

RURAL AND SUBURBAN

BULBS AND HOW TO GROW THEM.

Few garden pictures are more interesting than those of spring, where bulbs are largely grown. The flowers range through every shade of color, yield endless variety, and, being comparatively cheap and easily grown, they make the best of plants for amateurs. In most gardens there already exist positions where the judicious planting of bulbs would, in their flowering season, create a distinct break in the garden scheme. Daffodils and Crocuses are examples of bulbs that grow freely in grass when that can be left unbroken until the foliage of the bulbs ripen. Chionodoxas (Glory of the Snow), Scilla sibirica, Fritillaria Meleagris (Snake's Head), and Dog's tooth Violets all readily increase in grass and flower during the opening months of the year. While the meadow and woodland offer unlimited scope for the naturalizing of bulbs, most amateurs are obliged to confine their efforts within the garden proper, and although the effects obtained are not so fine, still, where planting is skilfully carried out with selected varieties of bulbs, the limited border becomes a marvel of beauty, only in a more humble way. Too little importance is often attached to the planting season of bulbs. They should not be exposed to the sun.

Where it is intended to plant this season there should be no delay in placing orders, and any necessary work in forming borders or preparation of the ground, ought also to be put in hand at once. Bulbs are broadly classed under two cultural heads—first, those which are best planted in spring, including Cistaceae, Eucumbae, late Gladioli, etc., and those which are delivered by bulb dealers in autumn and require planting before winter. A choice bulb border should have a sunny aspect, no position being more suitable than the foot of a wall. By marking out the border upon paper, and indicating the position of the bulbs, one gets a reasonable idea of what work is to be done. Use index figures, Nos. 1, 2, 3, to show the three grades of soil necessary for all bulbs: (1) A rich soil, composed of loam, charred garden prunings and well-decayed manure, all thoroughly mixed; (2) Ordinary garden soil, preferably light, to which well-decayed leaf soil may be added with advantage; (3) Very light, poor soil, best described as starvation ground.

Preparing the Ground

On well-drained land no artificial drainage is necessary, but in the case of close retentive soils, the ground should be opened 30 inches deep, the lowest six inches being replaced by broken tiles, bricks or similar material, covering this with rough cinders or small brick chips. The necessary positions of the various bulbs should then be filled with suitable soil, as advised above; old mortar rubble and stone chippings in moderate quantity mixed with heavy soils materially assist in keeping it open and warm, while similar material has a cooling influence on hot soils. Planting should be done as soon as the bulbs come to hand, always choosing weather when the soil works freely. The depth at which to plant bulbs is regarded as a debatable point, and certainly varies with locality. When the rainfall is heavy, shallow planting is advisable, and better results follow planting small bulbs at 3 inches deep than the same variety planted at 6 inches deep. On heavy soils it is best to cover with light mulching any bulbs of doubtful hardiness in winter. Upon light warm soils I invariably practice deep planting. Thiteleias, Crocuses and Brodiaeas having small bulbs are planted 6 inches deep, while large bulbs, like the Belladonna Lily (Amaryllis Belladonna) and Eucumbae, should have the crown planted 4 to 6 inches below the ground level. Varieties of Cistaceae Powell will often require planting 18 inches to 24 inches deep in the soil.

The distance apart in planting may be governed by taste. When only first size bulbs are used, a minimum distance of four times the greatest diameter of the bulb will form a safe guide, while in all permanent planting the distance apart should be increased one half.

Many bulbous plants, such as Crocuses, Sternbergias and Amaryllis produce their flowers in advance of the foliage. In the case of others, the leaves fade early in the year, leaving no trace save a bare patch of soil, for example, Tulips, Alliums, Tritelcias, etc., while alone stands Camassias, whose leaves depart with the opening flowers. As these lose half their beauty without foliage, so with many occupants of the bulb border, it is necessary to associate another bulb or plant whose leaves are more persistent throughout the year. Mossy Saxifrages, like Muscoides Rhei and Compositae give the brightest carpets of green, and are suitable for the dwarfest bulbs. Santolins incana, dwarf Lavender and Cerastium tomentosum have shades of grey leafage, and by frequent clipping, during summer they may be kept quite low. Geum montana and Heuchera glabra when kept to single crowns and grown in the sun produce vigorous rosettes of leaves, which color well in spring and autumn. All these plants are cheap and are readily increased by division during spring or autumn.

