Penn State has revolutionary crop analyzer

Components of the "infrared spectro computer" system analyzing grains and forages at Penn State include six units. Infrared light analysis is carried out in the small black box attached to the white instrument second from left. The systems operator is Melvin R. "Rick" Hoover of York, Pa., doctoral degree candidate.

UNIVERSITY PARK, Pa. - A new and rapid method to determine the quality of forages and feedstuffs for animals, using an infrared instrument and computer, is destined to become a major "breakthrough" in analyzing forage crops and cereal grains, according to plant scientists at The Pennsylvania State University.

The new device is called an "infrared spectro computer" and was developed jointly by scientists of the Agricultural Experiement Station at Penn State and the U. S. Department of Agriculture.

The "infrared spectro computer" is capable of predicting dry matter, protein, fiber, and total digestible nutrients of hay, grass silage, corn silage, cereal grains, and soybeans. Initial studies indicate that the analytical system can predict the nutritional value of these farm crops very accurately, declared Dr. John S. Shenk, project director and associate professor of plant breeding at Penn State.

Three general areas of application are being considered: (1) interdepartmental forage research at Penn State, (2) nutritional evaluation of farm forages and feedstuffs, and (3) hay marketing.

"If data from ruminant feeding trials can be collected on enough forage samples to calibrate with the technique, weight gains and milk production by animals might be predicted directly from forage samples rather than indirectly from chemical analyses and mathematical equations," Shenk stated.

And he explained that thousands of forage samples are generated each year by research projects within the College of Agriculture. These include animal nutrition experiments, forage management studies, and forage breeding programs. Applied to such projects, the new analytical technology will save considerable time and funds, he claimed.

Moreover, nutritional information provided by the "spectro computer" can be made available to other computer-centered research programs at Penn State. An example would be the Dairy Herd Simulation Program now used by Shenk in his forage breeding projects.

Equally important will be the time saved in analyzing feed and forage samples and in getting the results to farmers. Analysis on the

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