In a previous work, we showed that soil irrigation with molasses accelerates microbial mineralization of sugarcane trash. In this work, we evaluated evolution of nitrogen and phosphorous contents after molasses incorporation in soils where sugarcane trash was incorporated or left on the soil surface. Plastic containers filled with soil were irrigated with 0.6 and 2% molasses. Sugarcane trash was incorporated or left on the soil surface. Containers irrigated with water were used as controls. Soil samples were collected at different times after molasses incorporation. Nitrate, ammonium and phosphor contents were determined with Hach reagents. Molasses incorporation increased soil nitrogen, ammonium and phosphor contents. Highest increase in nitrogen and phosphor contents was observed when trash was soil incorporated. Our results suggest that incorporation of 2% molasses to soil amended with sugarcane trash increases nitrogen and phosphor availability for plant growth.

Currently, GIS are being used in different research fields such as plant pathology as key tools for the study of diseases. The purpose of this study was to test different emergence indexes and to propose a new one for the calculation of emergence velocity of *Sicyos polyacanthus*. The assay was carried out in Santa Bárbara (Tucumán, AR) during the year 2005, in plots of 2 x 2 m totally randomized with 5 replications; 150 seeds were sown per plot in furrows of 0.40 m at 0.02 m deep. Each plot was sown with 5 lines and 30 seeds. The different models for comparative calculus were: EV (emergence velocity); EVI (emergence velocity index), EVC (emergence velocity coefficient) and ERV (emergence relative velocity).

The proposal of the ERV index was made for species emergence in field plots. Greater values were obtained with ERV and there were significant differences between this and the other indexes. This index enables the determination of vigor and velocity by simple readings. In tests with *S. Polyacanthus*, the ERV index is the most adequate for vigor and emergence velocity due to its sensitivity for differentiation and comparison of plots, samples and fields, with their different values and management practices.

The germination velocity and the emergence velocity of plantlets are two tests used for evaluation of seed vigor. The objective of this work was to test different emergence indexes and to propose a new one for the calculation of emergence velocity of *Sicyos polyacanthus*. The assay was carried out in Santa Bárbara (Tucumán, AR) during the year 2005, in plots of 2 x 2 m totally randomized with 5 replications; 150 seeds were sown per plot in furrows of 0.40 m at 0.02 m deep. Each plot was sown with 5 lines and 30 seeds. The different models for comparative calculus were: EV (emergence velocity); EVI (emergence velocity index), EVC (emergence velocity coefficient) and ERV (emergence relative velocity).

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