Selections of Bulbs—Poorest Soils
Eranthis cilicium—This is a better garden plant than the old winter Aconite; flowers yellow, in January and February.

Leucopium autumnale, a dainty Snowflake, which flowers in August, white.
Iris reticulata and its varieties flower in March; they cannot be planted too freely.
I. Stylosa, speciosa and alba often flower in midwinter, but yield their richest harvest in spring.
Ostrowksia magnifica, a noble Campanula,

light blue flowers on 2-foot stems, in July.
Sternbergia lutea and macrantha, glossy yellow Crocus-like flowers, in autumn; fisheriana, flowers in spring.
Tulipa Greigi (scarlet), kaufmaniana (white, carmine and yellow) and the native sylvestris (yellow) should all have a place.
Triteleia uniflora (Spring Starflower) makes lovely masses of white star-shaped flowers in April; the flowers only open in sunshine.
Zephyranthes candida, owers white in autumn, is often used as an edging to beds and borders.

Moderately Rich Soil

Anemone (Windflower) appennina and blanda, blue Wood Anemones.
A. Fulgens, a vivid scarlet, flowers during April.
Allium neapolitanum, tall, globular, white flower heads, flowers in May.
Brodiaea coccinea has pendant orange scarlet flowers.
B. Howelli lilacina has lilac flowers, early summer.
Camassia Leitchii and its varieties are the best; flower-spikes like the miniature Eremurus in June.

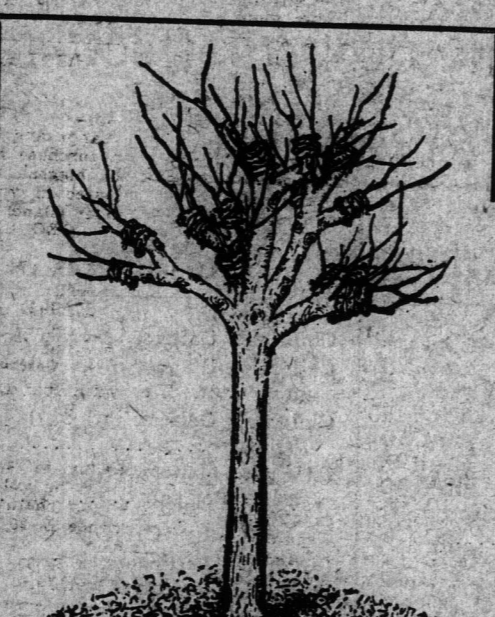
no equal—and certainly no rival—in the garden in May. Those of your readers who know their value will need no reminder at this season, but they whose knowledge of the Tulip family is limited to a few beds of the so-called bedding kinds certainly miss one of the finest hardy flowers. They are as easily grown as a Potato or Cabbage. A point of value has yet to be mentioned—it is their utility earlier in the season when gradually forced into bloom. The term "gradually" is employed advisedly, so that the splendid stature of the plants be not weakened by undue forcing.

How to Plant

These Tulips prefer deeply-worked and moderately rich soils, and in applying organic manure to the soil it should be well decayed and buried some 6 inches below the bulbs. These Tulips are by no means fastidious as to soil, but the greatest vigor of stem, leaf and flower is always seen when the plants are grown in a rather strong loamy soil. What is most important is that the soil be not water-logged.

Where and When to Plant

Scorching sun and keen northeasterly wind play havoc with these lovely flowers, so that when selecting a position let it be one where shelter of some kind can be afforded. A thin evergreen fence, a belt of shrubs, a partition fence between gardens, will provide all that is required. The sunk garden, if this is protected around by raised banks and plantings of



The appearance of a re-grafted apple tree late in next autumn, after having been grafted this spring. Note the clay covering has fallen off, having served its purpose, and also observe that the grafts have made a season's growth.

