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Categorization of certain imported sugar beet varieties as affected by population density of root knot Nematode, *Meloidogyne incognita* in Egypt

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Abstract : Under open field conditions, ten sugar beet (*Beta vulgaris* L.) varieties were evaluated for their susceptibility/resistance against root knot nematode, *Meloidogyne incognita* according to nematode damage index (DI) which was calculated as an average of gall index, gall size and gall area. The percentage host vigor was calculated as an average of percentages root and leaf weight potentials and the tested technological characteristics (%sucrose, % purity and %total soluble solids) which used as a new scale to assess host reaction. The degree of susceptibility/resistance according to DI was combined with the percentage host vigor of each variety to give a better evaluation and clear relationship between nematode infection and sugar beet variety yield quality and quantity. On this basis, sugar beet varieties were categorized into nine varieties as tolerant (BTS 237, BTS301, BTS302, BTS303, Gazelle, Meridi, Panther, SN626 and Tenor) and one as highly resistant (SN627) against root knot nematode. The highly resistant or tolerant sugar beet varieties determined in this study could be recommended for breeding programme and could be introduced in integrated pest management for controlling root knot nematode.

Key words: Sugar beet varieties, *Meloidogyne incognita*, damage index, host vigor.

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