

TITLE: EFFICIENCY OF ESSENTIAL OILS IN THE CONTROL OF MOLE ROD IN LETTUCE

AUTHORS: BARROSO, K.A.²; PEIXOTO, A.R.¹; ANDRADE, B.P.C.¹; OLIVEIRA, X.B.¹; QUEIROZ, M.F.³; LUSTOSA, C.P.E.¹; PAZ, C.D.¹; SILVA, G.S.P.¹; ALMEIDA, C.O.¹; LIMA, M.A.G.¹

INSTITUTIONS: 1. UNIVERSIDADE DO ESTADO DA BAHIA, JUAZEIRO, BA (AVENIDA EDGARD CHASTINET, S/N - SÃO GERALDO, CEP 48900-000, JUAZEIRO – BA, BRASIL); 2. UNIVERSIDADE FEDERAL RURAL DO SEMI-ÁRIDO, MOSSORÓ, RN (RUA FRANCISCO MOTA, 572 – PRES. COSTA E SILVA, CEP 59625-900, MOSSORÓ – RN, BRASIL); 3. UNIVERSIDADE FEDERAL DE VIÇOSA, VIÇOSA, MG (AVENIDA PETER HENRY TOLFS, S/N – CAMPUS UNIVERSITÁRIO, CEP 36570-900, VIÇOSA – MG, BRASIL)

One of the most popular vegetables commercially in Brazil, lettuce (*Lactuca sativa* L.) is widely cultivated in Brazil. However, this crop is very susceptible to diseases, especially the rot caused by pectobacteria. Because of their easy adhesion, these bacterioses increasingly require efficient control measures, such as the use of essential oils. The objective of this work was to evaluate the efficiency of essential oils in the control of soft rot caused by *Pectobacterium aroidearum* in lettuce. The essential oils of clove, lemongrass, citronella, bergamot, rosemary, palmarosa, ginger, melaleuca, sage, orange and ginger were tested at concentrations of 0,25%; 0,5%; 0,75 e 1,0% (v/v) and compared with the control (0%). The lettuce plants of the Monica variety were inoculated with the isolate UNEB3 of *P. aroidearum* in the petiole region with a bacterial suspension adjusted $A_{530} = 0,36 (1 \times 10^9 \text{ UFC.mL}^{-1})$ and after 12 hours, were sprayed with the essential oils in their different concentrations and kept in the greenhouse for two days. The experiment was composed of four replicates with each replicate composed of four leaves, in a completely randomized design. Clove and orange oils (1.0%), palmarosa and citronella (0.75 and 1.0%) and lemon grass (0.5, 0.75 and 1.0%) were phytotoxic. Salvia oil at concentration of 0,50% and 0,75% showed highly efficient control with a 100% reduction in the incidence and severity of the disease, when compared to the control. Sage oil at concentrations of 0.25% and 1.0% also presented satisfactory results with 93.75% and 81.25% reduction in disease incidence, respectively. Oils clove (0.25 and 0.50%) and palmarose (0.25%) also stand out because they reduce the incidence of the disease by more than 62% the incidence of the disease. These results can be explained by the presence of compounds with bactericidal capacity of essential oils, such as linalyl acetate and linalool, which have high relative concentration rates (23.25 and 9.33%) in the best treatment, Salvia oil, identified by gas chromatography. The present work demonstrated the positive effect of the use of essential oils of sage, clove and palmarosa in the management of soft rot caused by *P. aroidearum* in lettuce, being a potential alternative for studies on the control of bacterioses in plants.

Keywords: *Pectobacterium aroidearum*, clove, palmarosa, sage.

Development Agency: Universidade do Estado da Bahia