

in the bill now before Congress. However, the provisions of this measure are such that the oil producer is not required to use alcohol in all his gasoline. He may, if he likes, add a high percentage to his lowest-grade gasoline, thereby raising its quality and hence also its price, while continuing to sell his "straight" and "premium" gasolines unmixed. This, advocates of the bill claim, will do much toward solving the problem of the cheapest grades of gasoline, which at present are not very profitable for the producer nor particularly satisfactory to the consumer.

Science News Letter, May 13, 1933

PLANT PATHOLOGY

Stoppage of Research Ruined Chocolate Industry

A CLEAN-CUT example of the short-sightedness of "economy" that results in the stopping of scientific research is offered by the South American republic of Ecuador. The depression hit there earlier than it did in the United States, an economy program stopped research, and the evil harvest thereof is already being reaped.

Fifteen years ago Ecuador, then one of the principal exporters of cacao (chocolate), was disturbed by a disease attacking the pods from which the chocolate is manufactured. Although the value of the cacao exceeded the value of all the rest of the country's exports combined, there had been no serious attempt to protect it against pests. Studies of this disease were begun, but with the depression of 1921 most of the research work was discontinued; in a few years the uncontrolled spread of the disease forced the abandonment of one of the best of the cacao varieties.

The lapse in the cacao research work proved doubly inopportune. Just at this time a witches-broom disease became conspicuous in one of the important cacao districts. In four years the yield in this district declined to less than one-fortieth of its original volume, and the jungle has taken many of the plantations. The disease spread to other parts of the country and the cacao exports of Ecuador during a period of increasing world consumption dropped by 1930 to less than half their former volume. Resumption of investigative effort has shown that resistant varieties can be produced and the industry may be reestablished, but too late to save the existing plantations in the regions most affected by the disease.

Science News Letter, May 13, 1933

AGRICULTURE

Research Always Chief End Of Department of Agriculture

By HENRY A. WALLACE,
Secretary of Agriculture

IT WAS FOR the purpose of putting science to work in agriculture that this Federal Department of Agriculture was established by Act of Congress 71 years ago. Washington, Jefferson, and Franklin saw the need for it even back in their day. The department was created primarily for scientific research, its main job always has been a research job, and I hope research will always remain a principal duty.

Of course it is not enough to discover facts: a public institution has also the obligation to see that the facts are made available to all who can profit by them.

When a plant breeder in the department develops a variety of wheat that is highly resistant to rust, the job of the department has not ended with that discovery. The new variety has to be tried out in various regions, in the field. Next, the results of those trials have to be made known to wheat growers. That involves publications, both technical and popular, and articles for the press, and radio broadcasting. Then the seed of the new variety has to be made available to farmers. The county extension agent may step into the picture at this point, and suggest that the interested wheat grower sow some of the new seed in a test plot, alongside some of the seed he and his neighbors have been using in the past. And when the old and the new varieties of wheat are up, and are harvested, let the neighbors for miles around come in to compare them, and decide whether or not the new variety is better than the old, and worth investing in.

Envied by Nations

That is a thumbnail sketch of the way science is applied to agriculture in this country, and it portrays a system that is the envy of many another nation. Sir Horace Plunkett, Ireland's great authority on agriculture, in 1928 was moved to describe the Department of Agriculture as "the most widely useful department in the world." I am inclined to agree, and I only hope that its future

will be as brilliantly successful as its past.

Whether he knows it or not, every farmer in the United States is farming differently today—and better—because of the scientific discoveries resulting from State and Federal appropriations. The average hour of man labor and the average acre of land is undoubtedly twenty to thirty per cent. more productive today because of this scientific work. From the fundamental point of view—that of supplying the food and fiber needed by our modern civilization—the millions of dollars spent by State and Federal agencies during the past generation have been abundantly worth while

Job Never Over

No, the job of scientific research in agriculture is not over, nor will it ever be. But today we have a new job, a new field for experimenting—that of social control. Research to increase productive efficiency, to widen markets, must continue. Eliminate the less important research activities, in deference to the need for economy; get rid of the dead wood in our scientific organizations—but keep the men of science at the tasks which will always need doing. And add to the old job, the one that has been begun so well, this new job of developing the machinery of social control. . . .

For that is our great modern problem. Having conquered the fear of famine, with the aid of science, having been brought into an age of abundance, we now have to learn how to live with abundance. Sometimes I think it requires stronger characters, greater hearts and keener minds, to endure abundance than it takes to endure penury. Certainly it requires a new degree of tolerance among competing economic groups, and a willingness to subordinate the will of the few to the welfare of the many.

Personally, I think the last twelve years have imprinted this lesson deeply on all of us. I think we are ready, now, to reach out towards a new order.

The foregoing article consists of excerpts of an address delivered in Washington on May 1 by Secretary Wallace; reproduced in the SCIENCE NEWS LETTER by permission.

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