

The physiological history of this *Lithospermum* teaches us both how necessary a certain amount of physiological knowledge, in reference especially to the plants of his own local flora, is to the practical farmer; and also how unexpectedly the careless farmer may be punished for a neglect of what may be called the very first rule of strong-land farming—that is, of keeping his land clean. On the flat clay lands of Lower Canada, opposite to Montreal, formerly celebrated for their wheat, I found the same weed spoken of as a universal pest, though as in New York State it was said to have been wholly unknown thirty years before. A constant repetition of wheat crops for a long series of years without cleaning had led to this result.

The peculiarities in the character and habit of this weed consist, *first*, in the hard shell with which its seed or nut is covered; *second*, in the time at which it comes up and ripens its seed; *third*, in the superficial way in which its roots spread. The hardness of its covering is such that “neither the gizzard of a fowl nor the stomach of an ox can destroy it.” Thus it will be for years in the ground without perishing—ready to sprout when an opportunity of germinating occurs. It grows very little in spring, but it shoots up and ripens in autumn, and its roots spread through the surface soil only, and exhaust the food by which the young wheat should be nourished. A knowledge of these facts teaches us, *first*, that unless care be taken to exclude the seed from the farm, it will remain a troublesome weed for many years, even to the industrious, careful, and intelligent cultivator. It is said to be so prolific as to increase “more than 200 fold annually!” In the *second* place, that spring ploughing will do little good in the way of extirpating it, as at that season it has scarcely begun to grow. United spring and autumn ploughing is “the only reliable remedy.” *Thirdly*—that raising wheat year after year allows it to grow and ripen with the wheat, and to seed the ground more thickly every successive crop. It is said that when it has once got into the land two or three successive crops of wheat will give it entire possession of the soil. It is not therefore the immediately exhausting effects of successive corn crops which have alone almost banished the wheat culture from large tracts of land in North America, especially on the river St. Lawrence. The indirect or attendant consequences of this mode of culture—the weeds it fosters, &c.—have had an important influence also.

These observations are not without their value at home. For although with us a continued succession of corn crops is rarely now seen upon any land, yet foul and weedy farms are unhappily still too frequent. And the more one studies the history and habits of the weeds, which almost every district can boast of as