compared to the same ecotype gateorie but the mountain and 12.313 kg over the plateau area. Higher weight values found for the flock of Black-headed variety confirms the potential racial and recommended for use in hybrid crosses for producing lambs for meat production.

**PN-II-ID-PCE-2007-1/ID 676**  
**The study of the local population of sheep raised in the North-East of the country,**  
**for meat improving production**  
**2007 RESEARCH REPORT**



**Fig. 2. Țigaie –a. bucalaie; b. white or bella**

Based on property values is the main body regions pate canst that, overall, is pear-shaped torso in ecotypes grown in basins located in lower areas, giving the best skills for milk, and in others, such as for example in individuals in Black-headed variety trunk looks generally compact cylindrical muscular - indicating more pronounced aptitude for meat production.

**Table 7. Main reproduction traits in Țigaie (%)**

| Sheep category | Fecundity | Prolificacy | Fertility |
|----------------|-----------|-------------|-----------|
| Adult          | 98.5      | 109.7       | 109.4     |
| Youth          | 97.4      | 107.0       | 104.6     |

**Fine wool breeds of sheep raised in the North East of the country.** Group of breeds of sheep with fine wool that has the areal actually quite large. Investigations were only Merinos of Palas, who actually added a line of values represented by Suseni-Vaslui. It is one of the most valuable local breeds, were formed in the first half of last century. This is in addition to good skills for fine wool and meat, and other valuable features and well consolidated, for which it is recommended to be used extensively to improve the sheep of his training.

**Table 8. Body weight related to lambing type and age**

| Lambing type | Gender  | Body weight at different ages (kg) |          |          |          |           |
|--------------|---------|------------------------------------|----------|----------|----------|-----------|
|              |         | Birth                              | 3 months | 6 months | 9 months | 12 months |
| Simple       | Males   | 5.2                                | 25.0     | 35.5     | 47.5     | 63.3      |
|              | Females | 4.8                                | 21.5     | 32.0     | 42.4     | 49.7      |
| Double       | Males   | 4.4                                | 22.5     | 33.5     | 47.8     | 62.4      |
|              | Females | 4.1                                | 20.0     | 30.0     | 43.7     | 49.5      |

**Table 9. Main body dimensions of the Merinos of Palas breed**

| Notice  | Height  | Croup height | Trunk length | Chest width | Croup width | Chest depth | Perimeters |        |
|---------|---------|--------------|--------------|-------------|-------------|-------------|------------|--------|
|         |         |              |              |             |             |             | thorax     | cannon |
| Average | 70      | 71           | 72           | 24          | 26          | 34          | 103        | 9.7    |
| Limits  | 64 - 72 | 61 - 78      | 66 - 79      | 21 - 26     | 21 - 30     | 29 - 40     | 75 - 118   | 8 - 11 |



**Fig. 3. Merinos of Palas –Perieni ecotype**

**Reproduction traits.** Regarding the sexual cycle show season, the Palas Merino breed is not extremely conservative. Thus, the sheep afite in a state of good intreriere the possible event of two breeding seasons in which one is longer than approx. 10 months and one shorter (two months).

*Table 10. Main reproduction traits in Merinos of Palas breed (%)*

| Generation | Fecundity | Prolificacy | Fertility |
|------------|-----------|-------------|-----------|
| 2001       | 100.0     | 120.0       | 100.0     |
| 2002       | 94.1      | 131.6       | 121.6     |
| 2003       | 96.2      | 124.4       | 100.0     |
| 2004       | 100.0     | 104.0       | 100.0     |
| 2005       | 93.4      | 110.7       | 103.4     |
| 2006       | 95.6      | 110.5       | 105.6     |

In the investigations conducted in 1996 by C. Pascal, a batch consisting of 250 ewes of Palas Merino breed, different generations, it was found that the manifestations of the sexual cycle takes place in a long season, with a maximum intensity in the months from July to August. Of the total sought in the range 70.4% noted they were sown, then gradually decreases the rate of insemination.

### CONCLUSIONS

1. In the Northeast Economic Development Region, approximately 99.89% of all farms, which own different sheep, are owned by households, while industry represented only 0.11% of their total legal personality.
2. In the region, the largest number of sheep farmers is at the individual county Botosani and Iasi who together hold a share of 19.93% and 18.11%, the lowest number of individual farms in the counties of the region is Bacau and Vaslui and was 19,086 and 19,866 respectively.
3. The study undertaken shows that in 92.33% of the total average number of existing holdings is less than 20 sheep heads, sheep farms have between 8:49 p.m. in the region ends is only 5.04% while holding to service a number between 50 and 100 head is about 2.04% units with legal personality which raise a number of 100 sheep heads have only 0.59% of the existing North-East Development Region.
4. May study highlights the fact that the vast majority of sheep are reared for milk, meat and wool, are exempt from this trend, those in the northern county of Botosani Iasi and those who have indicated that they maintain especially sheep for skins and milk.
5. In meat production are usually applied to traditional technologies based on pasture and herd maintenance delivery in late September.
6. Regarding the respondents polled sheep meat were divided into two groups: those of Iasi and Botosani, although admit that meat production is profit-making, replacing the local population does not agree

- with other exploited for meat and those in Bacău, Neamț and Suceava to accept programs to improve performances by local populations for meat but without affecting milk production;
7. Sheep wool mixed group of complex occupies an extremely important role in the area located to the northeast of the country and race are Țurcană, now white variety is grown in mountain areas and mountain compared across the region, but may sporadic be found in hilly areas, the variety of black and Alpine occupies an area located in the central part of Moldova to climb up to limit interference with the area outlined for sheep for skins - milk.
  8. In the race Țigaie miorii belonging Black-headed variety with a higher body weight 18.67 kg compared to the same ecotype gateorie but the mountain and 12.313 kg over the plateau area.
  9. Higher values of body weight established for the herd of black-headed variety of the breed and should confirm the potential for use in hybrid crosses in the case of lambs for meat production.
  10. Study data on body weight of Palas Merino sheep bred shows that it has good skills for meat production.

### **BIBLIOGRAPHY**

- T. Dima, V., Stan, Angela Gavrițaș, C., Pascal, Simeanu D. – 2005 – Cercetari cu privire la productia de carne la Merinosul de Suseni. *Lucrari Stiintifice*, vol. 48, p. 366 – 377, Seria Zootehnie, 2004, USAMV Iasi.
- Padeanu I (2008) - Viitorul producției de miei îngrășați este condiționat de producerea de hibridi. *Revista Ferma*
- Pascal C. (2007) Creșterea ovinelor și caprinelor. Editura PIM- Iași
- Pascal C., Doroftei F., Stan V., Pădeanu I., Dima T. – 2007 - The obtained performance after the collection applied to improve the colors at the sheep raised for their skin. *Lucrari Stiintifice*, vol. 50, Seria Zootehnie, USAMV Iasi
- Taftă V, Vintilă I., Zamfirescu Stela (1996) – Producția, reproducția și ameliorarea ovinelor. Editura Ceres.