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EXPERIENCES OF ARTIFICIAL INSEMINATION ON LARGE SCALE ANGORA FARMS

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The large scale angora wool production started in Hungary in 1978. New farms having 800-1000 does have started to work with a similar, conventional management of reproduction. Its features were: weaning at the age of 4 or 5 weaks and the shearing of does a few days later.
Two or three days after shearing the signs of oestrus well ephasized in the does and they were mated in that time. There were not any problems in the seasonal periods /from the end of winter to the end of summer/ but in autumn there occured a regular break in the reproduction. The bucks are indolents and they are not willing to mount. In the meantime in the quality of semen is also decreasing /Paufler, 1977/. There are only a few does in oestrus in the flock but they are also reluctant to mate.
Thus the mating of animals is a very difficult work after all and it results low numbers of kindling as well.
In angora production - as it is known - the rearing losses are very high especially in large farms.
These circumstances result in the fact that the size of import populations has only moderately has grown.
In order to equalise this wave trough of reproduction artificial insemination was introduced in the overwhelming majority of Hungarian angora farms supported by HUNGANGÓRA cooperation.

The method was similar to one which was elaborated by Paufler /1978/ and as it is usual in the practice of artificial insemination nowdays /Heidbrink et al. 198o; Sinkovics et al. 1983; Idem, 1987/.
In the large scale practice however oestrus syncronisation was used by FSH in every case /Michelmann and Paufler, 1974/.
The results of one of farms having 8oo does are shown in the figure.
As it is obvious from the columns of the figure that conception rate during out of seson period is very low, and the artificial insemination proved to be helpful in this time.
It must be emphasized however, that these results apply to angora rabbits only, because other reproductional characteristics exsist in meat rabbits /Sinkovics et al., 1983/.
Artificial insemination was introduced in 12 large scale angora farms in 1985 and since that time more than 16o.ooo insemination has been carried out.
A year after the artificial insemination had been introduced in to practice a conference was held at our institute in Hódmezővásárhely to discuss the experiences of artificial insemination.
On the basis of data and general impressions of specialists the following conclusions were drawn:

1. The simplified method /hand-made instruments, semen evaluation based on macroscopic examination, microscopic examination of diluted semen exclusively, using GnRH analogues etc./ was readily adapted by commercial farms.

2. During the first year's practice - because of the great rearing losses and the autumn reproductional wave trough - the number of animals was approximately constant. This situation has changed now and it was advantageous that the number of young rabbits within the populations has grown.

3. Our aim was to develop a dilatant to store semen without essential demage - at the temperature of refrigerator - for 12 hours. This dilutant was applied by HUNGANGÓRA BREADING CENTER having angora rabbits with outstanding wool production, and thus it became possible to provide diluted semen to other members of HUNGANGÓRA.
This experience has brought improvements in the quality, quantity of produced wool, and besides gradually brought a less obvious result. The transport of diluted semen has eliminated the necessity of buying bucks from other farms disturbing the immunological balance of population.

4. The introduction of artificial insemination has made more efficient management. Parturitions occure simultaneously and thus the weaning and the shearing may coincide.

5. Earlier the reduction the number of bucks seemed to be an important advantague. It has become obvious however that we must not take advantege of this opportunity. The quality of collected semen is different and there is a change the willingness of bucks to mount. It is well known that the results of artificial insemination are in positive correlation with the quality of diluted semen. As consequence we still need the conventional proportion of bucks and does.

6. Continous useing of artificial insemination in the case of same does, has not caused any adverse change in the numerical index of reproduction. According to the results of representative groups having 2 x 4o does the litter size did not change and there were no detectable macro- or microscopical signs any lesions of structure and function of ovaries following seven consecutive artificial insemination.
There were not any detectable antibodies in the sera of does by agar-gel diffusion test against the used GnRH analogues and other hormones /HCG, FSH/. On the basis of

these examinations and experiences continous usage of artificial insemination in rabbit farms may be regarded as a safe and profitable technical method of management.

