Title: Beyond Suspicion: Confirming the occurrence and prevalence of drug resistant Fasciola hepatica in sheep and cattle in NSW's Southern Tablelands

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Abstract: Fasciola hepatica is a zoonotic parasite of international significance. In Australia, it is the 13th most important cause of losses to the sheep industry due to its impacts on body condition score, fibre quality and yield. Resistance to the frontline drug, Triclabendazole (TBZ), was first detected in Australia in 1995 and has since spread throughout the world. TBZ is the only drug registered for use against F. hepatica infection in people. With limited chemical control options, and no vaccine available, it is essential that we preserve the efficacy of TBZ.

Recently, livestock producers from the NSW Southern Tablelands have alerted us to their concerns over suspected increases in drug-resistant parasites. We set out to evaluate the prevalence of F. hepatica on ten naturally infected sheep or cattle properties in the region to confirm/deny suspected drug failure. Prior to the commencement of the field trial, we reviewed reports of TBZ resistance in Australia in conjunction with the recent guidelines on evaluating anthelmintic efficacy in ruminants from the World Association for the Advancement of Veterinary Parasitology (WAAVP). Here, we present a critical analysis of the strengths and limitations of these guidelines in light of the practical considerations when working in the field.