

gradually we extended the system until upwards of 700 have availed themselves of it.

4. "There are really two classes. First, the apprentices, who go for a lengthened period, generally two years. These, and also the second class, are only placed with dairy farmers of whom we have approved, and who have adopted our system. For obvious reasons it would have failed had we not exercised the greatest care in selecting farms for learners. The apprentices are expected to work in the dairy, and do whatever they are required. At the end of their course, if properly trained, we make an allowance to the master and to the dairymaid. Many trained in this way have become our best dairy farmers, and others are now tutors. The second class are young farmers, who know farming, and only require to have their education in this one branch completed. Their course is finished in ten weeks, and they are not expected to do the ordinary work of the dairy. Many have come from other countries to be instructed in this way. The cost is but £12 or £13 for each student. This is made up by 10s. for books, 20s. for apparatus, and £4 per month paid to the dairy master. The fourth course is the college, where those who wish can finish their agricultural education. In the first year we take the foundation sciences, and after that, special studies, as desired by the student.

"We commence tuition in the rural schools, for we cannot begin too early. But this is confined to principles which are to be applied at home. You must remember that we have no dairyschools proper in Denmark. Our object is to make every farm a school, and in this I claim that we have succeeded.

"We are now suffering from an over production of dairymen and maids. There are many of them now who have gone through the whole course of training with the object of becoming teachers, or taking charge of dairies where tuition is part of the work, but they cannot find employment. Some have gone abroad, and doubtless the thing will soon right itself. Then, prices have come down through the production of butterine in Holland and elsewhere. We have very stringent regulations in Denmark against butterine, and its sale as butter ought to be stopped in England.

"We have received much help in our work from outsiders.

"Of course, there is the assistance given by the Government, but I owe much to the assistance of our butter merchants. They brought their influence in my favor upon the farmers, gave preference and better prices to such as adopted our system, and have been most liberal in offering prizes at shows. To these butter exhibitions we owe much of our success, for the liberal prizes induced competition, and as quality was always placed first, we have been enabled to take the position we now hold as producers of butter. The butter shows have also been the means of convincing farmers that the new system is better than the old. The Danish people can appreciate good butter, for our average consumption of it is about four times that in England."

In the U. S. veterinary science has been called to the aid of the cattle breeders in their contagious disease troubles. Some breeders are now crying for protection against the "vets."

We learn that Mr. C. R. H. Starr, the Commissioner in charge of the Canadian Fruit Department at the late Colonial Exhibition, is making arrangements for the extension of the market for Dominion fruit in many populous centres that lie beyond the confines of Glasgow, Manchester, Liverpool and London, and is also endeavoring to open up markets on the continent. The movement is a good one, though we fear the continental markets will be difficult to open up. There is plenty of scope, however, for increased consignments in this country of good Canadian fruit. Mr. Starr's efforts in advocating cold storage for shipping Dominion fruit are well known.—*Horticultural Times*.

Garden and Orchard.

Norway Spruce for Shelter Belts.

This evergreen is justly becoming very popular as a timber, shelter and ornamental tree, says a practical nurseryman in the Farmer's Review.

It is now very commonly planted in the western and northwestern States for shelter belts. For this use it certainly has no superior. In the rich soils of these sections it has been known to attain, in the closely planted belt, a height of over 75 feet. The branches thickly interlace so as to form an almost impenetrable mass, which offers an effectual barrier to the most driving storm.

The value of such a belt enclosing the buildings and grounds on three sides can hardly be estimated. The most open, wind-swept location can be made cheerful, bright and sheltered by the means of these shelter belts. The comfort and pleasure to be derived from such an improvement can hardly be estimated. And if further inducement were necessary to the planting of these, we have it in the fact that they conduce to economy in many ways.

The greatest drawback to stock-raising in these open prairie States, heretofore, has been the open exposure to which animals are subjected in winter. The piercing winds, if unobstructed, will enter even the best of buildings; and as the stables and barns of the west are not, as a rule, of the best, winter becomes almost a season of terror, and the struggle for mere existence, hard and bitter. Quiet, sunny sheltered yards are few and far between. Animals thus exposed to the unmitigated rigors of our hard winters, consume an immense amount of feed, much more than they would if adequately sheltered and protected. Shelter is therefore economy to the stock raiser.

