Chapter XXI

THE DIVIDENDS OF POTATO RESEARCH TO THE RED RIVER VALLEY

The thousands of dollars spent by the Experiment Stations annually in the potato growing states and other thousands spent by the United States Department of Agriculture for potato research may seem to the consumer a needless expenditure of money, but to the potato grower, he knows that the findings in potato research has saved this essential food product. The "Potato Famines" in Ireland of the last century proved how a single disease (late blight of potatoes), if left uncontrolled, could wipe out a crop which was the mainstay in the diet of a people. The "trial and error" method of research in this important crop began in Ireland where it was discovered that potatoes on the highlands suffered less from the disease than the potatoes on the low humid bog lands. It was not until about the turn of the century that scientists isolated this fungous disease and later found that its growth could be stopped and the disease controlled through the use of a copper sulphate spray called Bordeaux mixture (first used in Bordeaux, France, to control grape diseases).

The coming of the late blight of the potato to our eastern states started what may be called the first phase of potato research, namely, Potato Disease Control Programs. Scientist had to do first the obvious thing—"save the crop". Other diseases of the foliage and tubers demanded attention such as Early Blight, Potato Scab, Rhizoctonia, Black Leg Rot and others. In addition to the copper compounds used wet or dry, to control the leaf diseases, formaldehyde and corrosive sublimate (mercuric chloride), came into use for the control of potato scab and black scurf (rhizoctonia). It was soon found that by heating the formaldehyde and by adding hydrochloric acid to the corrosive sublimate that surface tension was broken on the tuber surface and that the liquid treatments became more effective. Since those pioneering methods of disease control were used, the leading chemical companies, in cooperation with the experiment stations, have perfected many chemicals even more effective in potato disease control work. Concurrently, with development of the spraying program at the turn of the century, came the first phase of the potato variety development program, the fore-runner of the potato breeding program. New varieties came from the selection of promising seedlings grown from seed from potato seed balls. Of a large number of varieties that made their appearance before the turn of the century the Early Ohio, Early Rose, Beauty of Hebron and others of the early and mid-season varieties were most popular in Minnesota with the Early Ohio most popular in the Red River Valley. The Burbank, Rural New Yorker, Carmen No. 1, etc., were good examples of the seedling selections which were late in season.