Название публикации:
Studying development of hermetia illucens fly larvae cultivated on high cellulose plant substrates

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Аннотация:
Hermetia illucens L. larvae with experimentally confirmed morphological and genetic characteristics were grown on plant substrates with 4.3% to 19.0% cellulose content: crushed corn kernels, wheat bran, beet pulp, and distillery stillage. It has been determined that the larvae are able to grow rapidly on the plant substrates during 10-14 days until the prepupal stage if optimal conditions are maintained, i.e.: air temperature (28 degrees C) and substrate humidity about 60%. The highest substrate conversion was demonstrated for corn kernels and was equal to 77% in 14 days. A biomass yield of 181 g from 1 kg of substrate was obtained. With wheat bran the conversion was 64%, process time: 10 days. Distillery stillage and beet pulp contained high amounts of cellulose, and their use as feed substrate yielded little accumulation of larvae weight: 84 g and 34 g of dry biomass from 1 kg of substrate, respectively. Presumably, cellulose is a limiting factor as a nutritional medium for Hermetia illucens larvae, but bioconversion efficiency in the case of its high content may be increased by adding more nutritious substrates like corn kernels.

Ключевые слова:
fly; Hermetia illucens L.; larvae; Black soldier fly; biomass; bioconversion; substrates; cellulose