

# THE WONDERFUL WORLD OF TOMORROW

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We have seen so many changes in agriculture in the past half century that one wonders if there is no end in sight. According to no less an authority than Secretary of Agriculture Orville L. Freeman, even greater changes can be expected in the future.

Looking to the future, the Secretary talks about "The world of tomorrow — the world of the year 2000 . . . On the basis of expert opinion inside and outside of government, we envision as possibilities for the Twenty-first Century:

"Computer-controlled machines will plant the crops, fertilize by prescription, determine when produce is ready for market, harvest on order, and grade and package the commodities for delivery by supersonic cargo planes to fully automated warehouses.

"Most of today's crops will still be grown — but each cornstalk will produce multiple ears, and cotton plants will grow with all of the bolls clustered on the top branches for easy harvesting. Crops will need only a fraction of the water required by present varieties; they will be far less susceptible to drought. Plants will grow and mature much faster than now. They will have been redesigned with sturdy stems and with all leaves exposed to the sun for maximum use of light.

"Weeds will have become laboratory curiosities. Harmless chemicals will keep weed seeds from germinating.

"Livestock in the Year 2000 will be raised in environmentally controlled shelters. Cattle, hogs, and sheep will grow to market size on a third less feed and in a third less time than now. Hens, kept on an 18-hour cycle, will lay not 240 but 350 to 400 eggs a year.

"Americans of the Year 2000 never will see — much less swat — a housefly or mosquito. Combinations of biological and specific chemical methods will have eradicated the dozen insects that cause half our agricultural losses today, and will control the 100 or so other crop-damaging bugs.

"The long-time migration from countryside to city will long since have come to an end. Instead of 70 percent of the American people living on 10 percent of the land, as at present, our 300 million people will be dispersed across the nation. Many of them will live in new towns and cities of planned, manageable, healthy, and esthetically-satisfying proportions. Economic opportunity will abound in rural America.

"Our woodlands will be more beautiful and more productive. New methods of timber harvesting will save billions of cubic feet of timber once wasted in harvesting.

"Water will be conserved and reused. Whole hillsides of unproductive land will have been treated to shed rainfall and deliver it to reservoirs serving small towns and recreation areas. The surfaces of reservoirs and lakes will also have been treated to eliminate loss of water by evaporation. Irrigation will be completely automated and controlled by computers.

"In the world at large, agricultural space satellites will detect differences in soil, identify the various crops and kinds of forest trees, determine damage by diseases, insects and drought, assess crop stands, and predict production.

"The hungry nations of the present will have learned to feed themselves and to stabilize their populations. The soils of the world will have been inventoried. Crops will be grown either on the soils best suited for them, or on soils chemically modified for maximum productivity.

"With up-to-date agricultural know-how put to work all over the earth, man at long last will have won the seemingly endless war against hunger."

The Secretary paints an exciting picture, not the picture drawn by a dreamer but envisioned by one who has already seen the great advances of which agriculture is capable.

If we may be permitted, we'd like to add that the canvas for this picture is the surface of this world, the oils and brushes are the laboratories and experimental fields and barns of the land-grant colleges and private industry.

The artist is a composite of thousands of today's classroom students who will be the geneticists, plant breeders, entomologists, agronomists, engineers and animal scientists of the future. And the artist, after all, is all-important.

Let's give him the best of advantages in his training, the best of facilities as a research scientist, the money to equip and work, to devise and find out, to innovate and improve.

Helping him will enable the Secretary's dream to come true. It will also bring to fruition this vision of a world at last adequately nourished, clothed and housed.

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