AN OPEN LETTER TO THE STUDENT CONSIDERING THE AGRICULTURAL ENGINEERING MAJOR

BY HAROLD C. SCHWALEN

AGRICULTURAL ENGINEERING DEPARTMENT

Field exercise in the measurement of irrigation water through a Cippolletti weir, a suppressed rectangular weir, a submerged orifice, and a Parshall flume.

On every farm are problems within the scope of agricultural engineering. These include the selection of size, type, and kind of farm machinery; a domestic water supply system; sewage disposal; farmstead electrical power requirements; the construction of farm structures; and the maintenance of all mechanical equipment.

Look to your University

Your University offers you a program of study in which the practical application of engineering principles is applied to the field of agriculture. At the University of Arizona these courses lead to the degree of Bachelor of Science in Agriculture with a major in Agricultural Engineering. Do not confuse this with the engineering degree, Bachelor of Science in Agricultural Engineering, given in some universities.

Need for training in Arizona

Arizona is, you know, one of the most completely mechanized states in this nation, not only in crop production, but in all other phases of agriculture and related industries.

You can apply engineering principles directly to the problems of land preparation with heavy equipment ,all harvesting operations, the processing of dairy products, citrus and vegetables, the application of insecticides and fertilizers, and to a large extent in the design of the modern automatic system used in feed processing and cattle feeding.

Did you know that more than 80% of the irrigated acreage of this state is dependent upon pumped water for at least part of its irrigation supply? You can see, then, that the selection and design of the irrigation pumping plant is an important engineering problem with which almost every farmer in the state must cope. Highly important, also, is planning the distribution system and irrigation layout.

The major in Agricultural Engineering at the University of Arizona provides a course of study that is of particular value in meeting the special problems of agriculture in this State.

What are the major fields?

If you graduate from the University with the agricultural engineering major, you will be prepared to enter one of the three major fields: public service, industry, or self-employment. In any of them you will work either directly or indirectly with the farm problems.

Proportionately, the largest number of our graduates are now in the farm-equipment industry as salesmen or factory representives; and several have acquired farm equipment dealerships of their own. Others work in the soil and water field with the Agricultural Research or Soil Conservation Services of the Federal government. Several operate rather extensive farms of their own.

What subjects do you study?

To majors in Agricultural Engineering, you will study slightly more mathematics and physics than in other majors in the College of Agriculture. You will also join College of Engineering students in courses in engineering drawing and surveying. You, as a major in Agricultural Engineering, must meet the basic requirements of the College in the biological sciences, chemistry, and in animal and plant industry courses.

Directly in the Department of Agricultural Engineering you will take courses such as farm shop, farm machinery, farm power, farm structures, irrigation practice, rural water supply and ground waters.

High school preparation

If you are now in high school, and considering the Agricultural Engineering major in the University, take all the mathematics available to you. Also, elect physics as one science. With a background in these subjects and other basic sciences, and an agricultural background you should find yourself well prepared for this major with such an important future in Arizona.

Improvement in the efficiency of machine-harvesting of cotton is a job for the agricultural engineer. Note the special device for taking small samples in the field.