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Individual and combined effect of *Fusarium* toxins *in vivo*

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Feed containing fumonisin (5 ppm; F), zearalenone (Z) and deoxynivalenol (D) (0.25 ppm+1 ppm; ZD) individually and these three toxins in combination (5 ppm+0.25 ppm+1 ppm; FZD) was fed to adult Pannon White (n =15/group) male rabbits (4±0.5 kg) for 65 days to determine the *Fusarium* toxin effect on breeding rabbit bucks' sperm quality and endocrine function. The toxin levels were the lowest limit values for farm animals of the Commission Recommendation (2006/576/EC). On trial days 0, 30 and 65 blood and semen were sampled, and from semen pH, concentration, motility and morphology of the spermatozoa were investigated. The ratio of spermatozoa showing progressive forward motility decreased ($P<0.05$) from 80% to 67% in the FZD group. Differences were found between the data of the ZD (66.3%±23.7) and control animals (80.2%±11.2) concerning the normal morphology of spermatozoa. After gonadotropin-releasing hormone analogue treatment, the testosterone concentration was lowered in the FZD animals after 65 days. There was no difference among groups in feed consumption and BW.

Histophatology revealed lowered spermiogenesis activity occurred in lower percentage in the ZD group (30.77%), while in FZD it was much more progressed (64.28%), referring to a synergistic effect of the three toxins.

The research was supported by the Hungarian Academy of Sciences (within the frame of the MTA-KE "Mycotoxins in the food chain" Research Group), by the Bolyai János research grant by the Hungarian Academy of Sciences (BO_499_13) and by the project TÁMOP-4.2.2.A-11/1/KONV-2012-0053, OTKA 100810.