The use of melatonin in reproductive management of dairy sheep and goats in Greece

Bramis G.¹, Gelasakis A.I.¹, Kanoulas V.¹,² Arsenos G.¹

¹Laboratory of Animal Husbandry, Faculty of Veterinary Medicine, Aristotle University, Greece, ²Ceva Hellas LLC, Alimos, Greece

Introduction
Off-season breeding is desirable when the aim is the production of milk and meat to cater the market in high-demand periods. The notion is that melatonin is directly associated with breeding seasonality and its commercial product, Regulin® has been available in the Greek market for decades. However, its efficiency has not been assessed in practice.

Objective
To investigate the efficiency of melatonin implementation on off-season reproductive performance of dairy sheep and goats in Greece.

Materials and Methods

Animals: 8 Sheep and 3 goat flocks from different Geographical areas of Greece
778 sheep (23 to 209 per flock) and 274 goats (70 to 100 per flock)

Methodology:
A single subcutaneous implant (18 mg of melatonin, Regulin®, CEVA LLC) was used in females and three implants were used in males.
Rams and bucks were isolated for 42 days and then were used for breeding.
Breeding period lasted 6 weeks.
Pregnancy diagnosis with ultrasound scanning at 124 days after the application of melatonin.

Results

<table>
<thead>
<tr>
<th>Geographical area of Greece</th>
<th>Conception Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ewes</td>
</tr>
<tr>
<td>South</td>
<td>95.9%</td>
</tr>
<tr>
<td>Central</td>
<td>95.2%</td>
</tr>
<tr>
<td>North</td>
<td>91.5%</td>
</tr>
</tbody>
</table>

Conclusion

➢ High pregnancy rates during off-season breeding both for dairy sheep and goats.
➢ Off-season induction of estrous is feasible in a high range of regions in Greece.

Acknowledgements: The work has been financially supported by CEVA LLC, Alimos, Greece