Using Extracts of *Inula viscosa* for Controlling Diseases on Plants, Post-Harvest Products and Germinating Seeds.

O. Ziv[1]

Several tests were made to see the effect of extracts obtained by boiling and non-boiling extraction of *Inula viscosa*. It was found that adding extract of *Inula viscosa* to P.D.A. caused total inhibition of the development of various species of pathogenic fungi. In two of the fungi, *Botrytis cinerea* and *Rhyzopus stolonifer*, sporulation was delayed up to 12 days after inoculation. A linear correlation was found between the concentration of extract in P.D.A. and the delay in fungus development.

Comparison of extracts of several parts of the plant (young leaves, old leaves, stem, roots and flowers) which had been dried with hot air for 5 days prior to extraction, revealed that the most strongly inhibiting activity was of boiling-extraction extract of mature leaves. Boiling-extraction extract had significantly higher effects on fungus growth. There was insignificant inhibition by the extracts of the roots and flowers.

Application of boiling-extraction extract of *Inula viscosa* by dipping ground-nut seeds for 10 minutes significantly reduced infection by *Rhizopus stolonifer*, *Botrytis cinerea*, *Aspergillus niger* and *Aspergillus flavus*, in comparison with untreated seeds.

Inula viscosa extracts significantly inhibited seed germination of various crops. Inhibition of development of *Rhizopus stolonifer* and *Botrytis cinerea* on post-harvest grapes and tomatoes was also found.

No significant difference was found among plants sampled from 12 different locations in Israel.

Among several pathogenic fungi, *Rhyzopus stolonifer* was found most susceptible to *Inula viscosa* extract and, therefore, this fungus was used for bio-assay of the extract activity.

A mixture of *Inula viscosa* leaf powder with pure sand significantly inhibited the germination and growth of wheat and alfalfa seeds, and also of various weed seeds.

Key words: *Inula viscosa*, extracts, plant protection, allelopathy.

1 Dept. of Field Crops, ARO, The Volcani Center, Bet Dagan 50250, Israel.