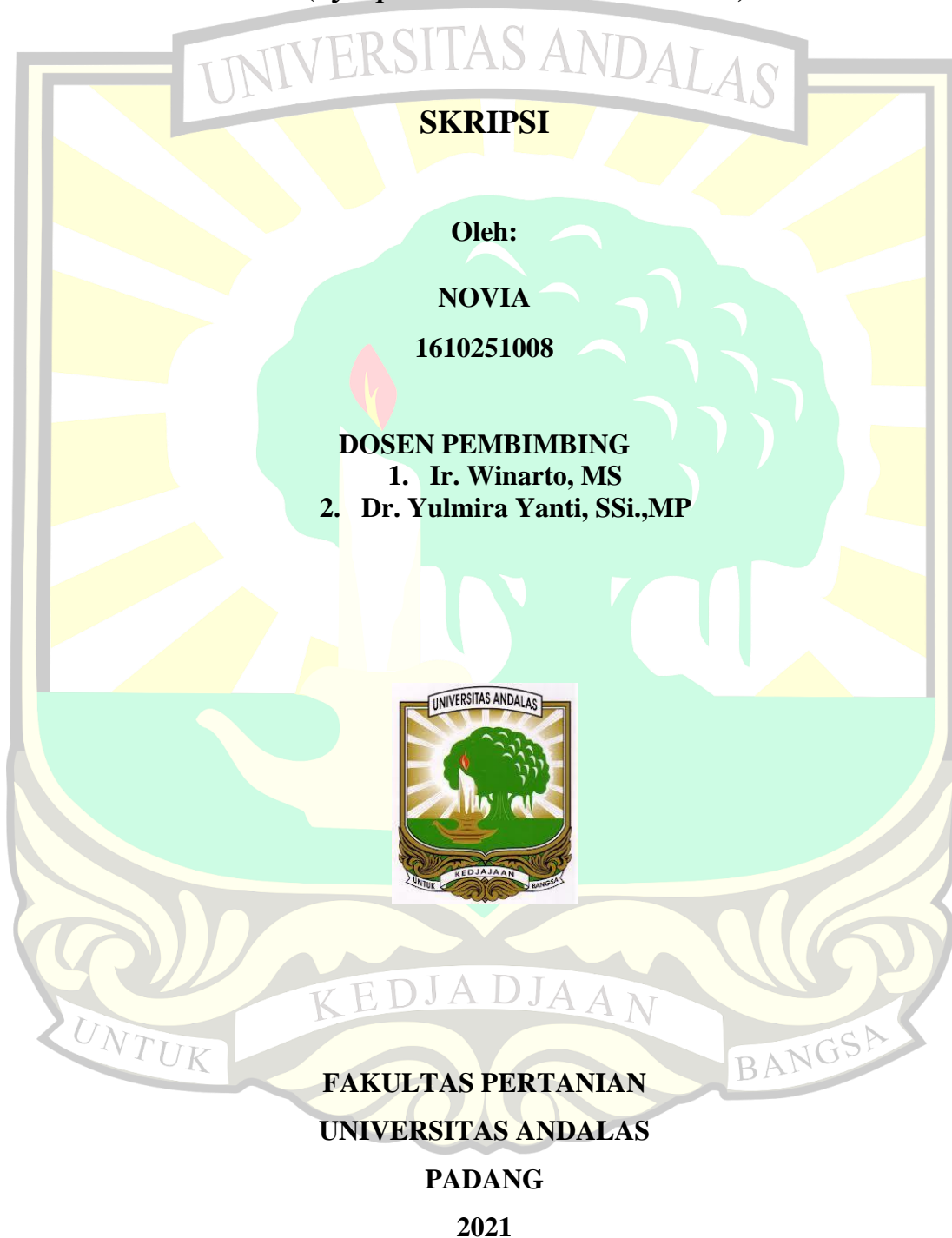


**INTRODUKSI KONSORSIUM *Bacillus* spp. UNTUK
PENGENDALIAN *Meloidogyne* spp. DAN
MENINGKATKAN PERTUMBUHAN TANAMAN TOMAT
(*Lycopersicum esculentum* Mill.)**



