CGIAR RESEARCH PROGRAM ON Livestock

More meat, milk and eggs by and for the poor

TESTED IN ETHIOPIA

Select effective fasciolicides to control sheep liver fluke

Problem statement

- Parasites are among the major constraints for productivity in small ruminants, with liver fluke one of the major parasites in the Ethiopian highlands.
- Treatment failure in liver fluke control has been increasingly reported by farmers and animal health specialists.
- Recently, more sheep from farmers' flocks, including research animals at Debre Birhan Research Center (DBARC), died because of liver fluke.
- Infection occurs via contaminated pastures, thus is of particular relevance in areas with shared pastures.

Benefits

- Reduced mortality in sheep because of liver fluke.
- Improved productivity in sheep.
- Improved food security and livelihoods.
- Improved access to necessary animal health inputs.

Key messages and solutions

- Site specific testing of fasciolicides ensures that the best compound is used and efficacy of control efforts are optimized.
- To address the problem of shared pastures, a community based approach is needed to sustainably control liver fluke. For example management of access to grazing fields where occurrence of snails harbouring the parasite is known can be handled by farmer groups.
- Strategic timing of treatment/prevention is needed at community level.
- A conducive institutional environment comprising support by NARS, governmental agents, and complementary services (veterinary drug sellers) is crucial to ensure effectice and affordable health services and availability of veterinary drugs.
- Monitor effectiveness in the field over time.

Evidence

- 90 sheep were used to test Albex 10%, Expitol, Tribex 10 %, Triclabendazole, Zerofen 10%, Albendazole, Ridafluke, and Tetraclozan. Ridafluke and Tribex were most effective gainist liver fluke. Fascinex-Triclabendazole, which has been used for many years in Ethiopia, had much lower efficacy on mature and immature Fasciola worms. From the broad-spectrum anthelmintic treatment groups Expitol and Tetraclozan demonstrated best results against adult Fasciola worms.

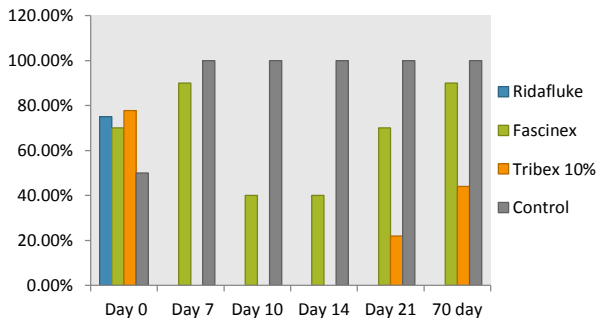
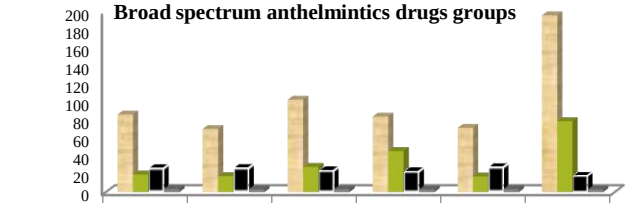


Figure 1: Proportion of fecal egg count in fasciolisides drug groups



	Albex 10%	Expitol	Zerofen 10%	Albendazole	Tetraclozan	Control
mature	86.2	70.1	102.7	83.9	71.4	195.8
Immature	19.6	17.7	28	45.6	17.4	78.8
p	27	27.4	24.4	23.4	28.4	18.7
F	3.4	3.1	3.2	2.91	3.3	2.9

Figure 2: Mean of PCV, famacha score and fasciola worm recovered 10 week after treatments

Suitability

- Findings are important for highland sites, but can also be relevant for pastoral areas. Site specific testing is advised.
- To facilitate the community approach, liver fluke control is ideally combined with control of other gasto-intestinal parasites and community based interventions, such as the community based breeding program.
- The intervention requires knowledge and skills as well as inputs and cash. Through healthier animals it contributes to food security goals.

Resource requirements (low to high)	
Land	●○○○○
Water	○○○○○
Labour	●●○○○
Cash	●●●○○
Access to inputs	●●●○○
Knowledge and skills	●●●●○

Impact areas (low to high)	
Food security	●●●○○
Human nutrition	●○○○○
Employment and livelihoods	●●○○○
Natural resources base	●○○○○
Gender empowerment	●○○○○
Market linkages	●●○○○

Value chain focus

Input & services → Production → Processing → Marketing → Consumption

Contacts

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