

Weeds: Their Control or Destruction

Article No. 38 on "Farm Facts Every Boy Should Know"

By Tait Butler

THE war with weeds costs the Southern farmer much time and money and is destructive of both profits and better living. Few realize what this continuous battle against weeds is costing the Southern farmer. Pammel estimates that the loss to the corn crop of Iowa due to weeds is \$7,000,000 to \$9,000,000 annually. The lessened crop yields in the United States due to the presence of weeds, the lessened value of products due to weeds and weed seeds and the increased labor costs in the battle against the weeds, amount to several hundred millions annually.

What Our Weeds Cost Us

THE bill of costs to be charged against weeds does not stop at the decreased yields of crops produced, nor to the increased cost of cultivation, however tremendous both these items are. The losses resulting from the depreciation in quality and value of products due to the presence of weeds and weed seeds are also extremely large. If Southern farmers once realize the size of the weed tax which they are paying the defensive fight which they are now waging will change to a most aggressive offensive campaign that will in the course of years lessen very greatly not only the injury done by weeds but also greatly reduce the annual cost of the fight against them.

Last week we discussed the means or ways by which weed seeds are scattered, and a careful study of this matter is essential to an intelligent fight against weeds. But weeds spread in other ways besides through the scattering of seeds and in numerous ways not mentioned in last week's article. Furthermore, there are other facts about weeds which must be learned before an effective fight can be waged against them.

Annuals, Biennials and Perennials

WEEDS may live for only one season, mature seeds and die. These are called "annuals," because they live for only one year. Other weeds live for two seasons, maturing seed the second and then dying. These are known as "biennials," or "bi-annuals," because they live for two seasons, "bi" meaning "two." A third class lives on year after year, but may make seed each year. These are known as perennials, or living through the years, "per" meaning "through."

It is important to know whether a weed is an annual, biennial or perennial plant, in order to know how to wage war against it. It will at once occur to any one that a plant that only lives one year will be exterminated if prevented from making seed that one year. On the other hand a plant that lives for two years requires a fight of at least two years before it can be exterminated by simply preventing it making seed; while the perennial plant cannot be destroyed at all, or at least for a long time, in this way. But plants are spread, or reproduce themselves, by other means than seeds. Parts of the plant may grow and produce a complete new plant. This is especially true of certain plants which produce underground stems or "root-stocks," as they are called, such as Johnson grass, Bermuda, etc.

Moreover, the seeding habits and manner of growth of a plant must be known before an intelligent fight can be made against it. For instance, some plants produce seeds which germinate quickly, and if they fall to the ground and find suitable conditions they begin to grow quickly. Such plants may be easily killed by cultivation or in the case of annual plants by preventing them making

seed. But other plants, like many clovers, wild onion, etc., make seeds or bulbs, some of which have hard shells and will not germinate quickly in the soil. In fact, some of these hard-shelled seeds may live for many years in the soil and then germinate and produce plants when conditions become favorable. In dealing with weeds which make seeds of this type the fight may have to be kept up for many years to completely eradicate them.

What are the means to be employed for lessening the weed nuisance in the South? Two general plans of attack are open, prevention of their spread and growth and destruction of those already well scattered over the land.

The study of the introduction and spread of weeds in this and other countries is interesting. Many have come from foreign countries and in this country the largest number of foreign weeds have naturally come from Europe and spread from the east westward. On the other hand, the so-called bitter weed of the South (*Helenium tenuifolium*) seems to have spread from the west eastward. It would have been wisdom for the southeastern states to have spent large sums of money to prevent the spread of this weed, and yet nothing was done. Possibly it could not have been prevented from spreading by any effort which could have been brought to bear against it, but nevertheless its spread is probably costing the dairymen of the South more than would have been necessary to prevent its spread or to eradicate it.

How to Fight the Pests

SOME of the measures which might profitably be taken by the South to lessen the heavy cost now laid on the farmer by the presence of weeds are:

A law which will make it a misdemeanor to allow weeds to mature seeds. Such a law exists in Iowa, for instance, which makes it the duty of "every person, firm or corporation owning, occupying or controlling lands, town and city lots, land used

as right of way, depot grounds or for other purposes, to cut, burn or otherwise entirely destroy all weeds." It is simply folly for the South to continue to allow weeds to grow on the highways and uncultivated places to make seeds to be scattered and increase the cost of cultivating our crops.

No better or more useful law could be enforced than one compelling every man to cut the weeds in his pastures and thus prevent weed seeds being scattered from these weed pastures to his own and his neighbors' cultivated fields.

There is no better method of suppressing weeds than by a rotation of crops. When one crop is grown on land year after year certain weeds, the habits of which adapt them to the conditions of this one crop, are almost certain to become numerous. In other sections cultivated crops like corn, cotton, peanuts, tobacco, etc., would be regarded as an aid to weed suppression, but in the South the growing season is so long and the cultivation stops so early that certain weeds may thrive and mature seed after cultivation stops.

