There are a few examples known where foreign weeds have been introduced into this country and have spread so rapidly as to cause considerable alarm for a few years, and afterwards have died out of themselves, or at least have ceased to cause trouble. There are numerous instances where weeds have been troublesome for many years and are still causing trouble in all infested regions, except where the farmers, by combined action and determined effort, have exterminated them. There is indeed a possibility that the Russian thistle may die out of itself, but there is a greater probability that it will not only continue to grow, if allowed to do so, and to cause much damage in its present area, but that it will spread elsewhere. There is a certainty that if thorough measures be taken to stamp it out of existence, it may be killed and will cease to be troublesome anywhere.

REMEDIES.

Plow in August or early September, before the Russian thistles have grown large and stiff and before they have gone to seed, using care that all weeds are well turned under. If the season be long and weeds come through the furrow it may be necessary to harrow the land before winter. Burn over stubble fields as soon as possible after harvest. Cut the stubble with a mowin gmachine, if the fire does not burn everything clean without cutting.

Cutting the stubble and thistles before the latter have gone to seed will help, but is not thoroughly effective without fire, as the thistles will send out branches below where the mowing machine cuts them.

If the weeds have been neglected and have grown large and rigid, as they do by the middle of September, especially on neglected barren fallow or spring-plowed breaking, they may be raked into windrows and burned. The old-fashioned revolving hayrake or any rake made especially strong so as to pull the weeds, and especially good at clearing itself in dumping, will answer the purpose. An ordinary wheel hayrake with a set of strong teeth has been used successfully. This method is to be recommended only as a last resort, for by the last of September some of the weeds will be ripe enough to shell out and will escape being burned with the plants. If left until October, when many of the plants are certain to be fully ripe and dry, the land where they are growing will be well seeded anyway; but raking together and burning the weeds will prevent their being blown across neighboring fields during the winter. Of course care should be taken to do this work when there is little wind, for a burning Russian thistle before the wind will jump any fire-break and carry both seeds and fire.

Barren fallowing does very well if kept barren by thorough cultivation. It gives but little benefit to the land, however. A much better method is to sow clover, millet, or rye, pasture it and plow it under green. This will be beneficial to the land, especially if a comparatively large proportion of clover is used, and the weeds will be choked out. Millet and oats combined may be grown and cut for hay. This crop will choke out nearly all the weeds, and the few that do grow will be too slender to cut any figure as tumbleweeds.

Corn, potatoes, beets, or any cultivated crop, *well taken care of*, will in two years rid the land of not only the Russian thistles, but nearly all other weeds.

Sheep are very fond of the Russian thistle until it becomes too coarse and woody. By pasturing the sheep on the young plants they may be kept down, and the only valuable quality the plant has may be utilized.

In fields where the weeds are thick drag with an iron harrow, hitching the team on by a long chain. As soon as the harrow is full of weeds set fire to them and keep dragging and burning. This scheme, although apparently somewhat chimerical, has actually been tried with success.

If the Russia thistle is to be kept out of the cultivated fields it must be exterminated along roadsides, railroad grades, fire-breaks, waste land where the sod has been broken, and, in fact, in all accidental places where it may have obtained a foothold.

The ordinary road machines may be used to advantage along the roadsides, the scraper being set so as to take as thin a layer of earth as possible and throw weeds and all to the middle of the track. A single trip each way with the road machine would be sufficient in nearly all places to take the weeds between the beaten track and the prairie grass, so that 15 to 20 miles a day could be easily cleaned. If this work be done in August, before the Russian thistles become too large and stiff, the work of the road scraper will be sufficient. Going over with a heavy roller, however, would not only improve the road, but would crush the weeds so that no occasional mature plant would be blown away. If the work is put off until September the weeds should be raked together and burned.

On fire-breaks, railroad grades, and odd places, these and other noxious weeds may be killed by a judicious use of the mowing machine, scythe, hoe, rake, and fire.

RECOMMENDATIONS.

Place a Russian thistle in each school-house, so that the pupils may become familiar with it, and teach them to kill it wherever they find it as they would kill a rattlesnake.

Permit no Russian thistle to go to seed. The plant is an annual: the seeds are evidently short-lived; hence if no plants are permitted to go to seed for two years the weed will in all probability be exterminated.

Let no one break up more land than he can take care of, or more than he can properly cultivate.

Let each farmer first keep down all the weeds on his own farm, and then insist that his neighbor do likewise.

A little careful legislation that will touch up the careless farmer, the non-resident landowner, and the railroad companies, would aid considerably in the solution of the question.

Be careful that all seed sown be as pure and clean as the modern fanning-mill can make it. Use especial care in regard to flaxseed and millet, or any of the smaller and lighter seeds.

