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INFLUENCES OF THE MELATONIN IMPLANT ON THE PHYSIOLOGICAL FUNCTION OF FUR ANIMALS DEPENDING ON SPECIES AND AGE*

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Studies conducted on seasonal mammals revealed that exogenous melatonin mimicking the effects of short daylength accelerates the growth of winter fur and affects body mass, fat content and food intake of animals. Continuous-release melatonin implants were used in the fur animals industry.

Since our knowledge about influence of melatonin implants on antioxidant system (AOS) and immunity of farmed Candies is very scarce, the aim of this study was to investigate the effect of exogenous melatonin on the specific activities of superoxidedismutase and catalase, the contents of reduced glutathione (GSH), retinol, α -tocopherol and total tissue protein in liver, kidney, heart and spleen and the leukogram composition of polar fox, silver fox, raccoon dog, and three color types of mink (standard, silver-blue and pastel). Melacryl, which contains melatonin, was subcutaneously implanted in the interscapular zone.

Treatment of melatonin implants accelerated the growth of winter fur in all species without any deleterious effect on AOS in silver foxes, raccoon dogs while polar fox and mink demonstrated considerable changes. The investigations of the leukogram of juvenile and adult foxes and juvenile raccoon dogs indicate that the melacryl's action depends on the age of the animals while no age dependant effect was observed in polar fox.

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