

GEOLOGY AND GEOGRAPHY

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ABSTRACT

Recent Changes in Chalkland Agriculture. JOHN FRASER HART, Indiana University.—British agriculture has undergone striking changes over the last two decades. The most spectacular changes of all have occurred in the Chalkland country which stretches across the southeast and south of the island. The traditional system of sheep and barley farming has given way to extensive grain production with increased emphasis on both dairy and beef cattle. The changes are partly the result of wartime exigencies, partly a product of such technical innovations as the combine drill and the milking bail. Change has been facilitated by the large size of Chalkland farms. A potential problem is posed by extensive Service holdings in an area which formerly was not nearly so highly developed agriculturally.

Maintaining Lake Levels With Water From Wells. THEODORE KINGSBURY, Indiana Department of Conservation.—Practically every summer and fall there are periods during which the recharge into many of the lakes in Indiana is not sufficient to offset the losses. This results in declines in water levels with a number of serious detrimental effects. In small lakes and farm ponds it may mean a loss of supply for watering livestock or unhealthful stagnant water. In larger lakes it may result in a loss of fish life, a set back to recreational facilities and activities, and unhealthful conditions for property around the lake shore. In seeking a possible remedy for situations of this kind, interested organizations and individuals have presented their problems to the Division of Water Resources, State Department of Conservation and in most cases have asked about the feasibility of drilling wells and using water from them to maintain in some degree, at least, the normal lake level.

The Division has made several studies along this line, the most recent being at Cedar Lake. Records indicated there were several periods in excess of 100 days when the lake level was below the crest of the outlet dam. Eleven wells pumping steadily at the rate of 200 gallons a minute would raise the lake level only .012 of a foot a day or to or above the elevation of the crest of the dam for approximately two-thirds of the 104-day drought period of 1955. The cost of such a project would be at least \$5,000 to drill and equip each well and about \$1,000 to operate it during this more than three-month period.

The enormous water requirements, the lack of available pumpage data to assure continuous production and the cost of drilling and opera-

tion appear to make this project impractical. When an adequate supply of ground water is known to be obtainable from sources that do not draw from the natural recharge into the lake and when pumping costs can be reduced by relatively shallow wells, the plan may be feasible. On some small privately owned lakes and ponds the plan is now in use with apparent success. However, there is one phase of this type of project that should be taken into consideration. While there are at present no laws prohibiting the use of ground water for this purpose there is some sentiment against it which may lead to the enactment of regulating legislation.