

phorus until the root system develops enough to reach the fertilizer distributed throughout the soil. Early stimulation of the crop is very important in getting the crop off to a good start. Furthermore, when fertilizer is broadcast, it is just as available to the weeds as to the crop. It was notable in last year's experiments that when fertilizer was drilled, weeds were suppressed much more effectively than when it was broadcast.

On the basis of these and other supporting data, the following conclusions are made:

Summary

1. Colloidal phosphate has very little value as a fertilizer on North Dakota soils.
2. High analysis superphosphate is superior to calcium metaphosphate as a source of phosphate for wheat, when compared on the basis of equal amounts of available phosphoric acid (P_2O_5).
3. If phosphate fertilizer is broadcast, instead of drilled in for wheat, at least twice as much, and often three or four times as much fertilizer is necessary to achieve equal effects on the current crop.
4. Wheat competes more effectively with weeds when fertilizer is applied in the row with the seed, as compared to broadcast application.
5. There appears to be little if any justification for the fear that phosphate fertilization will decrease the yield of grain in a dry season.

CALIFORNIA -- STATE OF EXCEPTIONS

Every American, and especially everyone who has an interest in agriculture, in agricultural development of a great coastal empire, and in the special differences which have made California agriculture differ from that of 47 other states, will greatly enjoy "California—State of Exceptions," by Carey McWilliams.

The writer, well equipped for his task, tells of this marvelous Mediterranean climate where hundreds of different kinds of farm-produced items are grown (compared to a dozen or so in most states), and of a cancerous farm labor problem which has existed for three-fourths of a century.

He tells of the waves of a migrant labor force which has tended and harvested the fruits, nuts, vegetables and flowers of California—the Indians, Mexicans, Chinese, Japanese, Filipinos, Okies and Hindus who have formed the pool of migrant labor which has tended this marvelous agriculture.

He describes a state where agricultural research began with padres in missions in the early Spanish era, of irrigation perfected a generation before George Custer rode his horse along the shores of the Missouri river, here in North Dakota. He tells of agricultural 'specialty within specialty', in which altitude, rainfall, coastal winds, highly developed varieties, highly speeded growth and harvesting and shipment all are keyed to special market needs thousands of miles away.

Besides this mass of information, Mr. McWilliams tells his story in an aggressive, bold story-telling manner which will hold your interest. (JB).