



## ANTIPARASITIC EFFICACY OF OXYCLOZANIDE AND PRAZIQUANTEL IN CESTODE PARASITISM IN LAMBS

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**Abstract:** In this study, we have assessed the antiparasitic efficacy of two drugs (Prazicest and Douvistome) and investigated the occurrence of cestode chemoresistance to the active substances in these drugs. We conducted the study using lambs from two sheep farms in Timiș County, to which we administered one drug per flock. To determine efficacy, we evaluated the initial infestation level on day 0, followed by evaluations on days 7, 14, and 21 post-treatment. Infestation levels were determined using the quantitative McMaster method by assessing the number of parasitic eggs per gram of fecal matter (EPG). Efficacy was calculated using the FECRT formula. The antiparasitic efficacy against cestodes in lambs was found to be 94.50% for Prazicest and 92.75% for Douvistome. Based on the results obtained, we observed no chemoresistance phenomenon for these anthelmintic drugs.

### • Introduction

Sheep breeding is one of the most important branches of agriculture in Romania.

Gastrointestinal helminthiasis is among the main parasitic diseases causing economic losses. These parasitic infections evolve differently based on the climatic and biotic factors in each region. Lambs raised on pasture alongside adult animals are much more affected by parasitic diseases, they lose weight and lag behind in growth.

Commonly used drugs for treating cestodes in lambs include niclosamide, benzimidazoles and praziquantel.

The purpose of the study is to investigate the antiparasitic efficacy of two drugs, *Douvistome* and *Prazicest*, against cestodes identified in two flocks from Timiș County.

### • Material and method

The study was conducted over a period of 21 days, on two *Tsucana* breed sheep farms in Timiș county, respectively from the localities of Cadar (farm 1) and Berecsăul Mare (farm 2).

The experiment focused exclusively on young lambs with a maximum age of 4 months, from both farms. A total of 160 fecal samples were collected throughout the experiment, with 20 samples taken from the lambs of each flock on days 0, 7, 14, and 21 (totaling 80 samples per flock). These samples were collected to initially assess the level of infestation in each herd on day 0 by counting the cestode oncospheres eliminated through feces (EPG), and subsequently to monitor the evolution of EPG and, implicitly, the antiparasitic effect of each drug. The degree of infestation was determined using the McMaster method.

On day 0, lambs from each farm were treated as follows:

- Farm 1: *Douvistome* (oxyclozanide) at a dosage of 1 ml per 3 kg body weight, administered orally.

- Farm 2: *Prazicest* (praziquantel) at a dosage of 1 ml per 10 kg body weight, administered via intramuscular injection.

Anthelmintic efficacy was determined based on the FECRT formula.

### • Results and discussions

Using the McMaster method, the following results were identified in the lambs from the 2 farms (fig. 1).

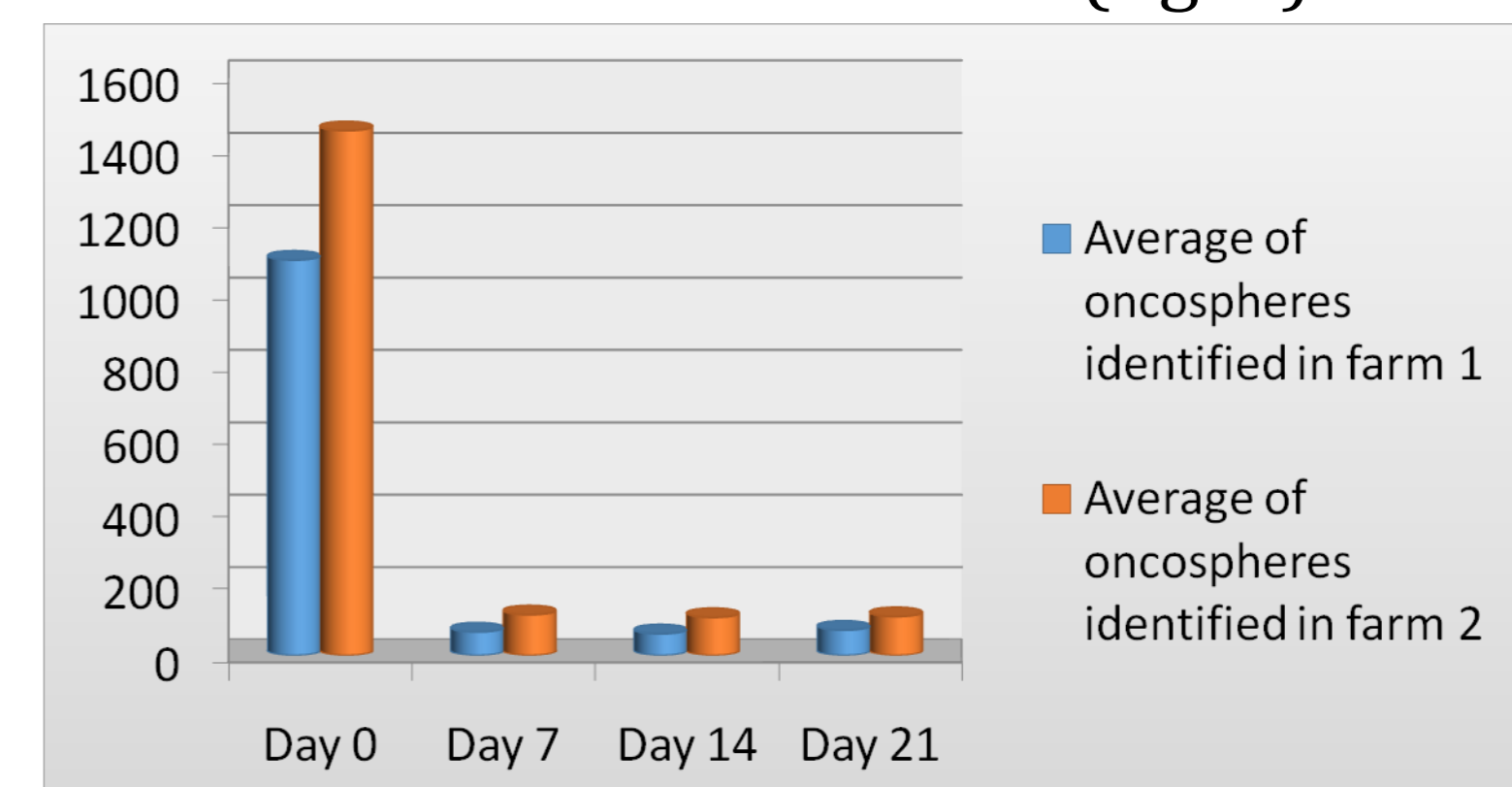


Fig. 1. Graphic representation of the evolution of parasitism in lambs from the 2 farms after treatment

The anthelmintic effect of the drugs was observed immediately, by the massive elimination of adult cestodes together with the feces (fig. 2, 3).



Fig. 2, 3. Cestodes eliminated by lambs after treatment

According to the FECRT formula, the efficacy of oxyclozanide against cestodes was **94,5%** and the efficacy of praziquantel was **92,75%**.

Worldwide, the efficacy of praziquantel has been shown to be 100% in Turkey and 98% in New Zealand. The data from our country is limited. In the case of oxyclozanide, data on its effect against cestodes are non-existent in our country. Nevertheless, the data we obtained was very satisfactory.

### • Conclusions

Cestode parasitism was identified in both sheep flocks.

Based to the antiparasitic effectiveness observed with both drugs, it has been demonstrated that the products *Douvistome* and *Prazicest* are in the "safety group".