UNIVERSITY OF LIFE SCIENCES ”KING MIHAI I” FROM TIMISOARA
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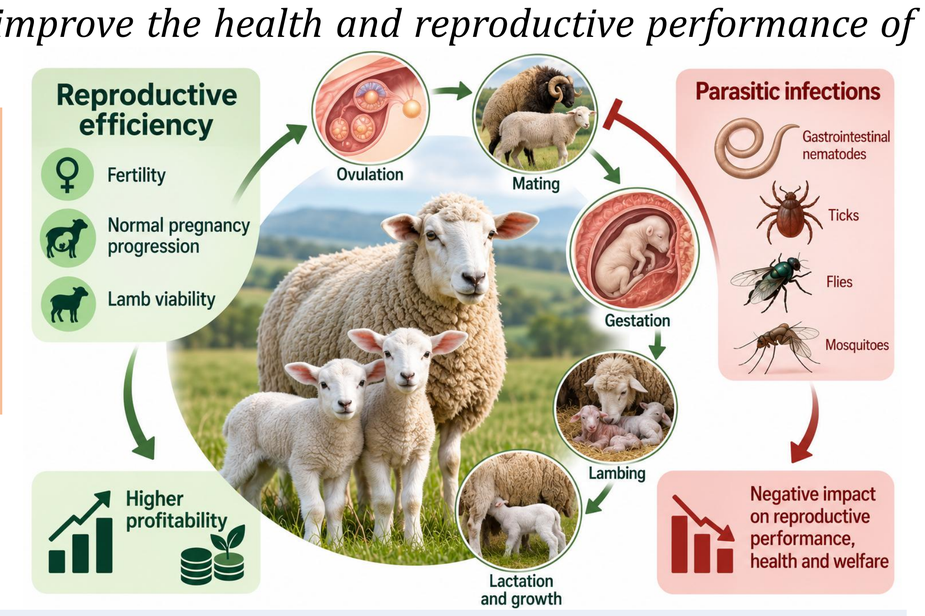
INTERRELATIONSHIP BETWEEN PARASITOLOGICAL STATUS AND REPRODUCTIVE PERFORMANCE IN SHEEP

