

CONTINUOUS OR NOT CONTINUOUS: INSIGHTS INTO SOME TEMPORAL FEATURES OF THE FEMALE SIGNALS OF BROWN MARMORATED STINK BUG (*HALYOMORPHA HALYS*) TO IMPROVE ATTRACTION TOWARDS MALES

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The Brown Marmorated Stink Bug (BMSB), *Halyomorpha halys* (Stål, 1855), is an alien insect belonging to the family Pentatomidae (Hemiptera), and a native of south-east Asia that was recently introduced into Italy. The control of this pest requires the massive use of insecticides, which however are not effective or sustainable. In this way, the adoption of IPM solutions by using a multi-strategy approach (e.g. aggregation pheromone lures, parasitoids, etc) could be an important alternative. Recent experiments have shown that BMSB communicates using vibrational signals and that males are attracted by a female song. The aim of our experiment was to select between two different song playback types (continuous and discontinuous) to find the more effective method to attracting the males.

A laser vibrometer was used to monitor the playback signals emitted by a mini-shaker from the surface of a bean plant leaf. The playbacks consisted of a pre-recorded female signal that was transmitted either continuously or with regular silent pauses (4s of song + 6s of silence) in trials of 5 min. Males (n = 30) were given 5 min to reach the tip of the mini-shaker on a bean plant

Our results indicated that, when stimulated with continuous signal, 13 males reached the target, while 25 males showed the typical searching behaviour ("run-listen-run"). The discontinuous signal proved to be significantly less efficient in attracting males: only 6 males reached the target and only 12 showed the "run-listen-run" behavior. We concluded that the use of a continuous playback signal looks more promising for the implementation of BMSB traps.