## Delaware scientists study soil's K reserve

In a continuing effort to make fertilizer recommendations more accurate in the state with respect to potassium additions, a team of researchers is now studying the potassium release characteristics of some 29 Delaware soils.

Reporting recently on this research to an audience of more than 3,000 scientists at the joint annual meetings of the American Society of Agronomy, Crop Science Society of America and the Soil Science Society of America in Houston, Tex., University of Delaware soils specialist Dr. William C. Liebhardt described steps being taken by the team to determine a way to predict reserve potassium in the soil.

The routine procedures used in soil testing, explained Lebhardt, do not appear to indicate the potential potassium supply as well as some alternative procedures, since they only measure readily available forms — water soluble fertilizer and exchangeable ions.

Mineral potassium in the soil has until now been considered to be somewhat unavailable, but the soil specialist said that he and fellow researchers are finding that, at least on the sandy soils of Delaware, it is more accurate to describe this form of potassium as "slowly available."

The Delaware scientists are

studying different soil test factors to determine the most effective way to measure the release of potassium from this material. The physical structure of the soil — sand, silt and clay percentages — as well as various clay minerals, do not appear to predict this.

The amount of potassium feldspar, a potassium mineral, in the sand fraction does appear to predict reserve potassium. Knowledge of the release mechanism of this reserve potassium potential added to traditional soil test procedures may improve the accuracy of fertilizer recommendation substantially with respect to crop response.