We have not heard that this plant has yet reached the East, but as seed grain, especially wheat and oats, is yearly imported from the Northwest into Ontario and Quebec, we advise the farmers of these provinces to be watchful so as not to let this pest obtain a foothold.

## Experiments with Winter Wheats.

According to the report of C. A. Zavitz, of the Ontario Experimental Farm at Guelph, we learn that the work which begins at the Guelph Farm extends over all parts of Ontario, through the agency of the Experimental Union, and is growing year by year.

The eleven most productive varieties of winter wheat, which have been grown by sixty experimenters in different parts of the Province, have made average yields as follows:—

| | | |
|---|---|---|
| Dawson's Golden Chaff | 34.9 | bush. per acre. |
| Golden Drop | 34.4 | " " |
| Early Red Clawson | 32.6 | " " |
| Bulgarian | 31.4 | " " |
| American Bronze | 31.3 | " " |
| Mediterranean | 30.8 | " " |
| Surprise | 30.7 | " " |
| Jones' Winter Fyfe | 30.0 | " " |
| Fulcaster | 27.4 | " " |
| Fultz | 26.4 | " " |
| Red Wonder | 24.9 | " " |

The following facts have been obtained from the average results of sixty reports under consideration:

1.—The Fultz, Dawson's Golden Chaff, Golden Drop and Early Red Clawson proved to be the earliest maturing varieties, and Jones' Winter Fyfe and American Bronze the latest.

2.—The Bulgarian, Fulcaster and Red Wonder were the least affected by rust, and the American Bronze and Jones' Winter Fyfe the most.

3.—The Dawson's Golden Chaff, American Bronze, Jones' Winter Fyfe and Golden Drop possessed the greatest strength of straw.

4.—The Mediterranean, Bulgarian and Fultz possessed the longest straw, and the Surprise and the Golden Drop the shortest.

5.—The Dawson's Golden Chaff, American Bronze and Early Red Clawson varieties seemed to be the most in favor with the experimenters, and the Fultz and Red Wonder the least in favor.

The plots were one rod square, with a three-foot path around each one.

## List of Principal Fairs to be Held in Canada, 1893.

| ASSOCIATION. | PLACE OF FAIR. | DATES. |
|---|---|---|
| Prince Edward County A. S. | Picton | Sept. 12 and 13 |
| Lanark Horticultural Society | Lanark | " 14 and 15 |
| Western Fair | London | " 14 to 23 |
| Wellesley & North East Hope | Wellesley | " 19 and 20 |
| South Renfrew | Renfrew | " 19 and 20 |
| Central Exhibition | Guelph | " 19 to 21 |
| Ontario and Durham Ex. Ass'n | Whitby | " 19 to 21 |
| South Lanark Fair | Perth | " 19 to 21 |
| Bay of Quinte District Ex | Belleville | " 19 to 22 |
| Huntley Agricultural Society | Carp | " 20 and 21 |
| Great Northwestern | Goderich | " 20 to 22 |
| Fitzroy Agricultural Society | Mohr's Corners | " 22 and 23 |
| Central Canada Exhibition | Ottawa | " 22 to 30 |
| Contral Exhibition | Peterboro' | " 25 to 27 |
| Lincoln Co. Union Exhibition | St. Catharines | " 25 to 27 |
| Midland Central Fair | Kingston | " 25 to 29 |
| North Riding of Oxford A. S. | Woodstock | " 26 and 27 |
| Mornington Agricultural Soc. | Milverton | " 26 and 27 |
| South Grey Exhibition | Durham | " 26 and 27 |
| Centre Bruce Exhibition | Paisley | " 26 and 27 |
| S. Sherbrooke Agr. Society | Maberly | " 26 and 27 |
| Southern Fair | Brantford | " 26 to 28 |
| Northern Exhibition | Walkerton | " 26 to 28 |
| Great Northern Exhibition | Collingwood | " 26 to 29 |
| Central Fair | Lindsay | " 27 to 29 |
| Ross and Bromley | Cobden | " 28 |
| The Cannington Central Ex | Cannington | " 28 and 29 |
| County of Peel Agr. Society | Brampton | " 28 and 29 |
| Dercham Agricultural Society | Tilsonburg | " 28 and 29 |
| North Perth Exhibition | Stratford | " 28 and 29 |
| Dalhousie Agr. Society | McDonald's Cr's | " 29 |
| Malahide Agr. Society | Aylmer | Oct. 2 to 4 |
| Haldimand County Fair | Cayuga | " 3 and 4 |
| North Brant Agr. Society | Paris | " 3 and 4 |
| Arthur Tp. Union Exhibition | Arthur | " 3 and 4 |
| Stephenson Agr. Society | Utterson | " 3 and 4 |
| North Simcoe Fair | Stayner | " 3 to 5 |
| North Lanark Fair | Almonte | " 3 to 5 |
| Peninsular Fair | Chatham | " 3 to 5 |
| East Riding of York Agr. Soc. | Markham | " 4 to 6 |
| Centre Wellington | Elora | " 5 and 6 |
| North Renfrew Fair | Beachburg | " 5 and 6 |
| South Norwich Exhibition | Otterville | " 6 and 7 |
| East Kent Agricultural Soc. | Thamesville | " 6 to 8 |
| Howard Branch Agr. Soc. | Ridgetown | " 9 to 11 |
| West York and Vaughan A. S. | Woodbridge | " 17 and 18 |
| Tilbury West and North | Comber | " 17 and 18 |
| Norfolk Union Fair | Simcoe | " 17 to 19 |

