



An Integrated Approach to Manage Soybean Cyst Nematode: Rotation of the Resistant Sources, Compost, and Cover Crops.

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BACKGROUND

Soybean cyst nematode (SCN) is the most economically devastating pathogen of soybeans in the United States and most soybean growing countries worldwide. The most effective SCN management practice is the use of resistant cultivars. SCN, however, still causes significant yield loss due to the continuous use of cultivars derived from a single line of resistance, resulting in selection for virulent populations.

OBJECTIVES

1. To find out the rotation system of SCN resistant varieties Peking and PI88788 that has an effect of SCN population and produce maximum soybean yield.
2. Evaluate the selected cover crops in both greenhouse and field conditions to manage SCN.
3. Evaluate the different types of compost to manage SCN in field conditions.

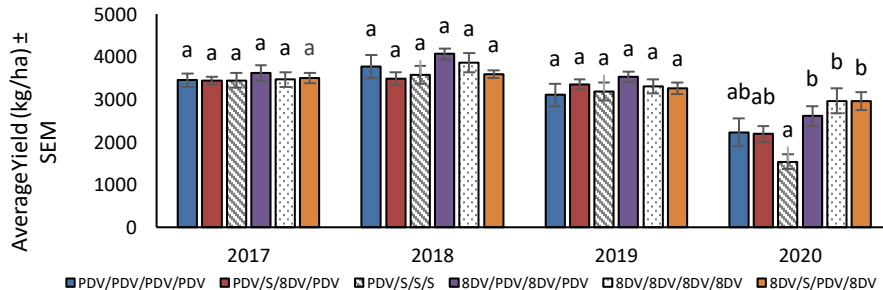
METHODS

Objective 1: A four-year field study (2017-2020) was conducted to evaluate the impact of six rotation systems with varieties derived from Peking (PDV) and PI 88788 (8DV) and susceptible (S) on the SCN population development and yield.

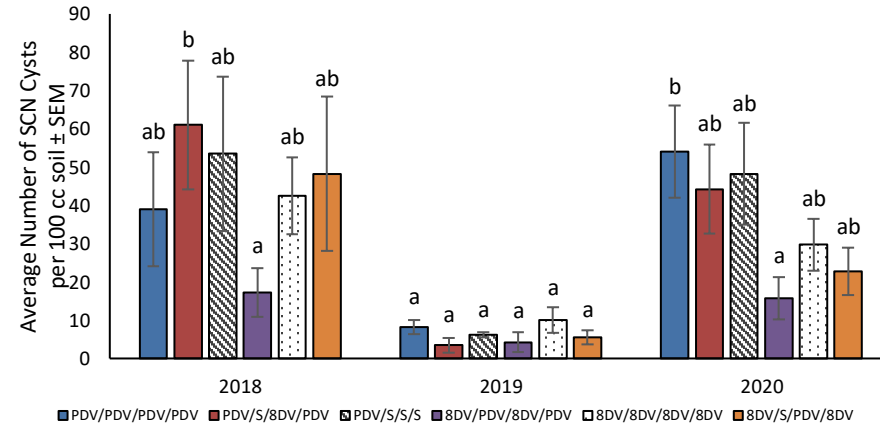
Objective 2 and 3: Field trials for both compost and cover crop evaluation is ongoing from 2021.

RESULTS

Rotation of SCN resistant sources Peking and PI88788 produced the highest soybean yield



Rotation of SCN resistant varieties Peking and PI88788 reduces SCN density



Negative correlation of soybean yield and SCN in 2020

