Improved fertility
Improved fecundity
Improved prolificacy
Compact lambing period
Normal return to season
Normal sexual cycle

Early lambing with:

- Early lambs
  Earlier onset of mating in Mule ewes treated mid June (previously mated in October)

Compact lambing
New ewes mating over a shorter period after ram introduction with REGULIN® treatment in mid June (previously mated in August)
Presentation: Regulin® is a yellow cylindrical implant containing 18mg melatonin. It is presented in a plastic cartridge containing 25 implants.

Uses: Regulin® improves the reproductive performance of pure bred and crossbred lowland sheep which are to be mated early in the season before the usual peak of reproductive activity. When used as directed, it stimulates the early onset of natural reproductive activity, giving improved reproductive performance of flocks mated early in the season. Regulin® is recommended for use in Suffolk and Suffolk cross type flocks intended to start lambing between early December and mid January and in Mule and halfbred flocks starting lambing between late December and mid February. Dosage and Administration: Dose - One implant per ewe. Administration - Use the Regulin® implanter to administer one implant subcutaneously near the base of the ear. Period of use: In Suffolk and Suffolk cross types Regulin® should be used from mid May to late June for ram introduction in late June and July. In Mule and halfbred flocks Regulin® should be administered from early June to late July for ram introduction from mid July to late August. Do not use Regulin® at times other than those recommended. Treatment regime: Day 1 (30 weeks before intended start of lambing): As the presence of any ram (and also male goats) will interfere with the ovulatory process, isolate ewes from all males. The ewes should be out of sight, sound and smell. Separating males into the next field from females is not adequate. Day 7: Implant ewes at the base of the ear; ewes must remain isolated from male sheep and goats. Day 42 (35 days after implantation): The period between implanting and introduction of the males must be no less than 30 days and no more than 40 days. Introduce rams, but expect a delay of 14-21 days before mating activity commences. Vasectomised rams may be used for the first 14 days to ensure a more compact lambing period. The peak of mating activity will occur 25-35 days after introducing the rams. Withholding period: Meat and milk - nil. Contra-indications, warnings, etc. Use by subcutaneous implantation at the base of the ear only. Avoid damaging implants. Use only sharp undamaged needles. Needles should be from gamma irradiated packs or freshly sterilised by boiling for 20 minutes. No alcohol or disinfectant should be used for the sterilisation procedure. Only use Regulin® on adult ewes or shearlings. Regulin® will not be effective on sexually immature animals. Use of Regulin® in ewes suckling lambs at foot may not give optimum results. Do not use at times other than those recommended. Variable results may be seen following use of the product, associated with the management systems involved. Keep out of the reach of children. For animal treatment only. Unused product should be disposed of in accordance with any guidance from an appropriate waste regulation authority. Pharmaceutical precautions: The product is sterile. Only open each blister section when required. To maintain sterility opened product must be discarded at the end of treatment. Legal category: [POM-VPS] Package quantities: One pack of 2 cartridges each containing 25 implants.

Further information: Regulin® implants contain melatonin, a natural secretion of the pineal gland. Melatonin is the day length messenger by which all animals recognise different seasons. The pineal gland only produces melatonin during hours of darkness. As days shorten, the amount of melatonin secreted increases and this signals the reproductive system to increase activity, producing a natural peak in breeding performance in the autumn. Regulin® works by mimicking this effect; each implant slowly releases melatonin over an extended period. Regulin® only overcomes the effects of seasonality. If there are any other adverse influences on reproduction present within a flock, the full benefit of Regulin® treatment may be reduced or even eliminated. Marketing authorisation number: Vm15052/4011

For further information including use with sponges in AI programmes and with artificial lighting for year round breeding, please contact:
Get ahead of time...

REGULIN®

To control reproduction is to control the future
**Seasonal breeders**
Sheep are seasonal breeders. They have evolved to breed at a time which allows the lambs to be born in spring, when warm weather and increasing grass supply gives them the greatest chance of survival. For this natural reason sheep are difficult to breed early in the year. Even in less seasonal breeds such as the Dorset Horn, there is a seasonal peak of reproductive activity in the autumn when most of the flock is cycling and females have the highest ovulation rate.

