

weed seeds to the 1,000 of the sample. Farmers did not think it unfair when informed that they could not sell any lower grade timothy, alsike or red clover seed for seeding purposes than a dealer could sell without being liable under the Act.

GENERAL CROP PROSPECTS.

Taking the crops generally, there is promise of a good average. In some parts there has been too much rain, and the crops on the low, undrained parts are suffering. This is true of the pea crop, which is larger than usual. Root crops look well, but corn is backward, and a much smaller area is planted. Barley, oats and wheat on drained land look well. T. G. RAYNOR.

Perennial Sow Thistle.

From various sources comes the report that perennial sow thistle, *Sonchus arvensis*, is spreading widely over Ontario. It is a most noxious weed, decidedly worse than Canadian thistle, *Carduus arvensis*, which, however, it resembles, both in means of propagation, and in methods required for eradication. Its name implies that it is perennial, throwing up new plants year after year from the same root. It grows from 1 to 3 feet high, and has large, vigorous rootstocks, full of milky-white juice. The stems are rough, and the growth of the lower part of the plant is rank. The leaves are deeply cut, and furnished with small spines, and at their base clasp the stem. The flowers are bright yellow, of fair size, 1/2-inch across, and not unlike those of dandelion. They close up in strong sunlight. The calyx, or flower cup, is green, and covered with yellowish bristles. The seed is brown in color, and about 1/4 inch long, with both longitudinal and transverse markings. To the top a tuft of silken hair is attached. It flowers and seeds from June to August. It is dispersed by its running rootstocks and the scattering of seeds by the wind. It draws much water from the soil, and is a heavy feeder. It is said to be less troublesome on stiff clays than elsewhere. The methods of eradication are the same as recommended in another article for the Canadian thistle, only more thorough and persistent work is required. In addition to the methods advised in the article referred to, we might add that any grain fields not seeded to clover or grass, should be gang-plowed after harvest, rolled, harrowed and frequently cultivated, to germinate and destroy weed seeds. As a rule, however, our best farmers seed down with every white-straw grain crop.

How to Eradicate Canadian Thistles.

Partly for the benefit of our readers, and partly for the information of certain American exchanges which have been recommending all sorts of ridiculous means for eradicating "Canada thistle," we are prompted to offer a few simple directions for coping with this disagreeable weed. When we read in the papers alluded to that the thistle seldom seeds in the latitude of, say, Illinois, we smile the more broadly at such recipes as "cutting off the thistle and squirting a few drops of kerosene into the hollow of each root," or, "throwing a handful of salt on each plant cut off," or any one of the equally tedious methods which would bankrupt a farmer in this country in about two years. We are told, also, that in Canada the thistle has obtained such a hold that the fields are never clear of them, and American farmers are urged to prevent the pest from becoming thus established in their fields.

It is a fact that few Canadian farms are free from thistles, but the chief explanation is that here the plant seeds abundantly, and the seeds are blown long distances by wind, or carried in fodder, bedding and manure, so that well-tilled farms are continually re-infested from the lands of careless farmers, from waste places, and from roadsides. If our weed inspectors did their duty, and compelled the cutting of all thistles before blooming, good farmers would make short work of thistles. As it is, we have some who never have any thistles worth mentioning, and there is no good reason why anyone should be troubled with very many.

The first step to take is to prevent seeding, by cutting hay early, and by using the scythe in grain fields, pastures, lanes, and along fences. This properly attended to, the rest is easy. By way of eradicating the rootstocks, the first essential is good farming. Thistles seldom make much headway in a good stand of grain or hay, but they make full use of the thin spots. It is a serious reflection on one's cultural methods to have many thistles in his fields.

The second measure is short rotation of crops. This not only helps to grow good crops, to occupy the ground, but it provides a chance

to dispose of the weed. The rotation should consist of one or two crops of hay and pasture, followed by corn or roots thoroughly cultivated throughout the season. One season of good work will do the business. Follow with grain seeded to clover. Some have got rid of thistles by seeding down badly-infested fields, and leaving a long while in pasture, but on good arable land this method is extravagant, and not to be recommended. There is no use trying to kill thistles by plowing deeply, and it is a mistake to think that cutting them off when in bloom will finish them. It will weaken them seriously, and if this is followed up by three or four workings with the broad-share cultivator, or any implement that will cut them off just as they are peeping through the ground, they will soon be exhausted. Thistles cannot live long without breathing. With no leaves to assist them in the elaboration of nourishment, the roots gradually weaken, and, behold, the job is done.

When a field is cleaned, keep it clean. Do not grow each year on one part of the farm a patch of thistles, to inoculate the whole farm. Thousands of farmers have been fighting thistles all their lives, and they will have to go on doing so to the end of the chapter, because they always stop short of the thoroughness that ensures success. An odd thistle or weed of almost any kind may furnish seed for much mischief.

