
Poster Presentation

[PS02] ポスター発表(学生 B:コアタイム1)

Sat. Mar 30, 2024 11:30 AM - 12:30 PM Sakura (Student) (Sakura)

[PS02-91] Effects of Black Soldier Fly Frass (BSFF) on Growth, Yield,
and Soil Arthropods Abundance in Edamame Fields

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The utilization of black Soldier Fly (BSF) larvae are increasingly used for bioconverting organic waste into protein and frass (BSFF). BSFF has potential as an organic fertilizer, but its effects on crop production, biodiversity, and soil organisms, compared to other fertilizers, are poorly understood. We evaluated the comparative performance of BSFF with that of commercial fertilizer types (NPK fertilizer and compost) on Edamame production. Edamame in NPK plots averaged a height of 71.1 ± 0.79 cm, not significantly different from BSFF plots at 69.47 ± 3.22 cm ($P > 0.05$). BSFF plots had the highest yield average, at 84.27 ± 7.79 g/plant, which was not significantly different from NPK plots at 85.05 ± 7.37 g/plant ($P > 0.05$). The application of BSFF increased the abundance of soil arthropods, averaging 5.62 ± 0.99 individuals/plot, the highest among all treatments ($P < 0.05$). Trophic-level predators were most abundant in BSFF plots, averaging 3.87 ± 0.91 individuals/plot, compared to other treatments ($P < 0.05$). Ground beetles (Coleoptera) were the dominant arthropod group in all treatments.