

RURAL AND SUBURBAN

NATURAL INCREASE OF DAFFODILS

Daffodil bulbs split up and multiply by offsets. The natural increase in some varieties of daffodils is so great that the second year after planting, the number of bulbs will be trebled and in time, varying from three to six years no matter what the variety is, the clumps will have become so dense that they need lifting and dividing. These offsets usually attain full growth in about four years. Of course, the clumps may be left to flower indefinitely, which they will do providing the soil and other conditions are congenial. In order to attain the best results, the bulbs must be dug, lifted and sorted every two years, the smaller offsets being grown on separately. When the bulbs are about four years old, they produce the best flowers, and in the following year will develop into the double, or triple-nosed forms—that is, two or more bulbs being enclosed in one skin. These bulbs will break up the succeeding year. The cutting of the flowers this season will not have anything to do with the production of next year's crop. Of course, it will be better to prevent the seed from ripening, thus encouraging, on the other hand, the full growth of the foliage, and lifting the bulbs about the time when the foliage has yellowed down to about one-third from the top—not later. The bulbs may then be stored in a cool, airy, shaded place and allowed to ripen and cure until the old roots are dry, when they are easily cleaned off and the bulbs divided, and replanted as soon as possible. In replanting, give them new soil.

VINES FOR SHADED PLACES

Few plants will grow under trees, particularly under such trees as the ash and elm, which are notorious for sucking every bit of moisture from the ground. All that can be done is to suggest, which will necessitate your doing more or less experimenting, so do not buy too many plants of a kind, to start with. Buy a few, and if they succeed, then go ahead. Some vines which are to be recommended for shaded places are woodbine (*Ampelopsis quinquefolia*), Japanese ivy (*Ampelopsis tricuspidata*), but usually spoken of by the nurserymen as *A. Veitchii*, the running spindle tree (*Enonymus radicans*), climbing hydrangea (*Hydrangea petiolaris*) and the false climbing hydrangea (*Schizophragma hydrangeoides*). The two species of *Ampelopsis* are deciduous vines and thoroughly hardy in this latitude. In the Mississippi Valley there is a form of the woodbine which clings by means of disk-bearing tendrils; be sure to get this form rather than the one which does not have the disks, because then it will be necessary to constantly tack it in place. The Japanese ivy will cling to stone or wood, as will the running spindle tree. This latter is an evergreen. The climbing hydrangea will succeed in rather dry and more or less shaded places, but it will not bloom unless grown in the sun. The false climbing hydrangea prefers moist soil and partial shade, but will thrive in full sun. Both these are deciduous. For shrubs for hedges, the hedge (*Berberis vulgaris*) will make a hedge six or seven feet high. The Polish hedge (*Ligustrum*) is the only privet which is hardy in the central West, according to Professor A. T. Erwin of the Iowa Agricultural College. This will grow eight or nine feet high. The ground yew (*Taxus Canadensis*) is also suggested.

DELPHINIUMS

The Delphinium of today is one of the most beautiful of all flowers, and provides a color—blue—of which we have too little amongst flowers. It is most rich, indeed gorgeous, in coloring, and its stateliness of habit is marked. We know of no flower which exhibits more splendidly the various shades of that most lovely color, blue; the Forget-me-not is loved for its fresh azure; the Gentian for the shade which is called by its name; the Delphinium possesses both of these in its repertoire of tints, together with the depth of the sapphire and the hue of imperial purple; and as the mountain snows shine more resplendent in a setting of blue sky, and the purity of the diamond adds to the effect of the sapphire, so the striking white central petals of the Delphinium form the best of all possible contrasts to the color of the surrounding sepals.

The foliage of the Delphinium is shapely and classical in outline, possessing a similarity to that of the Acanthus, which, it is supposed, was the model for the capitals in Corinthian architecture. The columnar spikes of bloom are freely borne, and succeed one another through a prolonged season with a little management. A bed or border of Delphiniums will often remain in full flower for three months, and the whole of that time will add a color to the garden which would otherwise be wanting.

