New Strains Of Wheat Bred By Agronomists At Davis Increase Yields Nearly 25 Per Cent

Fred N. Briggs

The average in wheat yield today in California is almost 25 per cent greater than it was during the four decades prior to 1927. This work in the College of Agriculture, in 1904, and practically the entire wheat acreage in the state is planted to varieties which were bred and improved in the Division of Agronomy.

In 1989 California ranked second as a wheat producing state, with a production of over 2,500,000,000 bushels, with a tendency to increase.

The backcross method of breeding, which was pioneered in the University's wheat breeding work, makes possible a technique which permits a detailed description of a new variety to be bred.

Bunt Resistance

Starting in 1919 and in cooperation with the Oregon and Washington agricultural experiment stations, all known varieties—about 100—were tested for resistance to bunt or smutting. Only a few proved to be resistant, two of which were highly resistant. One of these, Martin, was found to have a single genetic factor for resistance which made it a natural for breeding purposes.

It was for the purpose of putting bunt resistance into all of the important commercial varieties, of which there were a dozen at that time, that the first backcross breeding was undertaken. This project started in 1920 and continued on page 5.

Seven New Dairy Industry Projects To Be Undertaken

Seven new projects in dairy industry are to be undertaken by the University of California College of Agriculture and the University of California Experiment Station and two by the Home Economics Department.

The fields of investigation include the question of the nutritive value of milk proteins in drying and in the extraction of whole milk.

Supplementary value of milk protein in bread made of flour of different extraction.

Ration and food values of cow's cream; nutritional values of left fat.

Effect of heat on milk with especial reference to flavor and discoloration of evaporated milk; investigations of its storage.

Penicillin Is Not Suited to Control Blight of Trees

Penicillin is untried to the control of pear and walnut blights, according to R. A. Randolph, in charge of the University of California Deciduous Fruit Station at San Jose.

Penicillin and other antibiotics belong to the group of Gram-negative bacteria that are not susceptible to the action of penicillin more stubbornly than do Gram-positive organisms. Using much larger doses of the drug required to kill Gram-negative organisms, it was found that the antibiotic production was reduced to less than a million dollars a year. It is believed the amount would be increased by at least one hundredfold.

Applied Research

Furthermore, the effectiveness of penicillin and other antibiotics is reduced by the action of a plant pathogenic disease, the development of two new Red Kidney beans, another county was able to start production of a new seed for eastern bean growers, an enterprise which would add between 20 and 30,000 dollars to the economy of the county.

There are underway at present or within the last several years several studies on the disease and its effects in the College of Agriculture. Some of these agricultural insects, like Pier's disease of grape plants, and muskrats in dairy cattle, still baffles the scientists.

One form of mastitis can be and has been controlled. Research on the other form is proceeding.

Pierce's disease is now a few years ago it ruined the wine industry of Orange County. Today, several departments of the University—viticulture, plant pathology, botany, and others—are heading every effort to see that it shall not destroy the important grape industry that exists in the county, where University bulls were lent to dairymen, the average butters from production per cow per year has been raised from $1,000 to $5,000, amounting to a total increase of over two-hundred million pounds of butterfat.

In another county, W. H. Chambers, Professor of Dairying, and his little-leaf riddle in deciduous fruit trees, and increased production as much as 60 per cent on the same acreage with the development of two new Red Kidney beans, another county was able to start production of a new seed for eastern bean growers, an enterprise which would add between 20 and 30,000 dollars to the economy of the county.

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