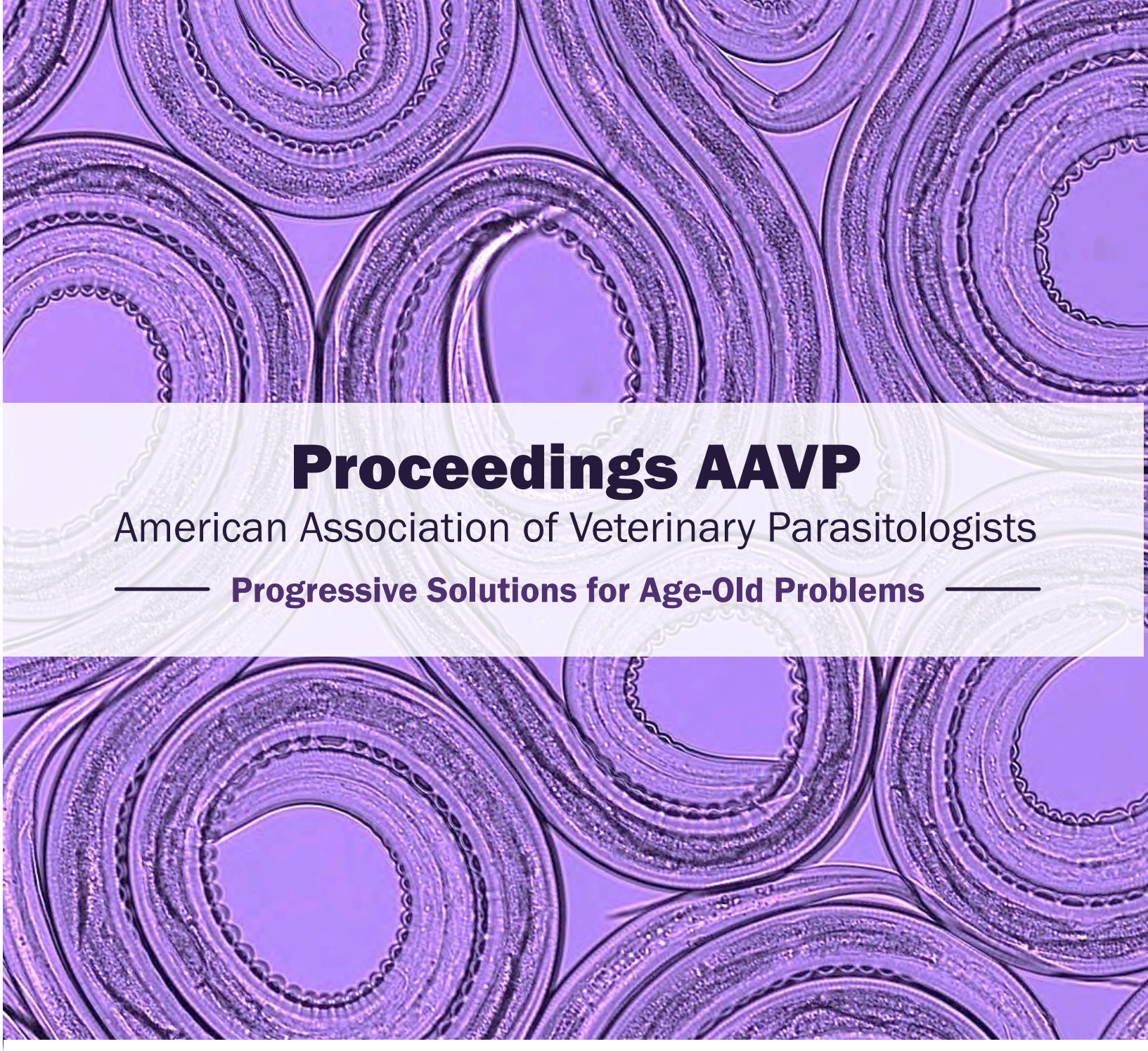


Proceedings AAVP

American Association of Veterinary Parasitologists

Progressive Solutions for Age-Old Problems

AAVP

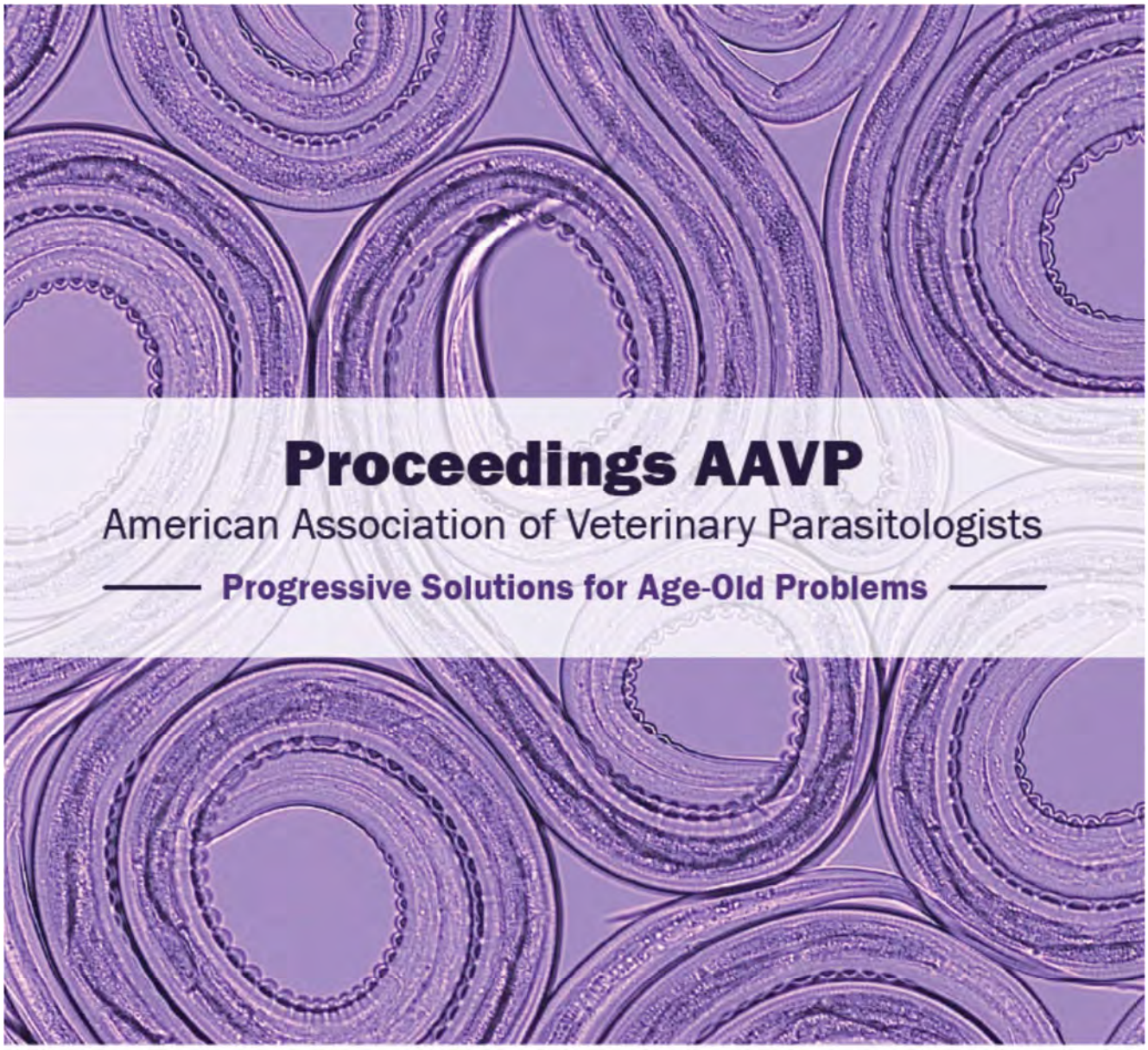
Membership Directory

65th Annual Meeting

Virtual Meeting

June 20–23, 2020

Reproduced with permission from Dr. Russell Avramenko and Dr. John Gilleard and cover of International Journal for Parasitology 49,1



Proceedings AAVP

American Association of Veterinary Parasitologists

Progressive Solutions for Age-Old Problems

AAVP

Membership Directory

65th Annual Meeting

Virtual Meeting

June 20–23, 2020

Reproduced with permission from Dr. Russell Avramenko and Dr. John Gilleard and cover of International Journal for Parasitology 49,1

haplotypes in both hosts foxes and coyotes. Next-generation sequencing technologies represent a valuable tool to further characterize *Em* in multiple hosts to assess the current distribution and possible origins of the European strain in North America. This is particularly important to understand the patterns of geographic expansion of the parasite, the differences between strains related to host specificity, infectivity, development, and virulence as well as the role of different hosts in the transmission of the parasite.

Cattle Nematodes

14

Monepantel in cattle: pharmacokinetics and nematodicidal efficacy

Candela Canton*, Lucila Canton, Adrian Lifschitz, Paula Domínguez, Juan Torres, Carlos Lanusse, Luis Alvarez, Laura Ceballos, Mariana Ballent. Laboratorio de Farmacología, Centro de Investigación Veterinaria de Tandil (CIVETAN), UNCPBA-CICPBA-CONICET, Facultad de Ciencias Veterinarias, UNCPBA