DAFFODIL NOMENCLATURE

The poeticus, polyanthus (*Tazetta*), narcissus, the jonquil, and the large trumpet daffodil are varieties of different species in the one botanical genus *Narcissus*. The trumpet daffodils are varieties of *N. Pseudo-Narcissus*. The polyanthus narcissus (including the Paper White, Double Roman, etc.), are varieties of *N. Tazetta*. The poet's narcissus includes all the varieties of the species *N. Poeticus*; the jonquil is a species known as *N. Jonquilla*. The narcissus family is divided into three big groups, called respectively, 1. Magni-cornati, or large trumpet; 2. Medi-cornati, or cup daffodils; 3. Parvi-cornati, or saucer daffodils. Most varieties of Group 1 are commonly called daffodils, while those of Group 3 are commonly known as narcissus, including of course the poet's and polyanthus groups. Group 2 is

composed essentially, and perhaps entirely, of hybrids between different species and varieties of Groups 1 and 3, and embraces every degree of difference between the two extremes. The jonquil differs from the recognized daffodils in having cluster flowers, and from the polyanthus narcissus in having rush-like leaves instead of flat; it is very fragrant and the flowers are of a very deep yellow color.

GALLIARDIAS

These show flowers are sometimes as much as five inches in diameter, and may be seen blossoming in the open through many months, often expanding their first blooms in June, and in open winters not becoming flowerless until November or December. As dry weather flowers they have no equal among perennials, since even after weeks of drought they show scarcely any signs of flagging. Galliardias of the perennial section make handsome bedding plants when pegged down, as they entirely cover the soil with their leafage and are thickly studded with their large blossoms of crimson and gold. For the provision of cut bloom Galliardias are also valuable, the flowers being of striking colors and lasting well in water.

LOOKING BACKWARDS

By W. J. L. Hamilton, Salt Spring, B. C.

Since I first came to Victoria, in 1891, great changes have taken place in the orchard industry of the province. In those days, small boxes of varying size and frequently made of shakes were utilized as apple boxes, and apples of all sizes, and sometimes of various kinds, were thrown into these without any attempt at packing them.

Oyster shell scale, scab, and other diseases did not cut any figure, but fruit thus diseased was mixed, with a happy impartiality, with that not so badly afflicted. All these found a sale at low prices, since the supply was limited, and the fruit-growing public were not hypercritical.

In those days there were no orchard specialists, but every farmer, nay, every householder almost, grew a few apple trees, and found it pay after a fashion, as the trees cost them nothing, land was cheap, and cultivation and spraying never thought of.

But this state of affairs could not last, as one fruit tree disease after another, was imported to the province, with the orchard stock brought in from all parts, owing to the work of the ubiquitous and irresponsible tree agent. To the old-time tree agent is due much of the scrub fruit now in the province, as the number of irresponsible firms these represented sold the farmers any kind of a seedling, so long as it had a high-sounding name; to them also is due the large number of varieties found in the few of the old orchards which have survived the ravages of disease.

I am not, of course, alluding to the representatives of responsible firms, whom we now meet at times, but these conditions could not continue, as, disease piling on disease, the trees died or became unfruitful, and the apples were so unattractive, scabby and distorted as to be unsaleable.

The markets, too, changed, and became more particular, and better class fruit was found to bring prices sufficiently remunerative to warrant commercial orchard work.

Meanwhile Strawsons, Limited, had, in England, introduced a form of sprayer, and experiments in tree spraying had shown the possibility of thus checking disease. With improved methods and better sprays, fruit-growing prospects improved, and, naturally, these advanced fruit-growers strongly objected to the vicinity of unsprayed trees, which kept re-infecting their orchards as fast as they sprayed them.

Modern market requirements, the development of the orchard industry as a matter of vital interest to the province, since it could be made one of its most profitable assets, and, more than all, the increased number and importance of the orchardists themselves, and the pressure they brought to bear on the matter, compelled the government to make certain spraying laws.

This was also forced upon them by Dominion legislation, defining size of boxes and qualities of fruit, so that some provincial spraying laws became absolutely compulsory. It is only, however, comparatively recently that effective sprays have been found, and the last word has not, undoubtedly, been said yet, but there is every prospect, owing to better knowledge of the subject, that all pests will in future be kept well in hand.

I remember one gentleman, in reply to a previous article of mine, found fault with me for recommending spraying at all, claiming that cultivation and fertilization would keep an orchard perfectly clean, and eradicate existing disease.

I did not think this worth replying to, as there is not an orchardist in the province, worthy of the name, who does not keep his trees both cultivated and fertilized, and yet very few of them can boast of being free of disease. I do admit, however, that clean cultivation and judicious fertilization will, by promoting vigorous growth, and in protecting the trees against infection, and, anyhow, without this, commercial fruit-growing cannot be profitable, any more than it can without spraying.

VASE FORM OF TRAINING FOR FRUIT TREES

By W. J. L. Hamilton, South Salt Spring, B. C.