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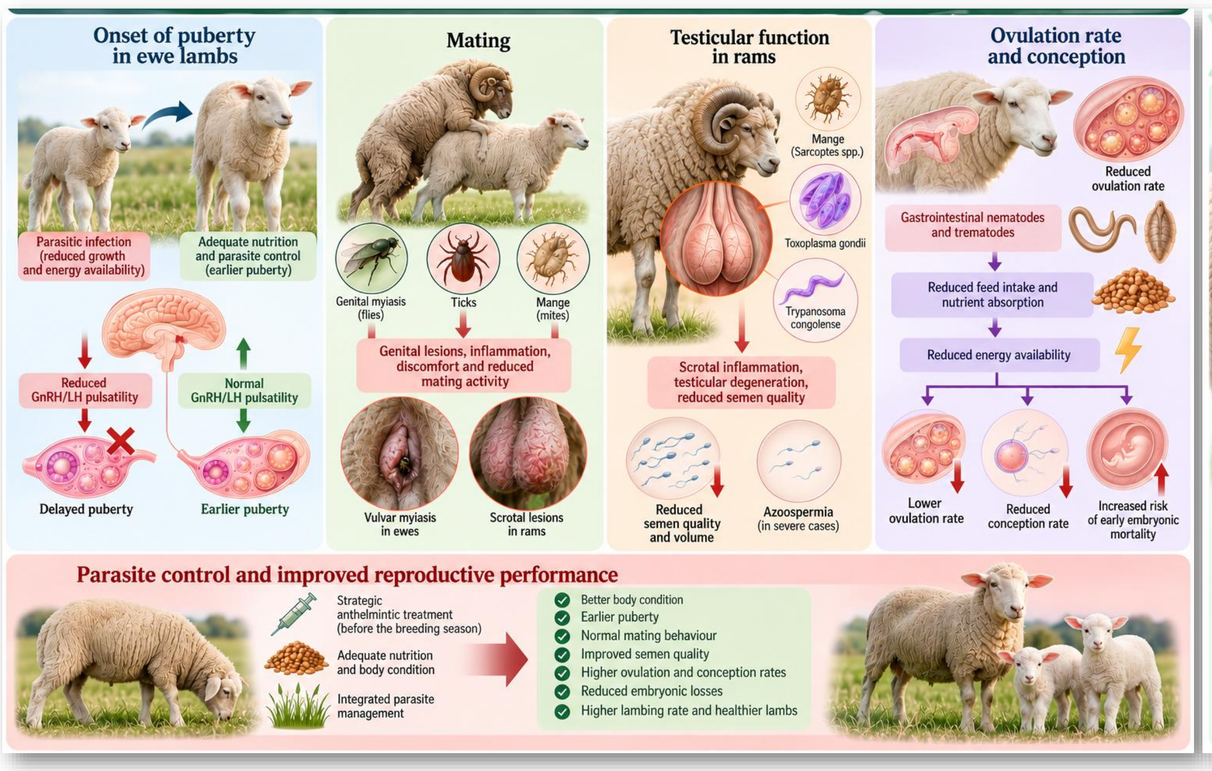
Abstract: *Parasitic infections represent a significant challenge in sheep farming, with implications for animal health, fertility, and reproductive performance. This review aims to highlight the interrelationship between parasitological status and reproductive efficiency in sheep, based on evidence available in the scientific literature. The effects of parasitic infections may occur at different stages of the reproductive cycle, influencing sexual maturation, reproductive function, pregnancy progression, and lamb development. Gastrointestinal nematode infections may delay the onset of puberty, while certain ectoparasitic infestations and protozoan infections can cause reproductive disorders in males, including impaired spermatogenesis and reduced fertility. In females, parasitic infections may affect ovarian activity and conception rates, while toxoplasmosis and neosporosis are associated with reproductive losses, including abortions. During lactation, gastrointestinal parasitic infections may contribute to reduced milk production, indirectly affecting lamb growth and development. Furthermore, cryptosporidiosis and coccidiosis can cause gastrointestinal disorders, mortality, and reduced growth rates in young animals. The relationship between parasitism and reproduction is bidirectional, as immunological changes during the periparturient period may promote increased fecal shedding of parasite eggs. In conclusion, the interactions between parasitic infections and reproductive processes emphasize the importance of monitoring parasitological status and implementing integrated prevention and control strategies to improve the health and reproductive performance of sheep flocks.*

