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## The Field.

### Wild Oats and Pigeon Weed

"A subscriber" inquires:—"Can you inform me whether wild oats and pigeon-weed will grow from manure, if made into a heap and thoroughly rotted, and how long a time is required to elapse before the said manure can be used with safety? Also, what is the best method of destroying wild oats and pigeon-weed in the land?"

Seeds of all kinds are deprived of their vitality by the processes of heating and fermentation which take place in a manure heap, and this is one strong argument for applying no manure to land which has not been thoroughly rotted. The length of time required to do this depends on a variety of circumstances, such as the nature of the manure, the season of the year, the quantity of moisture in the heap, and the labor expended in mixing and turning. But, whether a longer or shorter period is occupied in thoroughly rotting a manure heap, when the work is done, it is fatal to seed life.

In replying to the latter part of our correspondent's note, it may be observed that both of the weeds mentioned are very difficult of eradication when they once get a footing in the soil. They are alike remarkable for maintaining their vitality a very long time, when buried in the soil beyond the reach of germinating influence. Often, when it has been supposed that they were utterly exterminated, putting the plough a little more deeply down has brought a fresh supply of seed to the surface, rendering the land as foul as ever. It follows, therefore, that the work of eradication must be very thorough indeed. Hence, farmers determined to get rid of these pests, have resorted to hand-pulling, not only in Britain where labor is comparatively cheap, but even in this country where labor is costly. One farmer in the United States found it necessary to expend forty days' labor the first year in a hand to hand fight with pigeon-weed, but in a few years the nuisance was so far abated that three or four days were found sufficient, and perseverance in this course would, no doubt, result in the destruction of the last plant. But for general practice, a quicker and more wholesome method than that of hand-pulling must be adopted, at any rate for a while, until the enemy is comparatively suggested.

Of course a thorough summer fallowing will get rid of all the seeds which are so exposed to the air as to germinate, and plants of every description are easily destroyed, when in the seedling state. But these weeds do not germinate readily, and plough and cultivate as you will, some of the seeds are sure to be left in the soil. After the land has been well fallowed, it should be sown with fall or spring wheat, and seeded down to clover or grass. The wild oat

is an annual, and the pigeon-weed biennial, so that a few years mowing or close plowing will destroy them. But whenever the land is broken up again, the process first suggested must be repeated, until all the seed remaining in the soil is grown and destroyed. A very careful seeding down with mixed grasses, and the use of the land for a term of years as meadow or pasturage, is to be recommended. By means of top-dressings with well-rotted manure and artificial fertilizers, land may be kept in grass for an indefinite period, and the half cultivation which is the occasion of so fruitful a weed-crop from year to year, to a great extent, dispensed with.

Another mode of procedure, varying somewhat from that just described, has been recommended. Plough the land the usual depth immediately after harvest. Let it lie in that state until the latter part of the month of May following, when it will generally be in good order; then plough again lightly, using the gang plough if the land will admit, and sow immediately with barley or an early variety of peas, sowing pretty thickly and covering with the harrow. This course will be found very successful with wild oats, for the grains recommended to be sown will spring up rapidly, and getting the start of the weeds, will ripen before they get to seed, so that cut in an immature state when the crop is harvested, the destruction of that season's growth is complete. A repetition of the process, or a seeding down of the land, will be necessary to make the work of extermination complete.

Besides the means of cure suggested, and others that may be resorted to, the importance of prevention must not be overlooked. This is, proverbially, better than cure. By purchasing only clean seed, and clean grain for feeding when that is necessary; and by taking care that the threshing-machine does not come from a weed-infested farm to your own, much may be done toward an avoidance of these evils. But we shall never have an effectual system of prevention until highways and railroads are put under legislation so rigorous that they shall cease being what they now are to a very great extent—weed nurseries from one end of the land to the other.

### Is Fish Culture Profitable?

This subject is attracting much attention just now, especially as the facilities are so good for obtaining eggs or young fish of several kinds with which to stock artificial ponds. In answer to an inquiry as to the profits of fish-culture for their flesh only, Mr. Fred. Mather, a noted pisciculturist, writes to the *Forest and Stream* as follows:—

Fish culture is a broad field, and after all the successes which are on record, there are still skeptics. Of course there are failures. So in all business. One party had not water enough, another could not get food, &c. But there are others who have succeeded by having every thing favorable in connection with the requisite amount of brains. One great drawback

on private fish culturists has been, in my opinion, the desire to confine then selves to what are called game fishes. They seem like boys who mingle work and play. The game fishes are more or less cannibals, and it is this that raises the graying in my estimation far above the brook trout, for the trout are piscivorous as well as insectivorous, while the graying cannot eat fish, but thrives on the refuse of the slaughter house as well as the trout does. There are but few places suitable for raising trout on a large scale, and it is only on a large scale that it will pay. An ordinary spring will suffice to furnish a few, but to turn out a ton or more a year, requires not only a large flow of water, but also a great quantity of food. There are those who have made it pay, but I do not feel at liberty to publish what little I know of their business. Fish culture for profit and fish culture for sport are distinct things, and the following gives my ideas on "game fish":

1. I have kept trout at a temperature above 60°, in fact as high as 75° where there was a good flow and consequently a rapid change.
2. Don't dam a ravine for a pond; the wind will blow leaves in, which with the leaves and drift brought down by rains, will clog the screens and the floods will carry everything away.
3. If you dam the ravine, do it high up, and lead the water in a ditch along the hillside into ponds, and let all floods and surface water go over the dam and down the old channel.
4. I find that trout kept at the head of my spring, where the temperature is 49°, do not grow much, while those kept below, where it is 60° and 65°, grow rapidly, and trout fry if left free will work down where the water is even warmer.
5. Black bass, pickerel and perch are recommended where the water is too warm for trout, but these fish are all cannibals; the first named is good for the table and the sportsman; the second is a gormandizing beast, unfit to associate with decent fishes, and only eatable when nothing better can be had; the third is a good little pan fish, but terribly destructive to other fish.
6. If I were asked for a list of fishes to be kept in waters not suitable for trout or graying, it would comprise white fish, scucos, smelts, the large carp of Europe, and the square tailed variety of catfish that is known in the Eastern States as a bull-head, horn-pout, &c. The indiscriminate introduction of predacious fishes to please the sportsman has been carried too far, and many waters are filled with them that will be wanted for a more peaceable and prolific fish in a few years. If you wish to stock a hundred acres of land with animals, what kinds will you choose, lions, tigers, wolves, weasels, &c., or cattle, sheep, deer and rabbits? And from which class would you expect the greater number of pounds of meat?

Another correspondent of the same paper says on this subject:—

My experience of fish culture leads me to say that "raising for market" under correct business principles can be made "a profitable business" in ordinary years. The panic of last fall, and consequent necessity for economy the present year, has caused nearly all kinds of business to be depressed, and hardly any one has made much money. Of course luxuries were affected more than necessities. In August, 1873, I made engagements with two of the largest dealers in New York to supply them with one hundred pounds a week during the season, but owing to the depression they were unable to carry out their agreements. Yet I have had a large number of orders for five to twenty pounds, and also had a fair attendance of visitors and anglers.

In undertaking any new business, a man has to expect to pay something for education in the method