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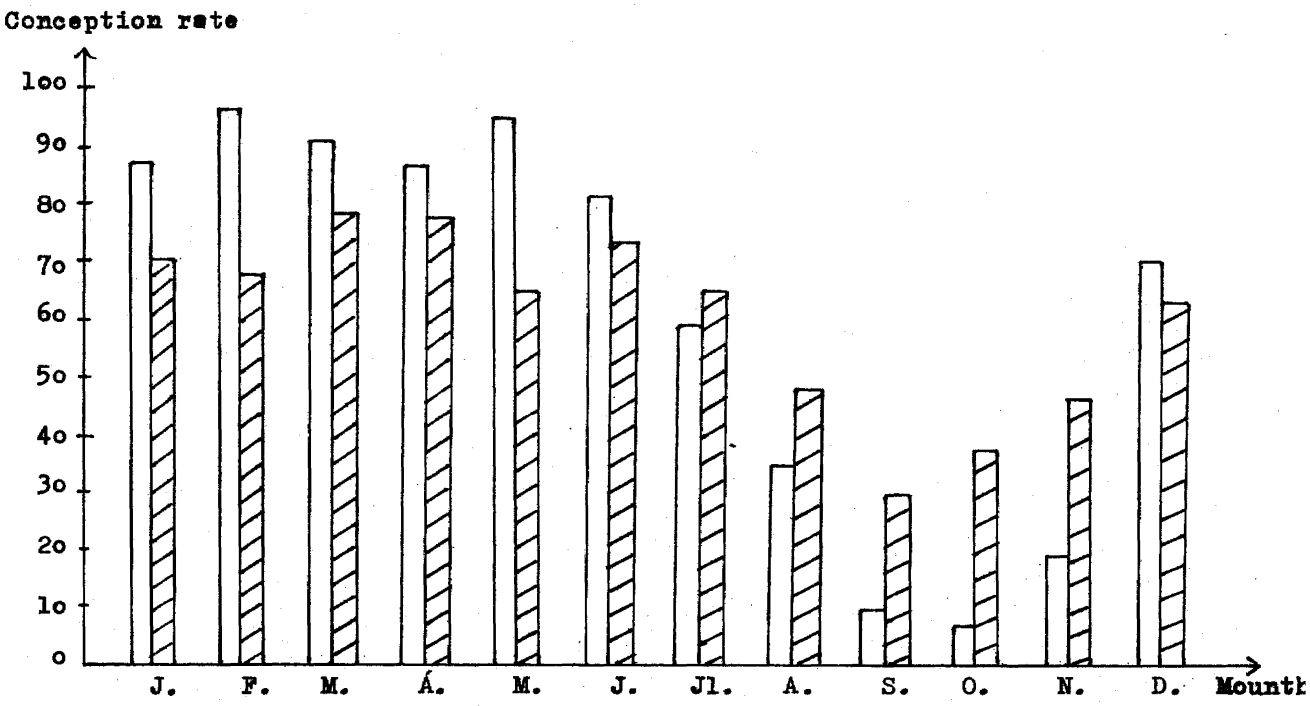
Figure 1. Average of the conception rate of angora rabbits in a large scale : ☐ natural mating, ▨ artificial insemination.



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Experiences of artificial insemination on large scale angora farms

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The A.I. was adapted by Hungarian large scale angora farms in autumn of 1985. Since that time more than 160.000 insemination has been carried out in the 12 large farms, having 800-1.000 does respectively and on the little farms intergrated by the large ones.
The conception rate has varied following the change of the season. This way the conception rate was 70-80 % in spring, 50-60 % in summer, 30-40 % in autumn and 60-70 % in winter.
The practical experiences can be summarised the following way:

1. The method of A.I. was adapted by large farms in three ways: a./ the method hes exclusively been used for reproduction in all seasons
   b./ the method has been used as supplementation of natural mating
   c./ it has been used only in autumn
2. The method in all farms strictly has reduced the reproduction problems of autumn.
3. The transportation of diluted semen among farms improved the quality and quantity of angora wool and diminished the health problems.
4. The transportation of diluted semen emphasized the importance and function of the central breeding farm having bucks and does with outstanding wool production.
5. The retenchement of the number of bucks which was hoped formerly to be advantageous can not be offered.
6. The method was easily adapted by all farms and it is carried out by semi-skilled workers.

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ERFAHRUNGEN DER KÜNSTLICHEN BESAMUNG IN GROSSBETRIEBLICHEN ANGORAANLAGEN

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Die Einführung der künstlichen Besamung in ungarischen grossbetrieblichen Angoraanlagen erfolgte im Herbst 1985. In den 12 Angoraanlagen, die durchschnittlich 800-1000 Muttertiere halten, bzw. die durch uns integrierten individuellen Züchtungen wurden seitdem mehr als 160000 Besamungen vorgenommen.
Die Empfängnisrate folgt den saisonbedingten Veränderungen, so betrug die Empfängnisrate im Frühjahr 70-80, im Sommer 50-60, im Herbst 30-40 und im Winter 60-70 %.
Die praktischen Erfahrungen sind folgenderweise zusammenzufassen:

1. In den Grossbetrieben hat sich die künstliche Besamung nach drei Anwendungsgesichtspunkten herausgebildet:
   a./ die künstliche Besamung wird ausschliesslich zur Fortpflanzung benutzt

   b./ die Methode wird ergänzend zur natürlichen Bedekkung angewendet

   c./ nur im Herbst wird so fortgepflanzt, wegen der herabgeminderten saisonbedingten Geschlechts- und Deckungsschwierigkeiten.

2. Die Einführung der Methode senkte bedeutend die Reproduktionsschwierigkeiten in den gesamten Angoraanlagen in der herbstlichen Jahreszeit.

3. Der Transport und der Austausch des verdünnten Samens zwischen den einzelnen Kaninchenanlagen erhöhte die Qualität und die Menge der Wolle.und parallel damit entwickelten sich auch die tiergesundheitlichen Indexe günstiger.

4. Der Transport des verdünnten Samens setzte schrittweise die Bedeutung der zentralen, Tiere mit ausgezeichnetem Zuchtwert haltenden Zuchtanlagen durch.

5. Die Senkung der Anzahl der Böcke, den wir früher als einen bedeutenden Vorteil vermeinten, ist nicht zu empfehlen.

6. Die Methode der künstlichen Besamung in den einzelnen Anlagen wurde ohne jegliche Schwierigkeit angenommen und die Besamung erfolgt in den einzelnen Anlagen durch Techniker oder durch angelernte Kräfte.