

ABANDONED FARMS AND PINE WOODLOTS

It is a curious and little known fact that the rapid decline of farming during the latter half of the nineteenth century brought an amount of unexpected and gratuitous wealth to New England worth not less than \$400,000,000. In 1830 the life of the inland towns from central New Hampshire to northern Connecticut was largely agricultural, and for the region as a whole, pasture and tillage covered from sixty to seventy per cent of the area. About 1850, with the opening of the West, the building of the railroads, and the expansion of manufacturing in the larger towns, the abandonment of the farms set in. This reached its peak between 1860 and 1880, and resulted in reducing the land under cultivation by several million acres. A number of exceptional and temporary conditions made these old farms peculiarly favorable for the reseeding of white pine. At that time there was still much of the old mixed woodland interspersed with the fields, and most of the trees were of long-lived kinds, such as oaks, ash, maples, hemlock, and white pine. The shorter-lived species, so common today as forest weeds - gray birch, poplar, fire cherry, etc. - were scarce or absent, because they could not survive in the forest and were kept out of the fields by cultivation and grazing. For the white pine, with its heavy production of winged seed, old sod land and recently cultivated areas offered an ideal seed bed, which the heavier seeded trees could not so promptly reach and for which there was no such competition from inferior species as there is today. In consequence, thousands of acres of old fields grew up to almost solid stands of white pine.

Meanwhile manufacturing in the region was rapidly expanding and with it the business of making containers - boxes, box shooks -

as well as wooden ware, all of which were using pine. By 1895 the last of the original timber was almost used up, and the older of the field grown pine stands began to be large enough to cut. Very soon, with the development and spread of the portable sawmill, four-fifths of the pine used for New England boxes was coming from these recent and totally unexpected forests. In Massachusetts alone in 1907 these woodlots yielded two hundred million board feet, the peak of output for the state, and during the war the cut for the whole of New England reached over seven hundred million. Up to 1930 in round figures the abandoned farms had produced without plan or expense a crop of at least fifteen billion board feet of timber. This means in terms of manufactured products not less than four hundred millions of dollars, of which more than half went in the form of land or stumpage purchases, wages, and transportation, to the people of the neighborhoods where the trees were cut. Undoubtedly this virtually free gift of raw material has furnished a substantial part of the means of livelihood to hundreds of upland towns and has gone far to keep many shrinking farms alive.

The growth and value of the white pine woodlot were remarkable and have not been equalled by any other type of timber in the history of New England. Most of the lots came to be cut when they were from fifty to seventy years old, the great majority, as would be expected from their history and the rise of the market, at about sixty years. At this age many stands yielded forty thousand board feet per acre, and volumes as high as fifty thousand were not uncommon. Between 1910 and the period of the war, ten dollars per thousand was a usual price for pine timber on the stump, and there were many instances where exceptional locations and quality brought prices as high as eighteen. This meant an actual stumpage value of from three hundred to six hundred dollars per acre.

These boom days for old field white pine coincided very closely with the beginnings of forestry in New England, the period when state departments, schools, and associations of forestry were being rapidly established. With such a model of natural forestry at hand and so large a part of the regional industries depending on it, it was no more than natural that white pine should be advertised and promoted as the ideal forest crop. The result was that many thousands of acres of vacant land were planted to pine, and in the minds of most of the general public, forestry came to mean planting rather than what it really is - the productive handling of natural forests.

In recent years market and economic conditions have profoundly altered, and scientific study and experience with the management of pine woodlots have brought out many facts about pure pine stands as a crop that were totally unsuspected in the early days of forestry. Today there is being used scarcely a third of the box lumber that was consumed in 1925. Some of this loss is due to the shrinkage in general business, but most of it to the development of pulp, fiber, and other materials for the making of containers. This leaves the market for native pine much restricted and the price correspondingly low. Nor is pine so successful a crop as the first generation seemed to be. Pure stands do not prune themselves rapidly and consequently produce relatively knotty, low grade timber, which is satisfactory for boxes but cannot easily compete with cheap and better lumber from the West and South. Twenty-five years of experience at the Harvard Forest have shown that pure pine forests tend to impoverish the soil, whereas mixed forests, containing a high percentage of hardwoods, tend to improve it. Moreover, pine growing in mixture with hardwoods not only maintains good growth to a greater age but produces a much higher quality of timber, owing to early and more rapid pruning of the branches.

Much of central New England is more suited by soil and climate to mixtures with a good percentage of hardwood - oaks, ash, maples, and white birch, which were characteristic of the original natural forests. This is further shown by the fact that almost all of the pine woodlots after reaching fifty years of age are found to be full of young hardwood seedlings and saplings, mostly carried in and planted by rodents, whereas in these stands little or no young pine germinates or survives. This is the reason why it is so commonly noticed that hardwood always follows pine after cutting and why so many thousands of acres of cut-over land are growing up to hardwood. To this invasion is added the enormous recent spread of forest weeds as compared to more valuable species. Fires, repeated cutting without regard to future crops, the widespread neglect of open land, have combined to multiply gray birch, red maple, and worthless sprouts to the point where many of the valuable species, especially pine, are killed off or suppressed in early youth. The outlook for the continuance of pine is still further clouded by increasing damage from blister rust and the pine weevil - both thriving where pure stands prevail. The truth is that on most of our upland soils pure pine is not a natural or permanent type of forest, and the peculiar conditions that for a generation have made it the leading native timber will probably never occur again.

There is still plenty of productiveness and prospective value in the potential mixed crops on thousands of acres of our so-called wild stands and cut-over lands. High grade timber, both pine and hardwood, is still in demand at good prices, and this can be very generally produced by the right treatment of young forest crops, whether on cut-over lands or old fields. Weeding is just as essential in forestry as in gardening - in the present state of our forests, more so. Worthless species and deformed and diseased stems should be cut out before they have time to suppress the better trees; and weeding applied in time can still convert many thousands of New England acres into stands more valuable and enduringly productive than can be created by planting.