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*A brief account of those Plants that are most troublesome in our pastures and fields, in Pennsylvania; most of which were brought from Europe. 1759.*

The most mischievous of these is, first, the stinking yellow *Linaria*. It is the most hurtful plant to our pastures that can grow in our northern climate. Neither the spade, plough, nor hoe, can eradicate it, when it is spread in a pasture. Every little fibre that is left, will soon increase prodigiously; nay, some people have rolled great heaps of logs upon it, and burnt them to ashes, whereby the earth was burnt half a foot deep, yet it put up again, as fresh as ever, covering the ground so close as not to let any grass grow amongst it; and the cattle can't abide it. But it doth not injure corn so much as grass, because the plough cuts off the stalks, and it doth not grow so high, before harvest, as to choke the corn. It is now spread over great part of the inhabited parts of Pennsylvania. It was first introduced as a fine garden flower; but never was a plant more heartily cursed by those that suffer by its encroachments.

The common English *Hypericum* [*H. perforatum*, L.] is a very pernicious weed. It spreads over whole fields, and spoils their pasturage, not only by choking the grass, but infecting our horses and sheep with scabbed noses and feet, especially those that have white hair on their face and legs. This is certain fact, as generally affirmed; but this is not so bad as the *Linaria*. The hoe and plough will destroy it.

Wild Chamomile, called *Mathen* [*Maruta Cotula?* DC.], is another mischievous weed. It runs about and spreads much, choking not only the grass, but the wheat, more than the other two; but hath not yet spread so generally as they. But this may be killed by planting Indian corn, or sowing buckwheat on the ground, for several years successively. I had it brought many times in dung; but when I find it I burn it root and branch.

*Leucanthemum* is a very destructive weed, in meadow and pasture grounds, choking the grass and taking full possession of the ground, so that the fields will look as white as if covered with snow; but the hoe and plough will destroy this weed.

The great English single-stalked *Mullein*, grows generally in most of our old fields, and with its broad spreading leaves, takes up some room, in our pastures; but it is easily destroyed with the plough, or scythe, having only single tap roots.

*Saponaria* is more difficult to eradicate, as it runs deep, and spreads much under ground ; but it is not yet spread much in the country. With care we may keep it under.

The great double *Dandelion* is very troublesome in our meadow ground, and difficult to eradicate ; but the hoe and plough will destroy it.

*Crow Garlick* is greatly loved by the horses, cows, and sheep, and is very wholesome early pasture for them ; yet our people generally hate it, because it makes the milk, butter, cheese, and indeed the flesh of those cattle that feed much upon it, taste so strong, that we can hardly eat of it ; but for horses and young cattle, it doth very well. But our millers can't abide it amongst corn. It clogs up their mills so, that it is impossible to make good flour.

*Docks* are very troublesome in our mowing ground ; and, without care, they spread much by seed. They stifle the grass by their luxuriant broad leaves.

The *Scotch Thistle* [*Cirsium horridulum* ?] is a very troublesome weed, along our sea-coast. The people say, a Scotch minister brought with him a bed stuffed with thistledown, in which was contained some seed. The inhabitants, having plenty of feathers, soon turned out the down, and filled the bed with feathers. The seed coming up, filled that part of the country with Thistles.

The foregoing are most of the *English plants* that have escaped out of our gardens, and taken possession of our fields and meadows, very much to our detriment.

I now make a few observations on some of our *native plants*, that are very troublesome, in our fields and meadows, and are with difficulty eradicated.

We have four kinds of the *Rubus*, beside our common black Raspberry. The great upright Bramble grows near an inch in diameter, and eight feet high, in good ground, though commonly about two-thirds of that magnitude. This grows in our old fields and hedges, bears berries plentifully, and spreads much under ground, sending up abundance of shoots at uncertain distances.

Another kind is much like the former, but more weak and leaning, bears plentifully, and spreads as the other. Any piece of the root left in the ground, though a foot deep, will soon send up a shoot.

Another kind, we call the Running Briar [*Rubus Canadensis*, L., or Dewberry], and is the most troublesome kind. It roots very deep; and if we grub them up half a foot deep, they will shoot, from the remaining root in the grounds several branches, which will run on the surface two, three, or four yards in one summer, and dip into the ground, where they take firm root, from whence they will run, and take root as before; whereby they soon spread over much ground, and neither the plough nor mattock can easily destroy them. Mowing will kill them in a few years, if repeated three or four times a year. They bear a large black berry, and as good as the others, and is the first ripe, near the latter end of June.

