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Prophylactic and therapeutic use of plant preparations to control coccidiosis in commercial slaughter turkeys

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Coccidiosis generates serious economic losses in the commercial turkeys production. The prophylactic use of coccidiostats in feed is determined by the European Council Directive 2011/50 / EU, and from 2021 it is to be prohibited. Therefore, natural products based on herbs and plant extracts are an attractive alternative. They have no withdrawal period for meat, they are allowed to be used in laying hens and their use is allowed in ecological farming. There are many preparations available on the market, including Avericox® (Mercordi Animal Care, Belgium), Avicox® (Medion, Vietnam), aviCOXsol®PF (AdiFeed, Poland) and Avitrin® (Coveli, Brazil). They contain herbal extracts and essential oils, and Garlivit AKM® (Artimon, France) garlic.

MATERIAL AND METHODS. Turkeys of the breed Big 6 (Farm A) and Hybrid Converter (Farm B) were kept on 2 commercial turkey farms. Observations were carried out on 4 consecutive bird insertions on each farm. The birds have undergone a routine vaccinations and have been fed with commercial fodder with coccidiostat (monenzin). In the third week of life, birds received Garliwit AKM ® in the amount of ½ liters of preparation per 1000 l of drinking water for 12 hours for 3 to 5 consecutive days, and then next doses in the case of emerging health problems. In the fourth week of bird life, Avicox® or Avitrin® preparations were prophylactically administered for a further 3 days at a dose of 1l of the preparation per 1000 l of drinking water available 24 hours a day. Presence and number of oocysts were monitored by weekly coproscopic examinations of stool samples by flotation method. If OPG was found at a level higher than 8,000, the birds received Adicoxsol® or Avitrin® at an initial dose of 2l / 1000l of water for the first 3 days and a further 2 days in a dose of 1l/1000 l of water.

RESULTS. In 6 out of 8 cases, the administration of herbal preparations resulted in a decrease in the number of oocysts excreted by 80 to 97%. At the same time, the mortality remained at a similar level to that before the confirmation of the infection. In two cases, when no significant decrease in number of oocysts was noticed or in case of increased mortality, birds were treated with TriCoc® (Vetos farma, Poland).

DISCUSSION AND CONCLUSION. With the prophylactic use of herbal preparations in both farms, it was possible to maintain coccidia-free birds (on the basis of the absence of oocysts in the faeces examined) up to 5–8 weeks of age in 7 out of 8 subsequent bird insertions. Only in one case did the oocysts appear in faeces in the 3rd week of bird life. In both farms, the maximum number of oocysts per gram of faeces was recorded between 7 and 13 weeks of the birds' life, whereas typically the numbers of oocysts peak by 4 to 6 weeks of age (Long and Millard 1977, Mathis 1989, Chapman 2008). In 6 out of 8 cases, treatment with herbal preparations was extensive to significantly reduce the number of oocysts excreted and there was no need to treat the birds with sulfachloropyrazine. At the same time, the feed consumption per kilogram of body

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weight of birds slightly decreased and amounted to 2.54 kg on average, while assumed 2.59 kg according to the tables of feed companies. The assumed slaughter weight was achieved in the expected time.