

## عنوان مقاله:

Determining the Relationship between Population Density of White Tip Nematode and Rice Yield

## محل انتشار:

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## خلاصه مقاله:

The relationship between initial population density of rice white tip nematode (*Aphelenchoides besseyi*) and yield was examined on *Oryzae sativa* cv. Alikazemi. Experiments were conducted in greenhouse, micro-plot and field conditions. Seinhorst's model was used to describe the relationship between nematode population density and crop yield. The parameters of the model, minimum yield ( $m$ ), constant coefficient ( $z$ ) and tolerance limit ( $T$ ) were obtained from the experimental data. On this basis, the predicted yield was calculated within the initial population ( $P_i$ ) range. To evaluate the difference between the observed yield ( $Y_o$ ) and the predicted yield ( $Y_p$ ), a discrepancy ratio ( $DR$ ) was calculated. The results revealed that there was a significant correlation between mean yield reduction and nematode populations ( $P < 0.01$ ). At the highest initial population density, grain yield was reduced by ۶۹%. In greenhouse experiments, the discrepancy ratio was larger than ۰.۰۳ and the predicted yield was overestimated compared to that predicted in microplot or field experiments. The model had the minimum mean of error when data were incorporated from the field experiments ( $ME = 0.0149$ ). The indices from microplot and greenhouse experiments were ۰.۰۸۲۳ and ۰.۲۰۳۶, respectively. The relationship between nematode population density and relative grain yield fitted to the model was under field conditions.

## کلمات کلیدی:

*Aphelenchoides besseyi*, Field, Greenhouse trials, Microplot trials, *Oryzae sativa*, Seinhorst's model

## لینک ثابت مقاله در پایگاه سیویلیکا:

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