



NORTH DAKOTA Farm Research

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Guest Column



Warren C. Whitman
Chairman of Botany Department

As most old duffers approach the end of their careers, they assume the right to look back, examine the past and express themselves freely as to how things could have been done better. The individual writing this is no exception to this rule in his assumptions.

Looking back then in terms of my own 35-plus years' experience in agricultural research at NDSU, mostly involved with range and pasture management, I raise the question, "How could we have done better?" First, could we have worked harder? Obviously, in certain specific instances anyone can work harder than he actually does, but taken as a whole, I doubt that this could have been done by myself or my colleagues in such a way as to contribute substantially to a more effective research output.

As I look at my colleagues on the Experiment Station staff I see them as essentially working all the time. When they are not in the field or at their desks, they are attending meetings, giving lectures or reading materials relating to their area of expertise. In fact, most of them would rather talk about what they are doing in their research area and how they are doing it than about any other topic. In addition to research assignments, most of them are also engaged in teaching the youth of the state the knowledge that they must have to become future leaders in agriculture.

Another question that could be asked is, "Could we have used our funds and facilities more effectively to produce a greater research return?" Again, it must be granted that in specific instances employment of our resources in a different way

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Dr. Whitman is retiring as department chairman on June 30, but will continue in a research-teaching capacity for the coming year.

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On The Cover: Ernie French, superintendent of the Williston Branch Experiment Station, stands in one of the tall wheatgrass barrier strips grown to hold snow and thus increase soil moisture in an intensive cropping system. (Photo by Jim Berg).

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the standing stubble treatment in this study because of the mild winter, to minimize winterkilling we still recommend seeding a good winter hardy variety of winter wheat in standing stubble with a deep furrow drill. As Black and Ford (2) demonstrated near Plentywood, Montana, even a hardy variety, such as Froid, will winterkill on bare soil without stubble protection. Seeding winterwheat on summer fallow with a disc drill is not recommended for northcentral and northwestern North Dakota. Alessi and Power (1) found significantly greater survival and grain yield for furrow planted than for surface planted winter wheat.

Weed problems can be minimized by proper crop rotation, use of herbicide and timely after-harvest tillage operations with proper equipment. We observed that the standing stubble had considerably fewer weeds than did the chiseled stubble, which, in turn, had less weeds than did the bare soil treatment tilled four times before seeding. Thus, the increased number of tillage operations will bury more weed seeds, whereas viability of seeds left on the surface is decreased by drying, freezing and exposure. We also noted that wheat produced with adequate N fertilizer had less disease problems than did the check and low N-rate treatments.

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(Whitman . . . from page 2)

might have been more effective, but this is hindsight, and I don't really know. Evaluating what I have seen as a whole over the years in the research program of the Agricultural Experiment Station, I believe I have seen an economical, effective operation with my colleagues using great ingenuity and enterprise to achieve their research objectives with the relatively limited resources they have had at their disposal. It is axiomatic among research workers that they never have enough money, help or facilities to really conduct their research the way that they think it ought to be done, but they go right ahead producing the results that have meant so much to the development of our agricultural potential.

There is, however, one area in which I believe we can do better, and this is in planning our overall research programs. By this I do not mean to imply that our planning has been inadequate, only to imply that it is an area in which I believe we can do better if we approach the planning operation in a comprehensive, positive, objective, and yet creative manner. Probably I see this as an area in which we can do better because of the recent development of the Grass-and-Beef Program within the Agri-

cultural Experiment Station and the Cooperative Extension Service.

Here is a program which began with a research review by the Experiment Station and Extension Consultation Board. The Grass-and-Beef Committee was then put together to develop a series of goals for the program. With the goals defined, the program has already begun to produce results, with the initiation of at least three new research projects, the institution of a strong educational program by the Extension Service, and the continuing development of further long-range plans all designed to secure better utilization of our extensive native grass and seeded forage resources. Witnessing the commitment of funds, personnel and effort to this comprehensive program has been a very heartening experience for me, and has served to strengthen my opinion that we can do better through improved planning.

Perhaps one of the highest priority projects of the Experiment Station for the next quarter century could well be the development of improved planning procedures for all phases of its research program. In my opinion the effort toward improved planning is already underway, and the retiree of the year 2000 will be able to say, "We saw what could be done better, and we did it better!"

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BULK THIRD-CLASS

WHERE DOES THE ENERGY GO?

The breakdown of a typical home energy bill shows that usage would be: space heating, 64 per cent; water heating 16 per cent; refrigeration, 6 per cent; cooking, 4 per cent; clothes washer and dryer, 5 per cent; lighting and other electrical uses such as counter appliances, 10 percent.

These percentages will vary some according to location in the state, size of family, size of farming operation and other factors. These or other figures show, however, that the biggest uses are for heating and cooling, water heating and cooking, says

Dexter Johnson, extension agricultural engineer at North Dakota State University.

About 20 per cent of all the energy used in the United States is used in the home. Doing such things as adding insulation, making doors and windows fit better and building an entryway, go a long way in cutting down on overall energy costs.

More details on the conservation of electricity is explained in the Electric Farm Power bulletin "Conservation of Energy in the Home," which is available through county agent offices or electric power suppliers in North Dakota.