

The stinking smut of wheat should not be prevalent another year if those who sow the crop this fall take the proper precautions to clean their seed of this trouble. It is just as necessary to treat seed grain for smut as it is to run it through the fanning mill to take out the seeds of other grains and foul weeds. Farmers have been slow to make the practice of treating their seed for smut general but a few years prevalence of the disease should bring home to them the importance of taking precautions against the trouble which is liable to depreciate their yields by from 15 to 25 per cent. No farmer can afford to have his yield of grain so cut into. Forty or fifty cents in addition to time spent in the work of treating, is all the outlay necessary to save next year's wheat crop on most farms from smut losses.

### For Hay or For Seed—Which?

During the past week or so many farmers have been asking us about the advisability of leaving the second-crop clover for seed. This is a question rather difficult to answer, because so much depends upon the weather from now on, upon the soil on which the crop is, and upon the conditions of the seed market during the coming winter that no one can be sure just how profitable the crop may be when time to harvest for hay arrives. No farmer should attempt to get a crop of seed from fields which were not cut early the first time, and yet an open fall after a rainy season like this has been may aid greatly in making a better crop of seed of the fairly late cut clover than of that cut the first time very early, and consequently blossoming in the midst of the wet spell early in August. It is well known that seed production is not large in a wet season, or more particularly when the weather is wet during the blossoming period. The bees, instrumental in fertilizing the flowers, cannot work in very wet weather.

A great deal of speculation has been indulged in as to the probable demand for clover seed the coming season. Recent estimates place the annual export of clover seed from Ontario at 150,000 bushels, and probably about the same amount is retailed for seed at home. It is necessary to produce at least enough for home consumption. We do not know what the export demand will be if the war continues. It is more than likely that there will be a good demand for red clover seed next spring for local trade, at least, for farmers are beginning to recognize the importance of clover in their cropping systems, and many now seed down heavily to clover every acre of spring and fall grain sown. True, some of this is plowed up the following fall but it gives, where this system is followed, sufficient growth to greatly improve the soil. Furthermore, it may be stated that farmers now sow anywhere from half as much again to double the quantity of seed per acre which they formerly did. Many have found that five or six pounds of clover per acre is insufficient to secure a good stand in all kinds of seasons, and, keeping this in mind, they have in many cases doubled the seed sown in order to be absolutely sure that so far as quantity of seed is concerned the crop will be a good stand. These precautions, increasing as they are, will cause a demand for more seed in the future. It is estimated that the acreage seeded to clover each year in Ontario alone is 1,075,000. To seed this acreage at 12 lbs. per acre would require 215,000 bushels, whereas at 6 lbs. per acre only 107,500 bushels would be needed. Now, if the entire seed crop produced is only 300,000 bushels in a normal year it would appear that there is little likelihood of an over-production of clover seed this year, for many fields of clover hay were not cut in time to produce a second crop and ripen seed thoroughly. In fact, in travelling through the country we have seen field after field of clover not yet cut the first time early in August. Moreover, that which was cut early has made a rank, stalky growth not conducive to profuse flowering and heavy seed production. Such crops would be far more profitable as a general thing cut for hay. Besides these reasons why clover seed may not be produced in large quantities this year, there is the fact that the hay crop over the Eastern Provinces was light, and hay being scarce and high in price will surely cause many farmers to cut their second crop of clover for feed rather than for seed.

The area in Ontario which produces clover seed is rather limited, being confined to that portion of the Province west and south of a line drawn between Kingston and the Georgian Bay.

Fields being saved for seed should be watched carefully, and any noxious weeds pulled out before the crop is cut. Of course, such weeds as buckhorn or rib grass cannot very well be pulled, and fields badly infested should not be kept for seed. The best and cheapest plan of cleaning clover seed is to do it in the field before cutting, and always be careful to burn the weeds pulled and not leave them in a pile in the lane or pasture field to mature and spread seeds over the farm.

Again we emphasize the importance of saving only fields from which the hay crop was cut early, preferably before the first week in July. No special date can be given as to the time of harvesting the second crop. The best rule to follow is to cut when most of the heads have become thoroughly browned. Watch the field carefully, go over it from time to time and rub out a head here and there to see whether or not the seed will shell. When it shells comparatively easily in the palm of the hand it is ready to cut. It must be remembered, however, that red clover does not shell like alsike, and can safely be left to ripen thoroughly before cutting, provided weather conditions are favorable. Never cut while the seed is soft and the heads not properly filled. Such seed shrinks and is of little value. More loss is sustained by cutting too early than too late. We have seen satisfactory yields of red clover threshed from fields harvested late in October, after several frosts.

The harvesting of the crop offers some difficulties, but the experienced grower soon overcomes these. Many attach a table to the mower and have a man follow with a rake pulling off the bunches as they accumulate on this table. This is a very good practice where the crop is short, as the table saves all the heads in the pile and the waste is much less. When the crop is a fair length many simply cut down with the mower, rake up with the ordinary dump rake and turn one-half the rakeful over on the other to make neat little piles which soon dry out and are in good condition for pitching. The rake follows directly after the mower in this method, raking a half rake at a time. Some believe that where the crop grows a sufficient length and stands up well that the self-binder is the best machine to use. In cutting with the binder some recommend using no cord and slackening the springs of the trip and the two boards which hold the sheaf in place, while the packers are working on it so that the knottor revolves continually, distributing the clover in a row around the field well out of the way of the horses and machine the next round. When cut in this way the clover is generally pitched on to the wagon with a barley fork and raked afterwards to get any that was missed. We have never tried the binder ourselves, but can speak from experience as to the value of the table on the mower, and cutting and raking much as the hay crop is handled, only bunching the rakefuls as suggested. Either of these methods gives good results, and when the clover is long enough to stand up well the cutting of the hay crop and raking while the dew is on is as good a practice as we have tried. Of course, as previously stated, if the crop is short the table is necessary otherwise many heads are lost. Anyone having a self-rake reaper in good repair can use it to good advantage in harvesting red clover.

