Editorials

Research, the Key to Agricultural Progress

In August of 1953 a human baby was born. This baby was important because it meant the United States had reached a population of 160 million. This event is significant because it calls attention to the rapid increase in our population. Since 1950 our population has increased by 8 million people. Such facts have an important bearing on the over-all agricultural situation in the United States, which includes the field of range management.

Keeping pace with the rising tide of mouths to feed, the livestock population in the 17 western states of the range area has also risen; from 32,807,000 to 46,510,000 animals, or an increase of 41 per cent since 1928. Because of increasing pressure for more farming land, the acreage devoted to grazing has taken a substantial reduction. Timber production in the forest areas, recreation, and invasion of rangelands by woody shrubs have all contributed to the decrease in available grazing land.

All these facts point to only one thing: A limit to the land frontier that once was thought to be unending. With no more new areas in which to expand, the range industry must do its job of feeding an ever increasing population by other means of increasing production. Increasing efficiency will help improve on our present practices. But this is not enough. New methods and ideas are needed. New knowledge must be created. Research is the answer.

The science of range management is a new one. The field of range research is wide open! There are many topics that need to be examined. Information is needed on nutritive values of native plants; on the common use of range; intensity-of-use studies are needed; grazing systems are not well understood; livestock-big game problems exist; and control of noxious and poisonous plants is becoming of increasing importance, to name just a few of the relatively unexplored fields.

More research, both basic and applied, is needed in the whole field of agriculture, with emphasis on the basic type. Basic research must come before applied research can hope to accomplish its ends. Basic knowledge often must precede applications by a considerable time margin. For instance, Mendel discovered the basic facts on plant genetics in the 19th century. Yet it was more than 60 years later that hybrid corn became a reality. It took only about 10 years for the practice of growing hybrid corn to spread over the state of Iowa, once the basic research opened up new possibilities and applied research had perfected the techniques for the actual operator to follow.

In the last 50 years, science has made startling strides in aiding humanity through research. But the battle for new knowledge is never ending, because if research stops, soon the progress in the fields of application stops. In the above-mentioned example, corn production was at a certain level; then along came hybrid corn which boosted production per acre to a new high. But soon production leveled off again. Iowa corn farmers will need additional research in order to again experience an increase in their production per acre.
Industry in the United States plows back into research an average of 3 per cent of its gross income, which in 1946 amounted to $500,000,000. The gross income in the U.S. from agricultural products in 1946 amounted to approximately 25 billion dollars. All the state agricultural experiment stations in 1953 spent about $73,500,000. The USDA contribution is not included in this figure, however. Of the 73.5 million dollars, about 62 million was appropriated funds of the taxpayers, which brings up an important point concerning agricultural research.

One of the chief reasons that so much of the research done in state experiment stations is of an applied nature is because the funds for such studies do come from the taxpayers. The taxpayers insist on seeing some results come from the expenditure of their hard-earned dollars. The layman is very likely to frown on a bold basic research plan. He thinks a fundamental research study leads nowhere, and is merely a way of letting the educated men of science do something they want to do. Any project that is undertaken must result in a profit in dollars and cents or else what is the use of undertaking the study in the first place. Such attitudes are short-sighted and make it difficult to explore and ferret out nature's secrets. But these secrets must be discovered in order to develop new methods and techniques which result in greater food production; be it in Iowa's corn industry or range forage production in the Western United States. Basic knowledge must be built up to make progress in food production in the future; not just tomorrow or next year, but perhaps 50 or 100 years from now as was the case of Mendel and the hybrid corn discovery.—C. A. Daley, Student, Range Management Department, Montana State College, Bozeman, Montana.

Keep up the Good Work

One of the outstanding events at the Seventh Annual Meeting of the American Society of Range Management held in Omaha, Nebraska, this year was the Range Plant Identification Contest. The contest was based upon a checklist compiled from plant lists sent in by colleges entering teams. The lists were edited, and a master list was prepared giving the scientific name of the plant, the origin (native or introduced), the growth habits (annual or perennial), season of growth and forage value. This master list served as a guide to the contestants in their preparation for the contest. This year the contest consisted of identifying fifty mounted specimens selected from the master list. Taking top honors was Colorado A. & M. College with Texas A. & M. College a close second. Montana State College took third place honors.

This contest greatly stimulated interest in the Society and encouraged student participation in the Annual Meeting. It provided an opportunity for students to attend the meeting who otherwise would be unable to attend. Furthermore competition between range management students increases interest in acquiring a sound knowledge of range plants, one of the most important phases of range management.

Perhaps the most important advantage to the student range manager, however, is that through contact with the Society he can broaden his horizons by learning what range men outside his native state are doing and by meeting men engaged in all phases of range management and soil conservation. It is my sincere hope that these contests will be continued in the future with even more participation than there has been in the past, because student participation in the activities of the Society is vital, both to the student and to the Society. So I say again—keep up the good work!—Mark J. Nash, Jr., Student, Department of Range & Forestry, Texas A. & M. College, College Station, Texas.

Make plans now to attend the Eighth Annual Meeting of the American Society of Range Management to be held in San Jose, California on January 25–28, 1955. An outstanding program and field trip are being arranged.