

Nematology**16:00****EFFICIENCY OF THE REBUILD SEINHORST ELUTRIATOR IN THE RECOVERY OF *M. CHITWOODI* JUVENILES FROM THE SOIL.****M.G. TEKLU, T.H. BEEN, C.H. SCHOMAKER AND A. BENIERS**Plant Research International, Wageningen University and Research Centre, Plant Sciences Group,
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The quantitative analysis of population dynamics of plant-parasitic nematodes requires the estimation of the final population density from both the soil and the roots. In research, e.g. when testing for partial resistance, a certain minimum number of nematodes have to be counted to minimize error. Therefore, an efficient method is needed to process sufficiently large soil samples. The Seinhorst elutriator for migratory nematodes can process samples of 500 g, while the Oostenbrink elutriator processes 250 g, but is generally used for samples of maximal 100 cc of soil. Recently, the Seinhorst elutriator was rebuilt and experiments were carried out to evaluate its extraction efficiency and variance. The new version of the Seinhorst elutriator was compared to the standard Oostenbrink elutriator using J2 of *M. chitwoodi*.

Counted numbers of freshly hatched J2 of *M. chitwoodi* (< 3 days old) were added to a sterile artificial soil, which was dispersed in a bucket and moistened with 500 ml of water. The normal procedures of both elutriators were followed. Also separate steps were investigated. The Seinhorst procedure uses a bank of 7, 50 µm sieves, to reduce the water, while in the Oostenbrink method 4 sieves of 45 µm are used. Both methods also use different filters and techniques to reduce both the remaining solution and remove fine particles from the solution. A 10-12% loss was found from Seinhorst banks of sieves while 14-16% losses were recorded with the Oostenbrink method. The Seinhorst method proved to lose more than 50% of the juveniles in the filtering process, mainly due to a suction device, while less than 11% losses occurred in this stage with the Oostenbrink method. Without suction device and a change in filter material, the recovery of the Seinhorst method improved to 97% of the juveniles of *M. chitwoodi* over the filters. After the Seinhorst apparatus and methodology was recalibrated the overall recovery of the Seinhorst elutriator improved to about 91% compared to 75% of the Oostenbrink elutriator. While, soil samples size processed in the Seinhorst elutriator were twice as large. A final comparison of the 6 Seinhorst tubes and 4 Oostenbrink tubes were made with adjusted filters of Seinhorst elutriators. No significant difference was noticed among individual tubes of both elutriators at 5% level of uncertainty.

Key words: Extraction technique, filtering, Oostenbrink elutriator and sieving.