It is conceded amongst up-to-date orchardists that one-year-old trees are the best to plant. They are easier set in their locations, receive less of a shock in transplanting, and,

more important still, they can be trained exactly as the grower desires.

Directly these yearling trees are set, in the fall, they should be cut off at about 30 inches above ground level, and close to a bud. As they are simply unbranched switches, this is quite easy. They should receive their winter spraying, and will be consequently healthy, and make good, thrifty growth the next summer. During the summer the grower will find his trees have sent out a number of fresh twigs all up the stem. All of these near the ground say to a height of 15 inches, should be rubbed off whilst still quite young, and five of those from 15 to 30 inches should be reserved to form the framework of the future tree, all others being also rubbed off.

These twigs left on should be selected as being the best situated to form a well balanced head, springing out equally all around the main section, but of course at different heights above the ground. These five branches should be permitted to grow freely all the season, being kept free from disease by spraying when necessary. During the ensuing winter these branches should be cut back about one-third of their year's growth, always, of course, to a bud, and if the center stem projects at all above the fifth (topmost) branch, it should be cut off level with it, as we do not want a central stem.

During the following summer any further shoots (beyond these five) that may spring from the main stem, must be removed, and it will be found that every bud left on the five branches will most likely start to grow. Two of these on each branch, the topmost bud, and another situated further down the branch and nearer the main stem, should be permitted to grow to their full length, and all the other shoots should be also allowed to grow to a length of some inches, when, whilst still green and tender, they should be nipped off with the thumb nail at about four buds from the main branch. This will in two years produce fruit-bearing spurs.

We now have the tree supplied with a suitable framework consisting of five branches, each of which, at a foot or so from the main stem, forks into two. These ten branches are trained steadily outwards, and upwards from year to year, forming the main branches of the tree, and closely set all around with fruit-bearing spurs, so that each tree will look in May like ten wreaths of bloom, and, later on, of fruit. Each winter, one-third of the year's growth of these ten main branches will be cut back, and each summer, the end shoot, springing from the top bud, where it was cut off, must be allowed to grow, every other shoot being nipped off at about the fourth bud. As fruit-bearing spurs are but abortive branches, and as this pinching back causes these to form, the whole of each branch is thickly set with these spurs. Whilst still young, tarred yarn (Marlin) is used to hold the trees into shape, and to prevent the snow breaking them down, and once the branches are stout enough to bear it, galvanized screw eyes are inserted, one in each of the ten branches, 10 feet above the ground, and a No. 13 galvanized wire is run from each of these up to a galvanized ring to which it is fastened, and the ring is thus held in suspension in the centre of the tree, the wires radiating from it like ten spokes, rendering all the branches mutually self-supporting.

Many years experience of many fruit-growers goes to prove that these screw eyes do not injure the trees, whilst they give strong support, and keep the trees in shape. Up to 10 feet high the fruit is picked from the ground, with the aid of a low stool to stand on, whilst above to feet a plank is passed through the tree above the wires, each end supported on a step ladder, so no damage is done to the branches, whilst all the fruit is easily reached by the pickers, and so is not bruised, being more cheaply gathered than off the pyramid trained trees. Of course, spraying, and thinning is also expeditiously and cheaply performed, and, as the sunlight easily penetrates to all parts of the tree, the fruit is evenly and highly colored.

The branches, forming a solid column as it were, the wind does not often shake off the fruit, and altogether it has many advantages over any other form of training, such as "pyramid" or "modified." I might add that a large hedge is quicker formed than if the pyramid form were adopted, and so quicker results are attained.

This form of training can be applied to any orchard tree.

A word of caution. This arrangement of close set spurs along the ten main branches only applies to the coast region, where the water in suspension in the air modifies the sun's heat. In the upper country a lesser growth should be encouraged around the main stems if there is danger of sun baking.

CARING FOR GEESSE DURING WINTER

No one is thinking of hatching goslings now. The grass must be green, and snowstorms things of the past, before the geese will care to lay. It is not too early, however, to be considering the welfare of the parent birds, for a little care in housing and feeding at this time of year will be invaluable to the youngsters when they do come. To begin with, it is best to prepare permanent quarters for the old geese and to separate any that are quarrelsome. It is generally the lightest and most nimble among the ganders that win the battle, and you may come upon your heaviest and most valuable with his life choked out, or his head injured. An open shed with a wire front is the best kind of house for geese, as they do not like very snug quarters, preferring if left to their own choice, roosting out on the snow. A nest should be made for every goose and a china egg placed in each one. The geese will become familiar with those eggs, and unless

disturbed will always lay beside one of them. They should all be fed a little grain every day, and a little mash with a pinch of poultry spice in it. This will not hasten the laying of the eggs unduly, but will ensure a higher fertility during the season. I do not find that the geese will eat meat of any kind unless it is mixed into the mash, but I do not think that they require it. Good sharp shell grit may be added, and when the snow is deep, clover hay, henlock-branches or any kind of root crop or green stuff may be given. They require but very little to winter them through, as they are better if not fat.—Octavia Allan, Ganges, B. C.

