Efficacy of a novel formulation of injectable eprinomectin against natural gastrointestinal nematode (GIN) infections in semi-extensive dairy goats

Pedro Rodriguez*[1], Juan P. Casas[2], Julio G. Prieto[3], Manuel La Nuez[3], Joaquin Sánchez[4], Juan M. Nieto[5], Miguel A. Habela[5]

1 Ceva Sante Animale, Libourne, France
2 Ceva Salud Animal, Barcelona, Spain
3 Biomedical Sciences Department, University of León, León, Spain
4 Animal Medicine Department. Pathology, University of Extremadura. Veterinary Faculty, Cáceres, Spain
5 Animal Health Department. Parasitology, University of Extremadura. Veterinary Faculty, Cáceres, Spain

Introduction

Nematode gastrointestinal infection (GIN) is an important parasitic problem in goats worldwide. Eprinomectin is the latest avermectin developed to control internal and external parasitosis in cattle. Eprinomectin has a large spectrum, high endectocide efficacy and a low excretion in milk that makes it appropriate for the use in lactating animals.

Objectives

A new eprinomectin injectable formulation has been developed with 0 withdrawal period in milk for dairy cattle. The objective of the present study was to evaluate the efficacy of Eprecis® 20mg/ml against natural gastrointestinal nematode infections in goats.

Materials and methods

From a 400 mixed production goats flock located in Extremadura (Spain) 30 animals were selected. The average milk production was 1.5l/day at the moment of treatment. All animals were naturally infected by GIN. Faecal egg counts (FEC) of GIN were performed. The arithmetic average of egg per gram of faeces (epg) excretion of the flock was ≥300. The flock wasn't treated with anthelmintics at least 2 months prior to the beginning of the trial.

Experimental design

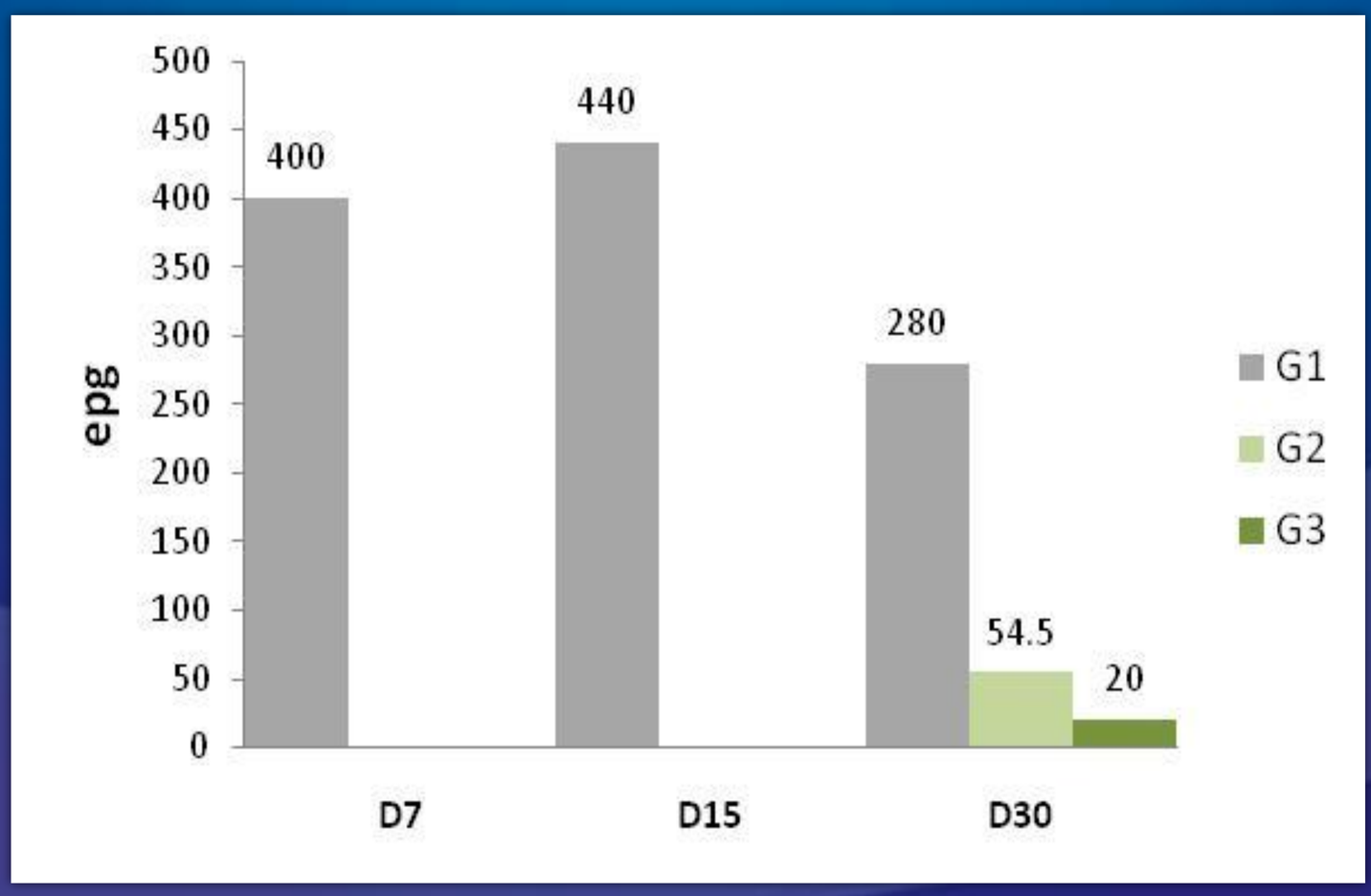
Animals were randomly distributed in 3 groups of 10 animals each. G1 (control group/not treated), G2 (animals treated at 0.2mg/kg body weight (bw) subcutaneously), G3 (animals treated at 0.4mg/kg bw subcutaneously). D0 was the day of treatment and on D0, D7, D15 and D30 FEC (Mc Master, 1970) and coprocultures (Van Wyk, 2004) were performed.

Results

All groups had a similar arithmetic average epg on D0 (the day of the treatment): 300 (G1), 345,4 (G2) and 320 (G3).

- Animals on Group1 showed a continuous eggs excretion after treatment. Arithmetic average epg excretion was 400 on D7, 440 on D15 and 280 on D30.
- Animals on Group2 showed an arithmetic average epg excretion of 0 at D7 and D15 and 54,5 epg at D30.
- Animals on Group3 showed an arithmetic average epg excretion of 0 at D7 and D15 and 20 epg at D30.

Both treated groups showed an efficacy of 100% up to D15.
On Day 30 both groups had a slight rise on epg with an efficacy <85%.



Conclusions

A novel injectable formulation of eprinomectin (Eprecis® 20mg/ml) has been proven to be efficacious on reducing GIN populations in naturally infested goats flocks at a rate of 0.2 or 0.4 mg/kg bw both applied subcutaneously. The persistency, based on epg counts, was of at least 15 days for GIN.