

## AGRICULTURAL RESEARCH TODAY

J. S. Robins  
Director of Research  
College of Agriculture  
Washington State University

It's a real pleasure to be here today and a singular honor to present the lead-off speech at this, the 7th Annual Potato Conference. As many of you know, I had the privilege of working here in Central Washington in the early 1950's and saw the beginning of the move of the potato industry from the Yakima Valley to the new lands in the Columbia Basin Project. In 1956, I moved to Colorado and in February, 1957, visited Washington to be on a program of what I believe was the predecessor of these conferences. It was a traveling show then with, I believe, five stops in as many days. As now, though, we had pretty fair turnouts and I hope that now, as then, you find the deliberations worthwhile and informative.

On returning to Washington in 1965, I found the picture in the potato industry greatly changed. About the only thing unchanged was the inadequate price. Acreage and yield were up substantially and the processing industry had altered the marketing arrangements greatly. The Potato Commission had been a fact for several years and its impact on research and promotion programs has been outstanding. I commend your industry on its aggressive approach in this regard. It's doubtful that this conference would be in session today had it not been for the strong leadership of your Commission, and the interest and initiative of organizations such as the Potato and Onion Growers and Shippers as well as many, many individuals in your industry.

I would like to turn now to a look at your industry in terms of its economic impact here in the State. The 1966 crop amounted to about one million tons at an average price of near \$34 per ton. Something between 40 and 50 per cent were marketed fresh. Each \$1 worth of fresh marketed produce generated in this State a business volume near \$2.10 of which about \$1.60 is residual in the State in the form of wages, taxes, capital improvement allowance, rents, etc. Thus, the fresh marketed portion of the crop was worth about \$35 million in total business volume in the State of which over \$25 million was new value created in the State.

In the case of processed materials, each \$1 in raw product demand generates a fantastic \$17 in business volume and \$10 in new value created in the State. Total business volume for processed potatoes (half the crop) was thus about \$310 million of which \$190 million represented new value created in the State.

Totals for the \$35.5 million crop were thus about \$345 million in business volume and \$215 million in new value created within the State of Washington. Since a sizable

percentage of the crop is marketed out-of-state, the total values to the U. S. economy are substantially higher than those quoted for this State.

This very substantial economic value to the State and Nation certainly justifies public fund expenditures for research on potatoes. And the same goes for the other 50+ commodities produced commercially here in Washington. And the notable fringe benefit enjoyed by consumers in general of the world's best and most varied diet at a cost amounting to an average of 18 per cent of take-home pay still goes largely unnoticed and unappreciated.

Now what about Agricultural Research Today? I can say without fear of contradiction that it has changed very substantially since I began my career about 20 years ago, and even more since pre-World War II days. In those "good old days," efforts were more directed at problems of applied nature requiring only modest sophistication in instrumentation or approach and the programs were largely individual efforts. Today, and increasingly in the future, problems of greater complexity are under attack and the technical and financial input required for satisfactory resolution are increasing correspondingly. More and more measurements of greater difficulty must be made by a greater variety of scientists using more complex and expensive instruments and more and better technical help if the right answers are obtained. Just as your business--whether it's production, processing or marketing--has responded to new technology, so is our business of research.

As you know, we have here in Washington a substantial effort in potato research. It's a joint effort of the State who now applies nearly \$100 thousand to the total program, of USDA with something like \$75 thousand devoted to the crop and your industry who now have committed nearly \$132 thousand annually. Other industries add \$20 to \$30 thousand a year to the total. Although not as extensive as you or we feel is really needed, the program is substantial and bearing fruit for the industry. And it's no secret that the willingness of the industry to make its input has resulted in a much more complete and larger effort than would otherwise be in effect.

You will be hearing in this three-day conference from most of the scientists who do the work in this total program. To the familiar names of Kunkel, Hoyman, Easton, Faulkner, Powell and others, we will soon add Dr. Willy Iritanni who reports about March 1 to take up the Commission sponsored program in storage research. This we feel is a most desirable addition to the team and his efforts in cooperation with Drs. Kunkel, Hoyman, and Easton and Eric Wilson, the Extension Agricultural Engineer, we're sure will be most fruitful.

I would not want to leave you with the impression that the current program is adequate to meet current or future

needs for potato research. Such is certainly not the case. Projections of expansion in irrigated acreage here in Central Washington by 1980 are for an increase of over 900,000 acres. Much of this land is well suited to potato production. So if market demand for Washington potatoes happens or can be made to grow, the industry stands to expand substantially. Among other things, this brings more problems and need for more research. If irrigated acreage doesn't expand i.e. production remains on presently used lands and the industry is to remain strong, there are and will be more and more difficult production, storage and handling problems to contend with. Examples are the nematode, verticillium wilt, fertilization and other problems that we now face in the Yakima Valley and that are just now emerging in the Basin.

Specifically, we need now a program of research in Food Science to attack problems in processability of potatoes and other products, particularly problems associated with quality of Washington produced materials and management practices to improve quality and yield of the finished product. Secondly, we need additional program in management and culture of the crop to supplement present efforts. Thirdly, engineering problems in production, harvesting, storage and handling need to be attacked. And finally, substantial strengthening of program in supporting disciplines, including irrigation, soils, entomology, pathology, and food safety, is needed to back up the commodity oriented research.

Over the past couple of years, we in the State along with USDA scientists, have been engaged in detailed study of research program and facility needs in support of agriculture. These studies document need for increase of 75 per cent in our research capability over the next 10 years. With the rapid growth projected and the major changes occurring in agriculture here in Washington, we feel that this magnitude of increase is certainly minimal. A doubling of program would, in our opinion, be more appropriate.

For anything like this level to be achieved, depends on both the moral and financial support of the industries we attempt to serve. We have had this kind of support from the potato industry and we sincerely hope and believe that our program justifies such support. But regardless of what the future holds, I want to assure you that we will continue our very best efforts to provide answers to your problems, thereby helping to keep the potato industry a strong and profitable segment of Washington Agriculture.