EXCESSIVE MOISTURE IN BUTTER

The greatest varying factor in butter is water. The variation in dairy butter sometimes runs from 9 to 25 per cent. It is not desirable or honest to incorporate a high per cent of water. The law of the United States has recognized 16 per cent as the maximum amount of water that butter may contain. The controlling of moisture in butter to a per cent is a difficult problem; therefore a maker would be safe in not trying to go over 14 per cent.

Butter fat exists in cream in the form of microscopic spheres known as fat globules. Under proper conditions the concussion of the churning makes the globules strike together and the impact causes them to form masses. The masses continue to increase in size with the progress of churning and rise to the surface of the buttermilk.

Butter made from thin cream and churned at a low temperature gathers very slowly for the following reasons: (1) The fat globules are distributed in a large volume of milk serum and the chance of striking one another is less than in thick cream. (2) The low temperature hardens the fat so that the globules do not cohere readily and may probably strike together several times before adhering. The surface of such granules usually becomes smooth and the granule itself becomes very compact.

A rich cream, that has been kept at a comparatively high temperature, will churn very rapidly. The globules are in close proximity and there are naturally many chances of striking together to form large masses. Butter churned from this kind of cream has a tendency to gather in irregular shaped granules which are not driven so violently, consequently they hold more water or moisture. If cream is churned at a very high temperature, the result is that butter will gather quickly and incorporate an excessive amount of water and casein, which will affect the body and color. An excessive amount of water has a tendency to make the butter lifeless and pale in color. A 35 to 38 per cent cream will give as good satisfaction in churning as cream of any other per cent. Churning at 50 or 52 degrees, or at a low enough temperature so that butter will gather in 40 or 45 minutes in granules about as large as wheat, and not too soft or too hard, will produce butter of the very best quality. Long churning or quick churning are not desirable. A large sized granule is conducive to high moisture. Therefore, the factors that control moisture are thickness of cream; temperature of churning; amount of cream churned at a time, remembering that a churn two-thirds full will give greater over-run than a churn half-full under normal conditions and the last factor the kind of churn used. It would be well for every creamery to have two churns, one large and one medium sized, so that when the supply of cream falls off the smaller churn could be used.—G. L. McKay, Iowa College of Agriculture.

PUTTING HUMUS IN THE SOIL

Hauling enough clay to cover twenty acres of sandy soil is out of the question. A six or eight-inch dressing means moving and spreading 40,000,000 to 60,000,000 lbs., which would cost more than any twenty acre farm I know of, even if the clay was right at hand. A light dressing turned under shallow and well harrowed in might pay if hauling and labor are very cheap. A light sandy soil may quickly be made to hold enough moisture for a corn crop by heavy dressings of coarse stable manure, or more slowly by a combination of stable manure and turning under green crops. Either of these methods will tend to form a rich mellow soil, and are preferable to clay dressings. An implement known as the sub-surface packer, much used on light soils in the arid regions, should prove of value on your light soil. It is used after plowing and before harrowing, working between the furrow slices, and packing the bottom of the furrows so that more of the rainfall is held in the upper soil.

FARM AND POULTRY NOTES

There should be a yard or paddock in which the family cow can be turned out for a time on every pleasant day, whenever possible, and the old-fashioned stanchion or tie-up should be replaced by a chain or swinging stanchion.

Breeding-pens may be made up this month, and the incubator, if one is to be used, should be overhauled and put in readiness for spring work.

If the hens are laying well this month, it will be because they are fed a variety of grain and forced to keep busy scratching in a deep litter of hay, straw or leaves, as well as kept free from lice, and in dry quarters.

In order to be sure that the fowls do not become afflicted with colds or roup, give them plenty of ventilation, although they should always be kept free from drafts. There is hardly a day in winter when the windows cannot be opened wide.