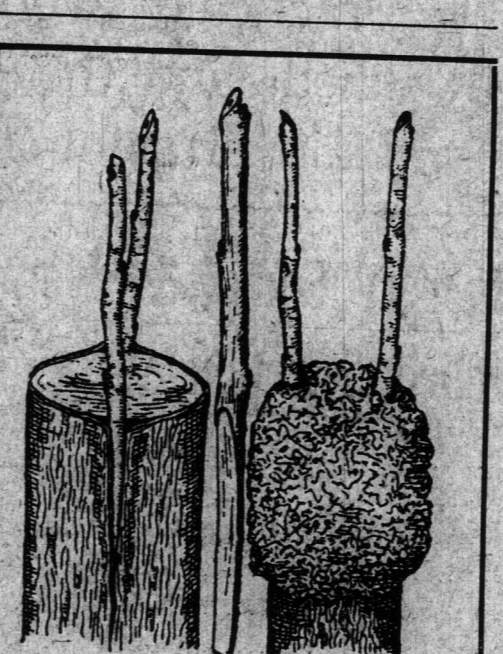


A re-grafted apple tree, showing the grafts inserted and bound with raffia before the clay covering is put on. Some insert three or four grafts

REJUVENATING FRUIT TREES, PEAS AND LAWNS

For the benefit of those who may have matured trees which do not produce so much fruit as they should, I now complete the series of sketches on grafting. The operation of re-grafting them takes place towards the end of March, or earlier if there are signs of spring influence. Grafting differs from budding in its being the transfer of a shoot, carrying several buds, from one tree to another, instead of only a single bud; and, as budding has been compared to sowing seeds, so has grafting to making cuttings. The art of grafting consists in bringing two portions of growing shoots together, so that the soft woods may unite and make but one growth, and the same general principles apply to it as to budding. There are some fifty modes of grafting described in books, but only three or four are in common use. The kind I have sketched is called crown-grafting. In all methods of grafting the shoot to be transferred is called the scion, and the tree that is to receive it is called the stock.

The first point in successful grafting is to secure an intimate union of the parts—not a



Illustrating the graft, its method of insertion in the limb, and the cover, composed of clay and cocoanut fibre or horse-dung, to protect it from drought during the early stages.

mere sticking together, but an absolute union. The new, or young, layers of the inner bark must be brought into close contact, and then, if the air is kept from the wounded parts until Nature effects a cure, there is a perfect graft. It is obvious that the more accurate the adjustment of the line separating the wood from the bark, the more ready will be the transmission of young fibres from the one to the other, and that the less the accuracy that may be observed in this respect the greater will be the difficulty of effecting this transmission. Provided the stock and scion are of exactly the same size, the adjustment can scarcely fail to be accurate in the most unskilful hands; it is in the more common case of the scion being much smaller than the stock that the operation is to receive more particular attention.

The Value of Grafting

There can be no question as to the utility of grafting, for by its aid a bad kind of apple or pear may be transformed into one that is good. The best season for the work is now approaching, and, while I would not advise the working of very old or unhealthy trees, there are those in a fair state of health, and only unsatisfactory from being inferior sorts, or not suited to the district or soil, in which case re-grafting is to be commended, and should have good results, as an established tree reworked will be in bearing much sooner than a young freshly-planted one.

The first process, as a matter of course, is to behead the trees to be operated upon, and in doing this the branches should be cut clean down in a sloping direction, so as to throw off the wet. To assist in this, and help the healing process, the parts sawn should be shaved with a sharp knife, that the wound may be smooth. As to the operation, the proper way is to make a slit through the rind, rounding from the top down, extending about three inches, and on opposite sides, making either two or four slits or cuts, which done, the next thing is to raise the bark in readiness for the insertion of the grafts. A very ready, safe, and easy way of doing this is to have a small, hard piece of wood, about the size of a cedar pencil, and shaved off on one side, sloping down to the end, which part can then be thrust under the rind where the cut is, and it will thus be at once raised. The scions should be prepared in precisely the same manner as the stock, which they will then follow by being pushed in without being bruised, and, when inserted, should be tied so as to hold them steadily in position, and prevent the bark gapping. Raffia grass or soft string is the most suitable material for tying in and then the clay and horse manure, well mixed together. It will be seen then that there is really nothing very difficult in grafting, and if the scions have been carefully kept and cleanly cut, close-

ly fixed union will take place at once, and the scion will make a good joint and grow freely. I have actually seen bloom and fruit on a first-year's growth, but this should not be allowed. The chief thing to be remembered is that the parts of scion and stock must be so cut that they fit closely together; then, if they are protected from the air and from the effects of winds by the clay ball, nature will soon accomplish the rest.

