POPULATION

City Population Decreases In Depression's Third Year

Lower Birth Rates and Restricted Immigration Make More Million-a-Year Gains Unlikely for United States

By DR. P. K. WHELPTON, Scripps Foundation for Population Research.

CITIES as a whole decreased in population by over 400,000 persons during 1932 compared with little change in numbers during 1931, data gathered by the Scripps Foundation for Population Research indicate.

This is in great contrast to what occurred prior to the present depression. During each year from 1920 to 1929 the number of city dwellers increased by at least 850,000, the maximum gain being about 2,000,000 during 1923. Even during 1930 there was an increase of about 400,000.

Emigrants Exceed Immigrants

The decline in the city population during 1932 resulted partly from the continued slowing up of growth in the United States as a whole, and partly from an unusually large increase in the farm population. Births have been decreasing more rapidly than deaths in recent years, while the former excess of immigrants has changed to an excess of departures for foreign countries since 1930.

As a result the nation barely gained 800,000 in population during 1932 compared with about 1,200,000 during 1930 and over 2,100,000 during 1923.

At the same time, the farm population, which decreased by 1,450,000 from 1920 to January 1, 1930, increased by 1,000,000 in 1932 alone, according to a report of the Department of Agriculture. The only way the gain in the farm population could exceed that of the total population was by drawing on cities, for the nonfarm population living outside of cities probably increased by at least 200,000 during 1932, continuing the trend of previous years.

Eventual Return to City

Whether the city population as a whole will increase again when the depression is ended or whether the recent decrease will continue remains to be seen. With the birth-rate falling more rapidly than the death-rate, the years of large growth in total population seem a thing of the past unless immigration restrictions are greatly modified; it is doubtful if the United States again will gain 1,000,000 inhabitants in any single year.

It is quite probable, however, that the farm population will not keep on increasing when good times return. Much of its rise in numbers during 1932 seems to have been due to the return to farms of persons who lost their jobs in cities, and more important, the remaining on farms of young people who in normal years would migrate to cities. With a pick-up in employment in urban areas the farm-to-city movement is likely to predominate once more, and most of the nation's increase in population to accrue to cities and their suburbs.

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CHEMISTRY

Alcoholized Gasoline Approved In Tests

ALCOHOLIZED gasoline, scheduled for large use in this country if the Clark-Dickinson-Shallenberger bill now before Congress is enacted, is not entirely a novelty in this country.

It has been given a test under a wide range of motoring conditions in several sections of the country, most notably in the Midwest, where the states of Illinois and Iowa, as well as several private concerns, have made alcohol-blended gasoline available to several sample communities. Advocates of the pending legislation declare that the experience of many hundreds of motorists who have reported on their tests constitutes an almost unanimous endorsement of the alcoholized fuel.

A summary of reports of 1,327 customers, who gave their impressions of alcoholized gasoline on the scores of starting, acceleration, smoothness of operation, anti-knock, power and general motor performance, shows that over 1,100 of them considered the new fuel better than "straight" non-premium gasoline on starting, and that on all the other points over 1,200 agreed that the new fuel was superior. Most of the dissenting votes merely reported "no difference noticed"; hardly anyone considered the unblended gasoline better.

The farmers of the communities concerned are sufficiently interested in the project to be willing to pay a premium of two or three cents a gallon for alcoholized gasoline, provided the alcohol is produced from surplus grain, the report stated.

One driver in Peoria, Ill., who repeated a 128-mile road trip, using 10 per cent. alcohol gas, regular gas, and ethyl gas, found that with alcohol gas his fuel cost was 1.48 cents a mile; with regular gas 1.53 cents a mile and with ethyl gas 1.60 cents a mile; and this in spite of the fact that he was paying 18.6 cents a gallon for the alcohol gas, as against 14.6 cents and 18 cents respectively for the other fuels.

The tests were conducted for the most part on gasoline containing an added ten per cent. of alcohol, which is double the highest percentage contemplated

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.

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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.

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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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