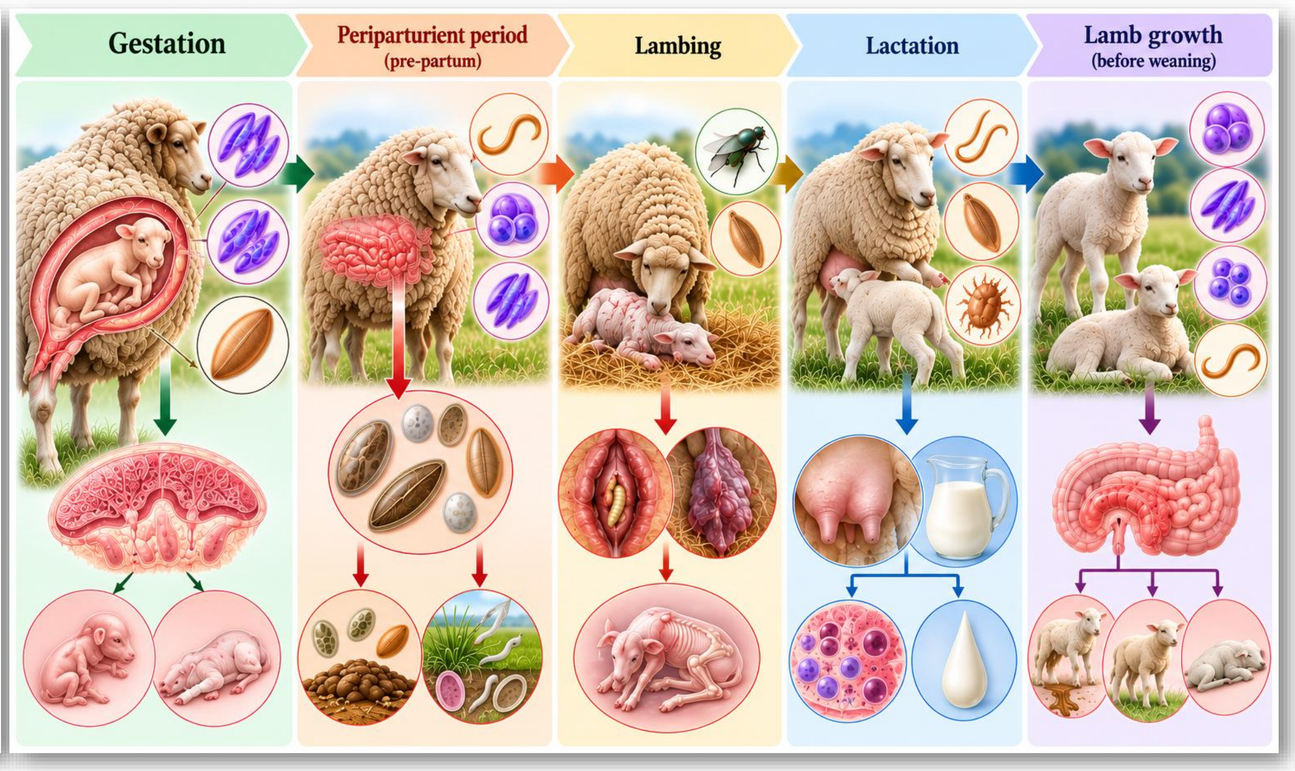
Reproductive efficiency in sheep is a key factor in the profitability of sheep farming, being influenced by fertility, normal pregnancy progression, and lamb viability. Parasitic infections can negatively affect reproductive performance, animal health, and welfare, representing a significant challenge in sheep flock management.



Major parasitic infections and their effects on reproductive performance in sheep

Reproductive stage	Parasites involved	Main effects
Puberty	Gastrointestinal trichostrongylids, *Trypanosoma congolense*	Delayed puberty, reduced growth
Mating	Myiasis-causing flies, ticks, mange mites	Genital lesions, discomfort, impaired mating
Testicular function	*Toxoplasma gondii, T. congolense, Chorioptes* spp.	Reduced semen quality, testicular degeneration, azoospermia
Ovulation and conception	Gastrointestinal helminths, *Sarcoptes scabiei, T. congolense*	Reduced ovulation and conception rates, increased embryonic loss
Pregnancy	*T. gondii, Neospora caninum*, trematodes	Abortion, fetal infection, metabolic disturbances
Lambing	Genital myiasis, *Dicrocoelium den*driticum	Dystocia, possible placental retention
Lactation	Gastrointestinal nematodes, trematodes, mange mites	Reduced milk yield, increased mastitis susceptibility
Lamb development	*Cryptosporidium, Giardia, Eimeria*, gastrointestinal nematodes	Diarrhea, reduced weight gain, delayed growth





Parasitic infections negatively affect reproductive performance in sheep by impairing puberty onset, fertility, pregnancy outcomes, lactation, and lamb development. Their impact involves both direct effects on reproductive function and indirect consequences associated with nutritional, metabolic, and immunological disturbances. Monitoring parasitic status, ensuring adequate nutrition, and implementing effective parasite control strategies are essential for improving reproductive efficiency, animal health, and flock productivity.