SHALL CROPS BE ADAPTED TO SOILS OR
SOILS TO CROPS?¹

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All efforts to obtain profitable production in farm crops involve either improving the adaptation of crops to environment or improving environment for the crop. Probably most farmers practice mainly one or the other, but few follow one to the exclusion of the other. There are many ways in which farm crops can be adapted to environment, as, for example, by varietal improvement, choice of seed, seeding practices, choice of crop to suit soil type, etc., but none is more generally followed nor more potent for good or evil to civilization than selection of crops to suit the soil's productive capacity. Environmental adaptation, likewise, is brought about in several ways; for example, by cultivation, drainage, irrigation, manuring, liming, and applying commercial fertilizers. Undoubtedly, the practices of the latter group that most affect the well-being of society over a long period are manuring, liming, and fertilizing.

To the farmer on a highly productive and relatively inexhaustible soil, the difference between farm practices based upon adapting soil to crop, on the one hand, and those based upon adapting crop to soil, on the other, is likely to be largely academic. But to society the difference is critical because any soil farmed for several generations according to one of these practices will ultimately differ widely in productivity from a similar soil on which the other method of farming has been practiced. Most, if not all, countries of northern Europe practice an agriculture based upon soil adaptation, whereas large sections of China and India may be considered to have emphasized crop adaptation as their basic agricultural practice even though they have endeavored to conserve the mineral resources of their soils.

The advantages of a system of crop production based upon principles of building soil productivity to suit crops are familiar to all agronomists and therefore need not be discussed. Probably all agronomists are more or less aware, also, that the practice of selecting crops adapted to successive degrees of soil depletion will eventually exhaust the soil and bring agriculture to ruin, but as a group we have said little about it. Had we been greatly concerned about the outcome of the practice, perhaps there would be much less need for the present effort at rehabilitation and resettlement. Instead of hailing the "poorland clover" and the "poor man's alfalfa," we should point out the danger such adaptations imply.

The phenomenal rise of the annual lespedezas to a prominent place among the crops of a large area of the United States has crystallized rather than introduced the problem of the final result of a system

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