Is Grazing Putting Your Ewes' Fertility at Risk?

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If you are grazing medic or lucerne pastures prior to joining, it is worth double checking the coumestrol levels to ensure it's not going to have an impact on ewe fertility.

Coumestrol is a compound that has phyto-oestrogenic properties which means it can bind to oestrogen receptors, interfering with the ewe's natural oestrus. This can cause a wide range of fertility issues in ewes including suppression of oestrus, suppression or delayed ovulation, lower ovulation rate, and in some cases an increase in embryo losses and abortion. This all means you're likely to have reduced conception over joining or potential embryo losses and abortions post-joining if ewes have been exposed to high levels of coumestrol during the pre-joining period or over joining.

Coumestrol is often present in annual medic and lucerne species at lower levels while the plants are healthy and vegetative. However, if infected with disease, such as powdery mildew or black stem disease, or if under moisture stress or insect attack, coumestrol levels can rise significantly. They can also rise as plants come into flowering and podding. Coumestrol levels can also be high in medic species once senesced and can be found in medic and lucerne hay.

Research has shown that if coumestrol levels are over 25 mg/kg, the risk of ewe fertility issues starts to increase. Testing of annual medics through the Mallee and West Coast in the spring of 2022 showed levels ranging from 1000–2000 mg/kg in medics, which had a serious impact on fertility.

If ewes have been exposed to moderate levels of coumestrol prior to joining, the limited research conducted has shown that it can take up to four weeks for ewes to resume normal oestrus and ovulate. This means practically that if you test your lucerne or medic pastures and the coumestrol levels are over 25 mg/kg, you would need to remove ewes from these pastures four weeks prior to the joining period to eliminate the risk.

If levels are extremely high, research has shown there is the possibility you can have permanent reproductive system changes which can result in persistent infertility in some ewes. There can also be long-term impacts on pre-pubescent replacement ewe lambs if they are grazing these pastures as their reproductive system is developing.

Southern Scientific Laboratory in Hamilton, Victoria can test pastures for coumestrol levels. Stem and leaf material that the animals are likely to graze can be randomly sampled from across the paddock and collected in a paper bag or envelope.

Fertility issues in ewes can be difficult to diagnose, but if ewes have grazed medic or lucerne in the lead-up to or during joining, particularly with plant disease present, coumestrol should be considered as a possible contributor. Because coumestrol levels

can fluctuate dramatically between seasons and paddocks, the impact is often underestimated, and many producers and advisers may not be aware of how serious the issue can be. Producers currently grazing or likely to move stock onto these pastures should consider testing for coumestrol this season.

Contact deb@talkinglivestock.com.au for more information and sampling protocols.