If any exhibitions have been omitted, we would be pleased to have the secretaries send us their dates, so that this list may be as complete as possible.

# GARDEN AND ORCHARD.

## Autumn Bulbs.

BY J. W. HUNTER.

The culture of bulbs, both for winter blooming in the house and for early spring display in the garden, is greatly increased in this country, showing that this most elegant class of flowers is rapidly gaining popularity. It is an established fact that those who once try them will never again be without them, and will increase their collection as rapidly as possible. No class of flowers are so sure to succeed and please beyond expectations as hardy bulbs. Cultivated in pots, they bloom profusely in any window, and brighten the most dreary mid-winter days. Planted in the garden, they are the first flowers to greet us in the early spring, and with their masses of bright colors they make gay and fragrant our garden and yards, which would otherwise be dreary enough.

DOUBLE HYACINTH.

Any garden soil will grow bulbs well, but it must be drained so that water will not lie on the surface for any length of time, or the bulbs will be likely to rot.

After planting, and before winter sets in, cover the beds with a good dressing of leaves, say five or six inches in depth, over these throw a little brush to prevent blowing off. If the leaves cannot be obtained readily, coarse manure will answer. In the spring, rake off the covering, taking off about half at first and then wait a week before removing the remainder. Nothing more is required except to destroy the weeds.

The following varieties will all give the greatest satisfaction with the least care and attention:

*Hyacinths.*—Perhaps it is not too much to assert that the Hyacinth is at once the most useful and popular bulb at the present day. It affords support to thousands, pleasure and delight to millions of the human race. From its eastern home it has spread west, south and north until its beauty and fragrance delight all civilized people.

*Tulips.*—The tulip is so perfectly hardy, flourishes so well under the most ordinary care, and is so varied and brilliant, that it never fails to give the greatest satisfaction. It is adapted to garden culture in nearly every country. Nothing in the floral world can equal the dazzling brilliancy of a bed of tulips.

*Crocus.*—A bed or border of crocus is very gay in the very early spring just as the snow melts, and is a gracious reminder of the coming season of buds and blossoms.

*Narcissus or Daffodils.*—Their season of bloom continues about two months, from the earliest to the latest varieties. They are varied and beautiful in form and color, and their delicious fragrance is unexcelled.

*Snowdrops.*—The first flower of spring is the delicate snowdrop, white as snow. Its appearance about the first of March is a joyful surprise.

*Lilies.*—The lily is a favorite flower everywhere, a queen of flowers, and only the rose can dispute its claim to queenly honors. The lily abounds everywhere in the humid vale and on the lofty mountain-top, and truly no earthly monarch was ever arrayed as one of these simple, yet beautiful flowers.

There are also such well-known varieties as the following, which should have a place in every garden:

The *Colchicum* or *Autumn Crocus*, which throws up its flower in the fall—a very interesting and beautiful flower.

*Iris* or *Flowering Flag.*—What a great improvement has been made in these from the old-fashioned flag.

*Crown Imperials.*—Very curious and interesting.

The *Scilla.*—The brightest and prettiest and hardiest of our early spring flowering bulbs.

We might go on and name a host of other early flowering bulbs, but space will not permit. For a list of other varieties, write or call on some responsible seedsman, who will gladly furnish you with a catalogue which will give full and complete instruction as regards varieties and their treatment.

## An Orchard Ladder.

A cheap orchard ladder is described by A. P Sampson in the New England Farmer.

He says: "Last year I took a cedar tree, fifteen feet long and five inches through at the butt, down to the factory in the town, and had it sawed lengthwise in the middle about twelve feet from the butt upwards. I took it home and stretched it three feet apart at the butt end, and sawed notches eleven inches apart, in which I nailed flat steps, leaving the top held close together by an iron hub band. It is the best apple ladder I have ever used. The small end goes into the heart of a crotch, and the broad foundation prevents a turnover of the picker. I made it in an hour and a-half after I got home, and paid fifteen cents for sawing at the factory."

[Farmers who depend on their neighbors for ladders in the apple picking season would do well to try this economical and convenient device.]