Let us add two "don'ts": Don't summer-fallow; it is a waste of effort; plant a hoe crop instead. Don't set the boys at work hoeing beds of thistles out of a hoe crop or fallow land; it is an excellent way to drive the boy from the farm. There are broad-share cultivators which will cut off everything but an odd thistle. If you

It is a good plan in seeding to endeavor to secure a thick stand of clover by using an extra quantity of seed on hard spots where experience shows the clover is liable to fail. It should be prevented from seeding by cutting the clover early, and, if necessary, by using mower or scythe early on patches where the weed has secured a foothold. This is better than plowing up a whole field to get rid of daisy, as we have seen some do. Methods of eradication are similar to those recommended for thistles. A three-year rotation—of, 1st, clover; 2nd, corn, roots or potatoes; 3rd, grain, seeded to clover—has been found effective.

Sandy Fraser's Motor-car Philosophy.

Editor "The Farmer's Advocate":

So ye've run onto another snag, have ye, an' ye'll be wantin' my help to pry ye off again, as usual. Mon, but ye're an awfu' trouble to me; but seein' it's no for yersel' yer workin', but for the farmers o' Canada, I dinna' ken but I'll gie ye a han', an' forbye, the subject ye hae' been discussin' in yer columns, an' on which I am gaein' to say a few words, is ane which might be called ane o' life an' death, namely, the automobile. Noo, in the first place, I dinna ken as onything is to be gained by calling it a "devil-machine" and sic like names. We dae na mair by this than to pit the devil intae the driver o' said machine, an' at the same time lose oor ain self-respect. Gin it were possible to be on frien'ly terms wi' a' the owners an' drivers o' automobiles, it is my opeenion that we wad hae less trouble when we meet them on the road. The mon wha gets smashed up in a collision wi' ane o' these machines is usually the mon wha thinks he has a richt to at least three-quarters o' the road when meetin' or passin', an' wha tries to stan' up for his richts. Noo, there is na' muckle sense in runnin' oor heads agin' a brick wall this w'y, for the automobile is here for gude an' all, an' it will no be that lang till we farmers will be usin' them oor-selves, not only for gaein' to toon an' the kirk, but for runnin' the plow an' the binder. We should tak' a lesson frae the experience o' oor ancestors, an' no' go tae smashin' things the way they smashed the first printin' press, because they thocht the devil had a han' in pittin' it taegether.

Noo, I dinna' think we hae' onything to complain o' in regard to the law no' bein' on oor side, for oor legislators hae' bin passin' bills in Parliament on the subject till the owner o' an automobile has tae be as well posted as a Philadelphia lawyer to escape landin' in the police court or in jail, for the matter o' that. So why canna' we dae something for oor-selves noo, if we are no' satisfied with things as they are. Wi' a wee bit o' judicious handling, maist ony horse will get used tae the machine, an' for the exceptional case where the pony is unco' modest an' bashful, I wad juist pit something in the shape o' blinders on him that wad prevent him from seein' automobiles or onything else while on the road, an' what he canna' see he is no' likely to be afraid o'. I kenned o' a horse once wha seemed to think every stane an' stump beside the road was his mither-in-law, an' wha could na' be prevented frae gaein' into the opposite fence or ditch, as the case might be. For want o' somethin' better, they tied an auld flour sack over his eyes, an', as a matter o' course, the trouble was at an end. Noo, if ye dinna' like the idea o' drivin' intae toon wi' a flour sack around the head o' yer high-steppin' Dan Patch, get yer harnessmaker to mak' ye a pair o' blinders that will serve the same purpose, attach them tae the bridle, look up another excuse for stayin' away frae the kirk, and ye'll be happy ance mair.

It has been suggested tae me that the "smell" o' the automobile is as bad as onything about it, an' juist as likely tae pit a horse into hysterics as the "sight," but I dinna' think it. I never kenned o' a horse to be afraid o' a pole-cat till he'd seen it.

SANDY FRASER.



Main Building Manitoba Agricultural College, Winnipeg.

To be opened to students this fall.

haven't one, get it at once. We cannot afford to do with boy and hoe what can be accomplished with horse and cultivator. Competition is too keen, and life too short.

Finally, while thistles are admittedly a nuisance, they can be practically exterminated by a reasonable amount of intelligent effort, and that, too, with only such cultivation as is beneficial to the regular crops. We know hundreds of farms, situate in badly-infested districts, with no thistles to speak of. What man has done, man can do. Prevention of seeding and frequent shallow cultivation are the key to success.

Ox-eye Daisy.

Ox-eye Daisy (*Chrysanthemum leucanthemum*) is a weed naturalized from Europe, and is closely related to the chrysanthemum, or national flower of Japan. It is a perennial, with short, thick rootstocks, possessed of much vitality. Many stems spring from a single root. It grows from six inches to three feet tall. The leaves slightly clasp the stem, the lower ones narrow, long, and toothed along the edges, the upper ones small, and without teeth. They are slightly aromatic, more so if bruised. The flowers are one to two inches broad, on long stalks, with from 26 to 30 white rays, and bright yellow disk. The seed is about 1-12 inch long, and angled with alternate white and black longitudinal ribs. It has a short point, but no pappus. An average plant produces 7,500 seeds. It flowers from June to August, and seeds June to September. It is dispersed in grass seeds and by birds. It is most troublesome in pastures and meadows, often coming in thickly in spots where the clover has made a poor stand.