No doubt the rotation of crops would be a great aid in suppressing weeds in the South, but what we particularly require in the South is a rotation which includes a double cropping system or the growing of some crop on the land during the entire year. The oat or wheat field not sowed to peas, soy beans or some other crop, becomes a veritable weed breeding patch, and the corn field that is not sowed to cowpeas or velvet beans is almost certain to produce weed and crab grass seeds to greatly increase the cost of cultivation the following year.

Those who are interested in this tremendously important subject of the destruction of weeds may obtain much valuable information from bulletins to be had free of charge, or from the books: "Manual of Weeds," by Ada Georgia, price \$2; or "Weeds of the Farm and Garden," by Pammel, price \$1.50.

But it is not so much a larger knowledge of weeds which is needed but a more accurate and complete realization of the decrease in crop yields and quality of products and the increase in cost of cultivation which weeds cause.

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"MORALS COME FIRST," SAYS HERBERT QUICK

Emphasizes This Fact in His "Success Talk for Farm Boys"—Farmers Must Learn to Work and Sell Together, and High Morals Must Be the Basis of Cooperation

[Herbert Quick, of West Virginia, is one of America's strongest agricultural writers and profoundest students of rural problems. He has just been appointed a member of the Federal Farm Loan Board which is to direct the operations of the new National rural credits act. Our Progressive Farmer boys will hear much of him as they grow older, and his "Success Talk" herewith deserves careful pondering. It will be noticed that Mr. Quick, like Dr. Warren H. Wilson last week, lays most emphasis on morals because as Dr. Wilson then said: "Success in the future will depend on working together. Therefore, the boys of today must learn obedience and subordination to one another, a sense of honor and obligation, in order that as they grow up they may cooperate."]]

IN MY opinion, the greatest need of the farm boys is a better conception of the opportunities for the use of the mind in farming. Most people think that farming is a matter of muscle. The farming of the future will take account of the fact that the important things in farming are: (1) morals; (2) mind; (3) muscle.



MR. QUICK

Morals come first because we cannot work out our greatest problem—that of distribution—except on a basis of justice between everyone, and that means high morals. Mind comes second, because mind morally misdirected will bring failure, but the mental

end of farming is the one which most of us are most likely to underestimate. An understanding of farming involves an acquaintance with every one of the sciences—botany, bacteriology, both political and physical geography, organic and inorganic chemistry, mathematics, economics, sociology, and even astronomy. No man can possibly master all these sciences placed in requisition by the farmer's business.

Now, it is perfectly true that that man is happiest in his business who uses his mental powers most intensively. Farming seems dull to millions of people, because they have not found out that it gives an opportunity for the development of the broadest character, the most profound learning, and the intensest application of the intellect to the problem of making a better living.

HERBERT QUICK.

It's Up to the Landlords

THE late Henry Wallace, discussing the perils of our tenant system a short while before his death, declared:

"The only thing that can transform a community of more or less migrants into a settled, stable community, is such a system of leasing land as will enable tenants to have a certain degree of permanency, for at the bottom of all this is the question of land tenure; and we see no way of settling that question except by adopting the method that prevails in England, Belgium, and other European countries, by which the tenant is guaranteed opportunity to utilize the fertility he may by good farming or by the purchase of fertilizers have put into the land.

"The tenant who realizes that he may be obliged to move at the end of a year, whether he farms the land of a speculator or of a retired farmer or of a business man who has made a land investment, will not do his best, and ought not to be expected to do his best; and the inevitable result is declining fertility.

"In fact, unless the landholders and tenants on the richer lands of the United States come to an agreement by which there will be a reasonably certain tenure, there can be no other result than that these lands will decline in fertility as they have been doing, and the United States will lose her proud position as one of the main sources of the food supply of the world. How this can be brought about is not yet clear; but the initiative must be taken by the men who own land; and they must do this both for their own interest and the interest of every good thing in the community."

Cover Crops on Rented Land

THERE is a man in Guilford County, N. C., who for several years has been furnishing his tenants with clover seed to be sowed for a cover crop, provided the tenants would sow them without charge. In the spring these cover crops are turned under for green manure. In most cases the clover seed were sowed in corn fields after the corn was laid by, being put in with a light adjustable harrow.

Such a plan as this is not expensive to the landlord, neither is it very troublesome to the tenant. In this way more plant food can be obtained for the outlay of money and labor than in any other manner. In this instance the terms of renting are not changed; and though the profits may not be exactly balanced, it has at least proved profitable to both renter and landowner. Profits may come to one in a greater ratio than to the other (for that is hard to determine), but all parties concerned are satisfied with the arrangement.

It seems to me that others might also adopt this plan with profit to both parties having between them a lease or renter's contract. H.

System of Renting in Texas

THE kind of rent that is most common in the state of Texas is the rent known as "the third and fourth," which means that the landlord furnishes nothing, or very little, in the way of teams and implements or working capital of any kind, and receives for the use of his land, houses and barns one-third of the grain which is grown and one-fourth of the cotton. In case the tenant furnishes nothing but his labor, and all the capital is furnished by the landowner, the crops produced are usually equally divided. Cash rent is not paid in Texas so frequently as it is in other sections of the country, but it seems that cash is increasing in favor.—From "Studies in Farm Tenancy in Texas," by E. V. White and W. E. Leonard.

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