The fourth sort grows about three or four feet high, upright, and one side of the leaves of a fine silver. These grow in few places; but where they take root they seem to spread and cover the ground.

The next native, that is troublesome in our old fields, is a late-flowering, perennial, white *Aster*, with a spreading top [*A. ericoides*, L?], the flower much like your single daisy. These will spread all over a field so thick as to destroy all the grass, and most herbs, too, except your *Hypericum*, which only is a fit match for it; both which no creature likes to eat. Ploughing destroys most of the old roots, but increaseth the young ones, from seed; for the year after a crop of wheat is cut, a field will appear as white as snow, when the plant is in flower.

The lesser *Ambrosia* is a very troublesome weed, in plantations where it hath got ahead. It is an annual, and grows with corn, and after harvest it shoots above the stubble, growing three or four feet high, and so thick that one can hardly walk through it. It is very bitter, and if milk cows feed upon it (for want of enough of grass), their milk will taste very loathsome. It seldom grows to any head the next year, nor until the field is ploughed or sowed again.

We have another weed, called Cotton Groundsel [*Erechtites hieracifolia*, Raf.], which grows with us six or seven feet high, and the stalk at bottom, near as thick as my wrist, in our new cleared land after the first ploughing, in the spring, or in our marshes, the year after they are drained and cleared. It grows there all over, so close that there is no passing along without breaking it down, to walk or ride through it; but in old fields, or meadows, there is

not one stalk to be seen. Now, if we put the question, how comes this to grow so prodigiously on the new land ploughed ground, and perhaps not one root growing within several miles, the answer is very ready: *it is natural to new land and not to old.*† But our philosophers say, that every plant is produced from the seed of the same species; but how came the small seed of this plant there, in such quantities as to fill a field or meadow of one hundred acres as full of plants as they can stand?

One day when the sun shone bright, a little after its meridian, my BILLY was looking up at it, when he discovered an innumerable quantity of downy motes floating in the air, between him and the sun. He immediately called me out of my study, to see what they were. They rose higher and lower, as they were wafted to and fro in the air, some very high and progressive with a fine breeze, some lowered, and fell into my garden, where we observed every particular detachment of down, spread in four or five rays, with a seed of the *Groundsel* in its centre. How far these were carried by that breeze, can't be known; but I think they must have come near two miles, from a meadow, to reach my garden. As these are annual plants, they do but little harm in the country.

The *Phytolacca* is troublesome in our new cleared meadows, and new fields. It comes up from the seeds being carried all over the settled parts of the country, by the birds, which are fond of them; but these may be easily destroyed by grubbing them up. Sometimes a very severe winter kills many of them, as they are natives of the Southern Provinces. When I first travelled beyond the Blue Mountains, I saw not one; but now there is enough of them.

Our *Elder* is exceedingly troublesome in our meadows. The roots run under ground and spread much; and I do not know that mowing will ever kill it; and grubbing will kill little more than the mattock takes up, for if there is but a little bit of the root left in the ground, it will grow. I have had a root growing in my kitchen garden about thirty years. It was ploughed once every year, and generally grubbed and hoed once, or mostly twice, every summer; yet, last summer, two stalks put up, and if there is an inch of root left in the ground, if it be two feet deep, it will put up again. In short, I believe there is not a shrub in the world, harder to eradicate than our *Elder*. I wish I had some of your *Elder* seed to sow. I hear it grows much larger than ours.

Those above-mentioned, are most of the troublesome weeds that frequent our meadows, pastures, and corn-fields; but in our kitchen gardens, we have many that are troublesome enough, such as the *Chickweed*, which was brought from England. There is no getting rid of it. It flowers and seeds most part of the year.

The *Henbit* is also another, that flowers and seeds most of the summer.

*Shepherd's Purse* is very plentiful in good ground; but many people make a good boiled salad of it; so is our wild *Purslane* very troublesome, though good when boiled. The small running *Mallow* is pestering enough; and two or three kinds of *Veronica*. The *Malvinda* [*Sida* ?] is very bad; and so is the *Mollugo*. One very tall species of the *Amaranth* is very troublesome, but some boil it, to eat; and a species of *Orach*, which we call Lamb's Quarter, is very tender when boiled. *Docks* and *Sorrel* are plague enough in our pastures, meadows, and gardens, the last of which is very hard to root out. These are most of the noxious weeds of our gardens, that make us have so much work to destroy them, every year, beside the grasses.