**INTRODUKSI KONSORSIUM *Bacillus* spp. UNTUK
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Mill)**

ABSTRAK

Bacillus spp. merupakan mikroorganisme yang dapat menekan perkembangan patogen tanaman dan meningkatkan pertumbuhan serta hidup berasosiasi dengan tanaman. Konsorsium *Bacillus* spp. merupakan gabungan beberapa spesies *Bacillus* spp. yang saling bersinergis dan tidak saling menghambat perkembangan bakteri satu sama lain. Tujuan penelitian mendapatkan konsorsium *Bacillus* spp. terbaik untuk mengendalikan *Meloidogyne* spp. dan meningkatkan pertumbuhan tanaman tomat secara *in planta*. Penelitian secara eksperimen dengan Rancangan Acak Lengkap (RAL) 7 perlakuan konsorsium dan 6 ulangan, yang terdiri atas (A). *B. pseudomycooides* strain EPL 1.1.4+*B. cereus* strain TLE 2.3, (B). *B. cereus* strain TLE 1.1+*B. cereus* strain TLE 2.3, (C). *B. cereus* strain SNE 2.2+*B. cereus* strain TLE 1.1, (D). *B. cereus* strain SNE 2.2+*B. cereus* strain TLE 2.3, (E). kontrol negatif (tanaman diinokulasikan *Meloidogyne* tanpa konsorsium *Bacillus* spp), (F). kontrol positif (tanaman tanpa inokulasi *Meloidogyne* dan konsorsium *Bacillus* spp) dan (G). nematisida *Carbofuran*. Introduksi konsorsium *Bacillus* spp dilaksanakan dua kali yaitu pada benih dan akar bibit tomat. Parameter yang diamati adalah perkembangan *Meloidogyne* spp. dan pertumbuhan tanaman. Hasil penelitian menunjukkan konsorsium *Bacillus* spp. yang terbaik untuk mengendalikan *Meloidogyne* spp. adalah konsorsium TLE 1.1 + TLE 2.3 dengan efektivitas (67.31 %). Konsorsium *Bacillus* spp yang dapat meningkatkan pertumbuhan tanaman yaitu konsorsium TLE 2.3 + TLE 1.1 dengan efektivitas (34.89%). Konsorsium *Bacillus* spp yang dapat meningkatkan pertumbuhan tanaman dan mengendalikan *Meloidogyne* spp adalah konsorsium TLE 2.3 + TLE 1.1 dengan efektivitas (51.1%).

Kata kunci : *Bacillus* spp ., inokulasi., konsorsium, *Meloidogyne* spp., tomat.

INTRODUCTION OF *Bacillus* spp. CONSORTIA TO CONTROL *Meloidogyne* spp. AND TO INCREASE THE GROWTH OF TOMATO PLANTS (*Lycopersicon esculentum* Mill.)

ABSTRACT

Bacillus spp. is a biocontrol agent that exhibits an inhibitory effect on plant pathogens, can live and associate with plant tissue. The *Bacillus* Consortium is a combination of several different *Bacillus* bacteria that synergize with each other and do not inhibit each other's development. The aim of this research was to get the best consortium of *Bacillus* spp. to control root-knot nematodes (*Meloidogyne* spp.) in tomato plants by in planta. This research is experimental with a completely randomized design of seven treatments and six replications, which included with *B. pseudomycoloides* strain EPL 1.1.4 + *B. cereus* strain TLE 2.3, *B. cereus* strain TLE 1.1 + *B. cereus* strain TLE 2.3, *B. cereus* strain SNE 2.2 + *B. cereus* strain TLE 1.1, *B. cereus* strain SNE 2.2 + *B. cereus* strain TLE 2.3, negative control (Plants inoculated by *Meloidogyne* without *Bacillus* spp consortium), positive control (plants without *Meloidogyne* inoculation and consortium *Bacillus* spp) and nematicides. The introduction of the *Bacillus* spp consortium was carried out in two stages, in the seeds and roots of the tomato seedlings. The observed parameters were the development of *Meloidogyne* spp and plant growth. The results showed that the suitable *Bacillus* spp consortium for controlling *Meloidogyne* spp, was TLE 1.1 + TLE 2.3 consortium with effectiveness (67.31%), the *Bacillus* spp consortium which good for increasing plant growth, was TLE 2.3 + TLE 1.1 consortium with effectiveness 34.89%). *Bacillus* spp consortium which useful for increasing plant growth and controlling *Meloidogyne* spp was the consortium of TLE 2.3 + TLE 1.1 (51.1%).

Key Words : *Bacillus* spp., inoculation, consortium, *Meloidogyne* spp., tomat.