The increasing levels of resistance to all traditional anthelmintic classes have encouraged the search for molecules with alternative mechanisms of action. The broad-spectrum nematodicidal drug Monepantel (MNP) was initially developed to use in sheep. The goals of the work described here were to evaluate the pharmacokinetic (PK) behaviour and anthelmintic efficacy of MNP given to calves naturally infected with gastrointestinal nematodes (GIN) resistant to ivermectin (IVM) on two commercial farms. Thirty (30) male calves were randomly allocated into two groups (n= 15) and treated with either MNP orally at 2.5 mg/kg or IVM subcutaneously at 0.2 mg/kg. Eight animals from the MNP treated group (Farm 1) were randomly selected to perform the PK study. Drug concentrations were measured by HPLC. The efficacy was determined at 15 days after treatment by the FECRT. MNP and $MNPSO_2$ were the main analytes recovered in plasma. $MNPSO_2$ (measured in plasma up to 216 h post-treatment) systemic exposure was markedly higher compared to that obtained for MNP (measured up to 120 h post-treatment). Higher Cmax and AUC values were obtained for the active $MNPSO_2$ metabolite (96.8 ± 29.7ng/mL and 9220 ± 1720ng.h/mL, respectively) compared to MNP (21.5 ± 4.62ng/mL and 1709 ± 651ng.h/mL, respectively). The $MNPSO_2$ AUC value was 6-fold higher compared to the parent drug. Efficacies of 99% (Farm 1) and 96% (Farm 2) demonstrated the high efficacy of MNP ($P< 0.05$) against GIN resistant to IVM in cattle (reductions between 43 and 68% in both farms). While IVM failed to control *Haemonchus* spp. and *Cooperia* spp., MNP achieved 100% efficacy against *Haemonchus* spp., *Cooperia* spp. and *Ostertagia* spp. on both farms. However, MNP failed to control *Oesophagostomum* spp. (efficacies ranging from 22 to 74%). In conclusion, the oral treatment with MNP should be considered for dealing with IVM resistant parasites in cattle.