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EFFECT OF WASTE RESIDUES FROM BLACK SEED AND JOJOBA SEED OIL EXTRACTION AS ORGANIC AMENDMENTS ON MELOIDOGYNE INCOGNITA, GROWTH AND OIL OF CHAMOMILE

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Abstract

Under greenhouse conditions, three rates viz., 1.25, 2.5 and 3.75 % of waste residues from black seed (*Nigella sativa* L.) and jojoba (*Simmondsia chinensis* (Link) Schneider) seed oil extraction produced either by cold press or screw press were evaluated as soil amendments for controlling *Meloidogyne incognita* root-knot nematode, and their affects on chamomile growth parameters, oil percentages and main compounds of essential oil. All treatments significantly (p = 0.01) reduced number of juveniles in soil or in roots, number of galls, egg-masses and consequently, rate of nematode build–up as compared to untreated plants. Statistical differences in the nematode stages were found within and between treatments. The percentage reduction in the nematode stages was comparatively more with black seed residues by screw press followed by black seed residues by cold press and jojoba seed residues by cold press but, applied jojoba seed residues by screw press was least effective in reducing the previous nematode stages. Also, all the tested organic amendments caused significant (p = 0.05 and / or 0.01) increase in shoot, root, flowers yield parameters, oil percentage and main compounds of essential chamomile oil, with few exceptions, as compared to untreated plants.