

## MEASUREMENT OF $^{137}\text{Cs}$ ACTIVITY IN LIVING CHICKEN

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The possibility of measuring the  $^{137}\text{Cs}$  activity in broiler chickens *in vivo* was examined. The experiment was conducted with 7-22 day-old broiler chickens (White Leghorn hybrid, race ISA VEDETTE). Three oral doses of  $^{137}\text{Cs}$  (total activity 5 kBq/chicken) were administered using a special applicator in the course of one day (at 8:00, 12:00 and 16:00). The radioactivity was determined using a Gamma Spectroscopy system with a stabilised NaI/Tl detector (3x3 ins, i.e. 75x75 mm, in a lead box. Measurement was carried out 1d, 2d, 3d, 4d, 7d, 8d, 14d and 15d after the  $^{137}\text{Cs}$  dosage in live chickens (in vivo) fixed on special board. The detector was put closely to the body in the area of breast muscles. Radiocaesium activity concentrations in daily fresh excreta were also determined.

A rapid uptake of the orally administered  $^{137}\text{Cs}$  (within a few hours) and also rapid loss of radiocaesium were observed. Dynamics and accuracy of the *in vivo* measurement of  $^{137}\text{Cs}$  activity are comparable with recently published results (Pöschl et al., 1997) of the *in vitro* measurement of radiocaesium activity. Only initial  $^{137}\text{Cs}$  activity (during 2 days after  $^{137}\text{Cs}$  application) was higher with regard to the content of contaminated feed mixture in the gastrointestinal tract.

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Pöschl M, Borkovec V, Zelenka J (1997) Dynamics and distribution of radiocaesium in broiler chicken. *Radiat Environ Biophys* 36:169-174



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