**Melatonin, the daylength messenger**
Sheep naturally know when to breed by sensing the lengthening nights of autumn. As their eyes detect decreasing daylength the pineal gland produces melatonin, the daylength messenger by which all animals recognise different seasons. As days shorten, the amount of melatonin secreted increases and this stimulates the reproductive system, producing a natural peak in breeding performance in the autumn.

Melatonin prompts the reproductive system to become active by initiating the hormone cascade from the hypothalamus and anterior pituitary which induces the onset of ovarian activity.
With REGULIN®, it is autumn in summertime...

REGULIN® is a small implant which releases melatonin. This mimics the natural melatonin secretion of the pineal gland in autumn. A single REGULIN® treatment provides the ewe with the amount of melatonin required to cause the reproductive system to respond as if autumn has arrived.

Each implant of REGULIN® is 2 x 4mm in size and contains 18mg of melatonin.

REGULIN® triggers the natural sequence of hormonal events producing a normal breeding season. It is administered subcutaneously behind the ear. One treatment with REGULIN® will bring about the onset of a full breeding season, giving peak autumn performance earlier in the year.

The implant allows slow and progressive release of melatonin. It is fully biodegradable and does not need to be removed. Since melatonin is released at concentrations no higher than those naturally found during the night in sheep, there are no milk or meat withdrawal periods.
Method of administration

REGULIN® is easy to administer. It involves an injection of the implant subcutaneously at the base of the ear using the specific applicator. Once the needle is under the skin the trigger of the applicator is pulled releasing the implant. It will automatically bring the next implant forward, ready for use on the next animal.

The whole flock can be treated in one day with minimal stress to the animals or handler. Only one handling is required as the implant does not need to be removed.

REGULIN® can advance the breeding season by up to two months. For Suffolk and Suffolk cross types implantation is recommended in mid May to late June. For Mule and half bred types implantation is recommended in early June to late July.
Benefits to farmer

**Economic**
- Finish lambs earlier in the season when prices are higher
- Sell heavier lambs at the usual time
- Achieve peak prices in a market with marked seasonal fluctuations
- Spread the economic risk of low prices
- Produce a more consistent batch of lambs

**Management**
- Compact lambing season
- More efficient use of buildings
- Maintain same breed for both early and main lambing flocks
- Ensure mature lambs for pedigree sales
- Breed broken mouth ewes early to achieve one last lamb crop

**Difference between REGULIN® and Sponges for early lambs**

<table>
<thead>
<tr>
<th></th>
<th>REGULIN®</th>
<th>Sponges</th>
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<tbody>
<tr>
<td>Advance breeding season?</td>
<td>Yes, up to two months</td>
<td>Any time but reduced fertility and fecundity</td>
</tr>
<tr>
<td>Condense lambing period?</td>
<td>Yes, but only to 4-5 weeks</td>
<td>Radically, down to a very hectic week</td>
</tr>
<tr>
<td>Synchronise oestrus for AI?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Effect on fertility?</td>
<td>Natural oestrus and good fertility</td>
<td>Reduced</td>
</tr>
<tr>
<td>Effect on fecundity?</td>
<td>Natural oestrus and good fecundity</td>
<td>Reduced unless use PMSG</td>
</tr>
<tr>
<td>Effect on prolificacy?</td>
<td>Natural oestrus and good prolificacy without increased risk of triplets and quads</td>
<td>Risk of triplets and quads if using PMSG</td>
</tr>
<tr>
<td>Return to oestrus?</td>
<td>Normal cycles</td>
<td>Not if out of season</td>
</tr>
<tr>
<td>Ease of use?</td>
<td>One implant, one handling</td>
<td>Multiple handlings. Put sponge in, catch to inject PMSG, catch to remove sponge, catch to AI</td>
</tr>
<tr>
<td>Ewe lambs?</td>
<td>Can be used if sexually mature</td>
<td>More difficult to insert</td>
</tr>
<tr>
<td>Ram ratio?</td>
<td>1 ram for 20-25 ewes suggested actually 1 for 50 often fine if rams injected too</td>
<td>1 ram for 5-10 ewes as all cycle within a couple of days</td>
</tr>
<tr>
<td>Use on Rams?</td>
<td>Er no</td>
<td></td>
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Early lambing

Increased flock performance by increased fertility, fecundity and prolificacy.

Reduction in non-pregnant ewes following early mating

Increased fecundity (lambing percentage) from using REGULIN®

Increase in prolificacy with REGULIN®