

SUMMARIES OF DOCTOR'S THESES and of other Dutch papers which might escape attention because of their mode of publication!

A. M. MENNES: *Indole-3-acetic acid oxidase activity in root nodules and roots of Lupinus luteus L.. Purification and kinetics of the enzyme.* 96 pages. Leiden 1972.

SUMMARY

By means of ammonium sulphate precipitation and filtration through Sephadex G-100 the IAA-oxidase present in root nodules and roots of *Lupinus luteus* L. was purified and the activity of the various enzyme fractions thus obtained was determined. Comparison of the enzyme activities on a protein basis showed that IAA degradation in root nodules is lower than in roots.

After Sephadex filtration the kinetics of the enzyme were studied in greater detail and only a few differences between the enzyme from root nodules and roots were found. We therefore concluded that it was the same enzyme system. The enzyme also showed polyphenoloxidase activity – although this presumably is a different enzyme – and peroxidase activity, the latter being almost strictly in parallel with IAA-oxidase activity even after ion-exchange chromatography.

Several indications emerged that phenols were present in all enzyme fractions and had an inhibitory effect on the enzyme activity. The possible role of phenols in regulating the IAA-oxidase activity in the lupine is discussed.

Rhizobium lupini was isolated from the root nodules and cell-free enzyme preparations of these bacteria could oxidize IAA. The results with cell-free enzyme preparations of bacteroids, however, did not prove conclusively that the bacteroids have such an activity.

The complete thesis is available on request at the author's address: Dr. A. M. Mennes, Botanisch Laboratorium, Nonnensteeg 3, Leiden.