

Title            Method for rearing *Oryzaephilus surinamensis* (L.) (Coleoptera: Silvanidae), a pest of stored wheat, in the laboratory.

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Citation        Advances in stored product protection. Proceedings of the 8th International Working Conference on Stored Product Protection, York, UK, 22-26 July 2002 (2003); 346-349

### **Abstract**

*O. surinamensis*, the sawtoothed grain beetle, is considered a secondary pest of stored grain because it is unable to attack undamaged kernels. However, mechanized harvesting of grain fractures kernels, allowing damage by this species and, thus, the beetle may be regarded as a primary grain pest. In Brazil, *O. surinamensis* has been found in almost all storage facilities. The aim of this work was to develop a method for laboratory production of the species using wheat grain to produce high quality specimens for research experiments, such as chemical resistance investigations. Adult insects were collected in grain storage facilities and brought to the Entomology Laboratory of Embrapa Trigo in Rio Grande do Sul, Brazil, and the experiment was set up rearing the insects on five diets of differently milled wheat grain, replicated four times. The adults were sieved from the culture and left for 10 days to lay eggs in glass jars filled with each medium, which were kept at 25 plus or minus 5 deg C and 65plus or minus 5% relative humidity. After this period, the medium was sieved to remove all adults. The number of eggs, larvae, and pupae were counted at five-day intervals, up to the following adult generation. The results showed that a diet of grade-20 milled wheat produced the highest quantity and best quality of offspring. With this diet, it was also observed that it is possible to get 89.0% of eggs at day 5, 30.5% of larvae at day 10, 43.0% of pupae at day 30 and 63.4% of adults at day 46.