FEEDING IN COLD WEATHER

It sometimes happens that the beekeeper finds a colony of bees in his apiary at this time of year that, either through carelessness or lack of opportunity to give it proper attention at the proper time, is short of stores to such an extent that it will certainly starve to death before spring unless something is done to help it, and often because the owner does not know just what to do and how to do it, the unfortunate bees are left to their fate, and the unfortunate owner is out of pocket to the extent of their value. The discrepancy in weight is usually discovered when the hive is lifted to be carried into the cellar, or is being prepared for packing on its summer stand, and the owner wonders how he came to miss it at the general feeding time, and what is to be done with it now. The bees cannot be fed liquid feed now, as they could have been two or three months ago, for the weather is too cold for them to leave their cluster to carry the feed from the feeder, and it could not be properly ripened and sealed up even if it should be stored in the combs. It is obvious, therefore, that some other method of feeding must be adopted. A good way to supply a colony with food at this late season of the year is to make "candy" of white granulated sugar and water and lay the cakes of candy on top of the frames directly over the cluster of bees, so that they can reach it without leaving the cluster. The candy is made by placing granulated sugar in a vessel with just enough water to moisten it, then place the vessel on the stove and melt up the sugar. Let it boil, and stir it occasionally until it is "done." To find when this stage is reached, dip out a little with a spoon every few minutes, and stir it on a cold dish. When it will cool hard and white, without any stickiness, it is done. Have ready a pan or dish of some kind—a square-cornered pan is handiest, as it makes a cake of candy of a shape most convenient to lay on top of the frames of the hive—pour the material into the pan, having first very slightly greased the latter, or, better still, line it with paraffine paper, to prevent the candy adhering to it when cold. Stir the candy while cooling, until it becomes too stiff, and when it has hardened and cooled, remove it from the pan and place it on the frames directly over the bees. Cover it up with several thicknesses of cloth, if in the cellar, and with a cushion in addition, if outside, and there you are. One very important point to remember is that the greatest care must be taken not to let the sugar become burnt or "scorched" in the melting, as candy that has been even slightly burnt will kill the bees sure if fed to them. If it should become burnt, it must be discarded and a fresh lot made. Within the last few years several successful beekeepers in various parts of the country have reported good results from feeding ordinary loaf sugar, just as it comes from the grocery, only very slightly moistened with water. If this can be used successfully—and it apparently can be—it will do away with the necessity of making candy as described above. The candy, however, has stood the test of years, and is almost universally used where bees have to be fed in cold weather.—E. G. H.

SOME TRUTHS ABOUT STOCK FOODS

There is a good deal of misunderstanding about the real value of the various condimental stock foods as a part of the ration for either stock or poultry. Professor F. W. Woll, of the Wisconsin station, in Bulletin No. 151, has summarized some feeding experiments with them. Trials were conducted by about a dozen experiment stations—in all twenty-three different trials. In twenty-one out of the twenty-three experiments nothing was gained by including these foods in the rations, and they were a detriment in that the cost of the ration was increased by their addition, thus increasing the cost of the products. Therefore there is nothing to be gained by feeding a healthy animal with one of these condiments. As a medicine they are not much better, as has been pointed out by the Iowa Agricultural Experimental station in Bulletin No. 87. One-half or more of these foods is composed of common feeding stuffs and are worth about \$1.50 per 100 pounds. About one-tenth is composed of common salt, another tenth of charcoal, which leaves only about three-tenths of the bulk to be made up of such simple drugs as anise, sulphur, ginger, red pepper, saffron, and Epsom salts, all of which possess mild medicinal properties, but because they are fed in such small daily quantities really do no good. To show how little good these drugs do when fed in a stock food consider the gentian, for instance. This is the most important remedy found in a stock food and really is the backbone of the preparation. A dose for a horse is one ounce, for a cow two ounces (a tablespoonful), of the pure drug, but as the stock foods or tonics contain only about two per cent, the animal gets only about one-fifth of the required dose of the drug if fed the "food" in the quantities recommended by the manufacturers. It is obvious from the light thrown on the subject by these experiments that money expended on condition powders is thrown away.—Garden Magazine.

When a horse kicks in harness, place a surcingle around the body, take a good stout rope and put it around the horse's neck, then run the end of it between the fore-legs and through the surcingle to a pulley in the end just back of the surcingle. Next put a good strap around each hind ankle. Take another rope and tie into one strap and run up through the pulley and back to the other. Allow just room enough to walk with ease and you can soon conquer a kicking horse.

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OF A MIRACLE

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r hostess; "I'm thinkin' er had been in the con- ha' been twelve baskets sciples to gather up!"

ERIEENCED

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