

Efficacy of Soil Amendment with Medicinal Plant Materials for the Control of Root-knot Nematode (*Meloidogyne incognita*) in Tomato

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Soil amendments with oriental herbal medicines such as fruit of *Anethum graveolens*, flower buds of *Syzygium aromaticum*, rhizome of *Cnidium officinale*, rhizome of *Coptis chinensis*, root bark of *Paeonia suffruticosa*, stem bark of *Phellodendron amurense*, and stem bark of *Cinnamomum cassia* at the rate of 0.2% (weight by volume of soil) significantly reduced *Meloidogyne incognita* infection (root gall formation) of tomato seedlings compared with the control. The most effective treatments were root bark of *P. suffruticosa* and stem bark of *C. cassia* as they gave minimum numbers of galls on tomato roots (4.7% and 8.9%, respectively, relative to control) as compared to other treatments. Another study with root bark of *P. suffruticosa* and *C. cassia* at different application doses also showed consistent results in reducing gall number. The control efficacy decreased as the application doses were lowered, indicating their dose-dependent control activities. These treatments significantly enhanced aboveground plant growths (total masses).