And the growing of shelter belts is also an economical measure to the gardener and fruit grower in such countries as before mentioned. Trees and shrubs that would perish in an open, wind-swept plain, will often thrive well in a sheltered location. The same shelter belt that protects the buildings should also include the orchard and garden. If for no other purpose it would be economy to protect the orchard and garden in this way, and when the one belt may be made to do service for all these purposes, it is a great wonder that there are not more of them found in our prairie countries.

No doubt the question of time in waiting for the growth of such belts deters many from planting. It must be confessed that Americans have not yet learned to look very far ahead and provide for the necessities of the future. And yet it is not far to look ahead. Most of us can look forward eight or ten years with a reasonable hope of time for enjoyment beyond.

An excellent shelter belt can be grown in that length of time. It will in fact assume very fair proportions in that time. Such an enterprise ought not to be delayed. The sooner we commence to plant the sooner we may enjoy the results of our investment.

The Norway spruce is a rapid grower, and if well started it will accomplish wonders in a few years. The main thing is to get a good, thrifty start. This can be done by going about it in the right way. We should not be too anxious for immediate effect. Don't try to plant too large trees even if you are urged to do so by importun-

ate agents whose interests it is to sell high-priced trees. As a rule planters should purchase seedlings from eight to fifteen inches high. Transplanted stock is to be preferred, and these may be had fifteen inches high at \$5 per 100. The plants are light in top and can be shipped in bundles containing 25 or 50 each, by mail or express. By this mode of transportation they get quickly and safely to the most distant points. Such plants may be set immediately in the row and shaded and mulched, or they may be thickly planted in a bed the first season, where the shading and mulching can be more economically given, and thus toughened to the new climate and location before being planted out in the row.

Smaller seedlings should certainly be planted thickly in the bed during the first summer. A deep mulch of cut straw or some such material should be used. If the plants are but few inches high and the mulch is worked in among them nearly to their tops, shading may be dispensed with.

Trees for Shade, Windbreaks and Forest.

Now is the time to make inquiries into the varieties of trees required for spring planting. All the leading nurserymen now advertise extensively in the agricultural papers, so that no farmer can make the excuse that he does not know where to procure the seedlings.

Some varieties are harder than others, but the hardiness depends upon other circumstances than climate. The soil, the aspect, the drainage, the mode of management, and other conditions have something to do with the growth of a tree, so that the failure should not always be attributed to the want of natural hardiness in the variety. Trees grown in clumps are often regarded as being harder than when grown singly in an exposed location; the fault is then not in the variety, but in the conditions. Hardiness is usually understood to mean the lowest degree of frost which the variety will stand, but the degrees of cold vary much in the same locality, providing there is a change of aspect, soil and shelter.

In selecting trees for profit, the other main considerations are (1) rapidity of growth, (2) the value of the timber, (3) the nut-bearing trees, (4) the sheltering qualities, and (5) the ornament. It is sometimes desirable to combine as many as possible of these qualities, and select a sort of general purpose tree. The trees which have been proved to be the best adapted to our Canadian climate have been classified by Mr. R. W. Phipps as follows:

MAPLES.—Native hard maple (*acer saccharinum*); scarlet or soft maple (*acer rubrum*); silver leaf maple (*acer dasycarpum*); Norway maple (*acer platanoides*); ash leaved maple (*acer negundo*).

ELMS.—American or white elm (*ulmus Americana*); corkbarked or winged elm (*ulmus inflata*); Scotch or Wych elm (*ulmus Montana*).

LINDENS.—European linden (*tilia Europaea*); basswood (*tilia Americana*).

ASH.—Native white (*fraxinus Americana*); European ash (*fraxinus Europaea*).

CHESTNUTS.—Horse chestnut (*æsculus hippocastaneum*); sweet chestnut (*castanea Americana*).

EVERGREENS.—White or native spruce (*abies alba*); Norway spruce (*abies excelsa*); balsam spruce or fir (*tsuga balsamifera*); hemlock (*abies Canadensis*); white cedar (*thuga occidentalis*).

PINES.—White pine (*pinus strobus*); Norway pine (*pinus rubra*); Austrian pine (*pinus Austriaca*); Scotch pine (*pinus sylvestris*); Weymouth pine (*pinus cembra*).