The length of time which the clover must remain out after cutting must depend on the weather and the degree of ripeness of the crop at cutting. As a general thing the seed crop gets wet a few times before it goes to the barn, as rains are generally more frequent in the fall than in the summer. Sometimes it must remain in the fields two or three weeks, while at others it may be harvested in a few days. As soon as the crop is dry enough it should be mowed as the weather can never be depended upon at the season of the year when the second crop clover is ripe. We would never advise drawing it to the barn too damp, as red clover, under the best conditions, does not thresh easily, and it should go in fairly dry in order that all the seed may be separated from the straw by the clover huller. We would just mention here that the clover huller is, as a general thing, much more satisfactory as a thrasher than the ordinary grain thrasher with special equipment for threshing clover.

A good yield of seed is two bushels per acre. Some get three bushels and we have heard of four, but as a general thing a fairly good average crop will not return more than from a bushel and a half to two bushels. It sometimes pays to thresh a crop if it yields only one bushel per acre of good, clean, well-matured seed. The farmer is then sure of his own seed supply for the next year and knows that it is clean. Besides, when red clover sells anywhere from \$10 to \$12 per bushel, a bushel per acre of clean seed following a satisfactory hay crop is not a bad return from the land.

Growers should take note of the way their clover fields are blossoming and filling. If the field does not blossom well there is very little use of leaving it for seed. When many of the heads show well-developed blossoms on one side only, the other side remaining green, the yield, as a general thing, will not be large, and midge will usually be found working in the heads. Where midge is prevalent good yields are seldom obtained. Another point worth mentioning is that when the second crop grows a very heavy stand blossoming and seed production are generally not as satisfactory as when only a moderate crop comes on. We would far rather have a

field of clover standing about a foot high and not so thick as to lodge than one growing what is generally considered a heavier crop than the first cutting. All extra heavy crops should be made into hay, and only those of particular promise left for seed. However, we would like to see enough seed produced in Ontario for this country's use another spring.

### Underdrains Pay in one Year.

It is not often that one finds the soil so saturated at the middle of August that water is standing in all the low places, even in the grain crops and cultivated fields. Such has been the case this year and on August 17, in walking over some of our fields at Weldwood, we found them so soft that they would scarcely carry a man, much less the binder. These fields were in oats and barley respectively. In one of the pastures water was standing in puddles in some of the low spots. It is here we wish to again emphasize the importance of underdrainage, that our readers may be once more convinced that it pays to drain the soil. On the very day mentioned we walked over a twelve-acre field which is being prepared for winter wheat. This field had a system of underdrains put in it last spring, and, to our surprise, it was dried out enough that it could be cultivated without injury to the fairly heavy clay soil that it is. In fact, most of the land was getting white and it was all solid enough to carry the horses. We went on down across the pasture field previously mentioned, and there found water standing on that part of the field which has so far not been underdrained, while on even lower land farther over in the field, which has an old system of underdrains in it, there was no water standing and the land was solid and fairly dry. Farther down there is a field of twelve acres of corn growing for the silo. This field had corn on it three years ago and it was then so wet that at drawing time a team load could not be hauled from some parts. This spring the entire field was underdrained and the day we walked through the corn and all over the field it was comparatively dry and solid and considerable of the corn was at that time over eight feet high. The five-inch tile at the mouth of the drain was then running about half full of water and is making one of the finest pumps to the surplus water off the land one could imagine. The system of underdrains on this field has meant, this year, the difference between a good crop and practically no crop at all, for during the past month and more rains have been so frequent that it was impossible to get on the land and cultivate and had there been no drainage the soil would have been so wet and soggy, which, coupled with the lack of cultivation, would have ruined the crops. In the opinion of some who have seen it the underdrains will pay for themselves this year, to say nothing of the decades to come. It pays to underdrain and do it thoroughly.

### There Will be Corn.

Up to the middle of August we heard many complaints about the corn crop. Stock farmers depending upon silage for their winter feed were beginning to feel a little uneasy about the prospects for their main feed crop this year. However, corn has again demonstrated that it is the safest and heaviest yielding winter feed crop grown in the East. We are sure there will be corn, and most farmers, especially those who have put their corn on underdrained soil will have plenty to fill their silos. While on this point, we might just say that at Weldwood most of the corn was put in hills but to test out thick planting against the hill system two acres or so was sown in rows very thick. At the time of writing this thickly sown corn is very promising indeed and indications point to it yielding more feed than that planted in hills. However, time will tell, and the hill corn may cob up enough to over-balance the extra stalk on the thickly planted plot. From observations made throughout the country we are sure, however, that there will be corn this year and plenty in most cases to feed the stock over winter.

Clover sod that was cut fairly early has sent up an excellent after-growth, and during the last two weeks it was being turned down. In some cases there would be good seed in it if it were spared, or it might yield a good crop of hay. In any case, however, nothing could be done so the ordinary farm practice to improve the land so much as will this growth of clover. In addition to the fertility which will be added to the land and the effect of the organic matter will be for good, and these fields should yield exceedingly well next year. The recent excessive rains have done some good as well as much harm.