Better Crops with PLANT FOOD

PUBLISHED BY THE AMERICAN POTASH INSTITUTE, INC., 1102 SIXTEENTH STREET, N.W., WASHINGTON 6, D. C., SUBSCRIPTION, $1.00 FOR 12 ISSUES; 10¢ PER COPY.

VOL. XLII WASHINGTON, D. C., JANUARY 1958 No. 1

In the Century Ahead . . .

PRODUCER'S PROGRESS

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(ELWOOD R. MCINTYRE)

WHENCE will come our *Agricultural Amos?* We stand in need of an agricultural prophet of discernment, sagacity, and imagination. Such a one emerging bravely from today's wilderness of frustration and slough of despond would probably do us some good—especially our attitude toward the farming future.

Such an inspired person might well be the author of a new Producer's Progress—"from the times that are to those which are likely to come, delivered in the similitude of a dream." Respected for his known ability, he would arise undismayed and be forthright, telling us the farm dilemma would get worse before it got better. Yet he might well establish within us *a new faith* in the happy solutions of many vexing things that have assailed country life.

Two obstacles would be among the first to be resolved—*the food surplus bogey* and *the exodus from the land.* Instead of cringing and fretting over the surplus, we would reaffirm the honest doctrine that it is better to have too much than not enough sustenance, so we might share it with the hungry millions who represent the biggest drawback to peace.

We would affirm it is unfair and unwise to penalize a declining farm force because it has adopted scientific, labor-saving methods through constructive research. By making the surplus *useful,* as it is intended

to be, we would find it easier to maintain the fertility of the soil and the integrity of the farm plant.

Next would come positive action for a farm business big enough to keep the labor force fully employed and able to buy and use equipment geared to modern progress. We would prove that small units have small output and not much chance for margins above costs in a commercial way. Such low capacity farms would become a social rather than a farm problem as the years went by. There would be a voluntary shift of many such farmers to other occupations, while their land became absorbed by larger, well-managed family farms.

Trustworthy thinkers claim that by the year 2000 A.D., only about two million large commercial family farms will grow enough balanced food for 300 million U. S. consumers—and still, have some for reserves. This number would be about 40 percent of the farms that we counted in 1955. But, you see, by that time—42 years hence—we will have a new, safe, scientific, generally accepted policy toward agriculture. This assumes that world tensions are eased and peace assured. It would not be brought about by political pressures, but by the sheer weight of national urgency.

Thus our prophet might explain that the lack of enough farm voting power to achieve this rural renaissance would not be much of a factor. Gradually, he would say, the situation grew intolerable in the early 1970's, with the rising urban population.

"THE SUBSTANCE OF THINGS HOPED FOR . . .

It was induced by the lack of good land and sound farm management, accumulated over years of false proposals, general pull-hauling, urban indifference, and soil deterioration.

It might also be shown that a miserable period ensued wherein experiment stations were shorn of funds and equipment as well as trained staffs, leaving even the best farm operators naked to swarms of locusts, hosts of virulent plant and animal diseases, weeds, soil erosion, and poultry pests. Consumers, too, would share in this distress.

But, you see, this went on before the renaissance. What may be hoped for in this newly dedicated farm policy for the distant year 2000?

Here each and every capable agency now closely linked with farming (including "agribusiness") would have its own ideas of what's ahead in 40 years. Only man's brains, courage, and faith are limits to what we could do for human welfare through a better, safeguarded agriculture. Ergo, "the substance of things hoped for and the evidence of things not seen."

This possible renaissance for farm life will foster and grant incentives for the best-trained, licensed farm managers. They will be organized and educated to protect our crops and soils, conserve fertility and raise the best types of market livestock, produce protective fluid milk, and superior poultry products.

They will have the finest, fastest, most labor-saving automatic and

atomic powered crop-making machinery. Scores of trained repair men and adjusters will work in each, major farm township, keeping the equipment and services humming for land owners, cooperatives, and food stores.

Great rich pools of credit on favorable terms by private, cooperative, and government agencies will tide these farmers through critical expense periods, in the interest of public welfare. Huge emporiums catering to all the farm and home needs will arise in the open country. This entire realignment of the farm and its creative capacities will take care of thousands of older persons and youthful workers—the ones who could not meet the stiff competition with their low acreage, small capital, inferior kinds of equipment and livestock.

Meanwhile, more need than ever will arise for highly trained teachers of vocational agriculture. The courses will be broadened to include subjects in the whole realm of countryside economy, with the modernized family farm as the hub of a network of interlocking food producing spokes.

County extension folks and all the specialists in the wake of the rural renaissance will achieve more and contribute more as they pass on the wider streams of newer know-how from huge, well-staffed research centers—some of them attending to the affairs of counties, others to the affairs of states, others to the problems of the nation.

. . . THE EVIDENCE OF THINGS NOT SEEN"

A major utilization research program will be in the picture. It will be one solution for greater output of certain convertible crops. It will spring from the noteworthy chemurgic theory of the 1940's. New outlets, wider markets, even brand new varieties for special purposes will be supplied by chemists and plant breeders.

Incentives will be given for scientists to explore mysterious locked-up principles of nature which might in due time become the sources of practical, applied research. The out-moded idea that every move of public scientists must be in tune with immediate application, or else—this will give way to skillful teams devoting full time to *fundamental discoveries* hitherto unknown. They will prove that not all the marvels challenging man are found in the orbit of the celestial bodies. *They will show that man may find his most precious goals in the overlooked things around him.*

Forty years hence research will shorten the distance between the farm and the city table. It will evaluate the economics of alternative land use. It will investigate new uses for all types of farm products. It will continue effective protection of crops and livestock from ravages of pests. It will study soil and water relationships more fully. It will find better ways to permit use of our lands without physical and chemical damage and loss.

The preamble to the code of principles that will direct our farm

stability in the century ahead might read like this, plus anything else you care to add:

"American agriculture is dynamic, not static. Because of change and threat, research on most farm problems will never be ended. The perfect spray for apples or potatoes will never be found, nor the final formula be advanced for the perfect dairy or poultry ration. As each new advance is made, the need will come for such things as:

"More efficient management, still better varieties of crops, higher producing cows and hens, more effective ways to control insects and diseases, improved processing and marketing of more nutritious foods and their preparation, betterment of rural living, more opportunity for youth.

"A complete, coordinated, well-financed research program and its educational counterpart on a stable basis to solve fundamental and applied problems is the only safe course through which agriculture and the consuming public can best be served."

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TO FIGHT EROSION

Grass waterways, an important soil conservation measure, are needed on most farms to carry off surface water without erosion damage to fields, reports C. C. McKee, Purdue University extension soil conservationist.

The waterways can be prepared with equipment on the farm. They should be shaped by plowing in the gullies, and the seedbed prepared with a disk.

According to the specialist, any grass with a fibrous root system is good for waterways with the fescues, timothy and red top among the best. Rye grass or other small grain will provide a quick temporary cover.

A mixture of grasses—such as 12-15 pounds of Kentucky or Alta fescue, two pounds of red top or timothy, and five pounds of rye grass—can be used.

A rather new grass, Reed's canary, can be used on wet ground where other grasses may not grow.

Seed should be drilled in with commercial fertilizer. In the absence of a soil test, McKee suggests that lime and 400 pounds of 10-10-10 fertilizer be applied. Strawy manure can be disked in.

A straw mulch should be applied after seeding and runoff diverted by plowing a furrow on the upper end and down both sides of the waterway. The furrows should be worked in after the waterway is well established.