The Popular Garden Pea

Among the varied productions of the kitchen garden there is none more highly prized than peas; therefore it should be the aim of every gardener to have them in abundance. As regards soil and situation, peas are very easily managed, and may be produced plentifully almost everywhere. But though an accommodating and profitable crop, a certain amount of care is required to produce them well, especially if wanted very early; it is trouble that will be well repaid, for the difference, both in quantity and quality, between peas well grown and peas grown anyhow, is very great. A deep, rich and rather moist soil, in which there is a fair supply of thoroughly decayed manure, suits peas best. They also like any sort of charred material, such as wood ashes, and the frequent application of liquid manure after they show blossom will prove beneficial. I have always found that if liquid manure is applied at an earlier stage of their growth it invariably drives them too much to haulm, and as a consequence the produce is not nearly so abundant. It is most perplexing to make a selection of suitable varieties from among the multitude of names which appear in the various seed catalogues, but those given most prominence are almost certain to be superior.

At one time it was customary to make a sowing of peas out of doors in November, and it is still done in the fields; but for garden purposes there are now so many very early varieties which mature quickly that peas are procured from spring sowings quite as early as the November sown ones and of much better quality. In choosing a position for the first sowings, preference should be given to a spot where the soil is rather more light and dry than the part intended for the main crop; and it should be remembered that dwarf varieties will grow on poorer and lighter soils than the others. I have found it a bad practice to grow peas in a patch, and that it is far preferable to grow them with intervals between the rows say, 15in. for ft. peas, and the others the same width as their height is. Light and air will then be admitted in abundance; consequently, they will not become weakly or drawn, as they often do when rows are close together. The ground between the rows can be advantageously cropped with spinach or lettuce. For early crops it is best to have the drills ranging from north to south. The soil should be previously trenched 2ft. deep. When the roots are near the surface they suffer severely in dry weather, and the drills being a little below the level gives them a better chance of enduring it. When the seed is sown cover it with a couple of inches of fine mould, or, if fine ashes can be had, they will answer better. I cannot too strongly urge the necessity of having deep drills formed in which to sow peas, and of avoiding the practice of sowing them in drills scratched on the level of the ground, for by this plan plants that rejoice in moisture and coolness at the root are exposed to the very influence that ruins them, and helps to induce that fatal disease to which peas are liable—mildew. The peas themselves should be sown in zigzag rows about 2in. apart.—Donald McDonald, F.L.S.

SOME GOOD POINTS

Lookover young trees and remove any wired labels that may have been left on last spring.
Mulch the asparagus and rhubarb beds with well rotted manure. In spring, when ground is dry, spade into the soil.
When you are eating an apple and run across a worm, it should remind you that neglecting to spray last spring is the cause.
Remove black knots from those plum and cherry trees and burn. When the knots are removed from a large limb, rub on a little kerosene.
Cultivation, spraying, pruning, fertilizing, are the four corner stones of orchard management. In which one did you fail the past season.

There is a decided variation of the sort of eggs in demand, not only in different countries, but in different of the States of the Union. In New York State the white thin-shelled egg is in demand. In Boston they want a yellowish tint to the shell. Experiments are now under way, on the part of dozens of breeders and fanciers in various parts of the country, looking toward the control of the color of the egg shell to fit the different markets.

While perhaps others have tried the experiment, the experience of J. P. Heyland, Willow Creek, in wheat raising is worth relating. Owing to last fall being so dry, Mr. Heyland sowed fall wheat this past spring, about March 1. It grew all right, and so well did it grow despite the dry summer, it is threshing out fully thirty bushels to the acre. Mr. Heyland is so well pleased with the result that he is going to sow more fall wheat next spring.

No. 2. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted on the 1st of May, 1910, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.

No. 3. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted on the 1st of May, 1910, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.

No. 4. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted near the mouth of Muir Creek, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.

No. 5. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted on the 1st of May, 1910, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.

No. 6. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted on the 1st of May, 1910, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.

No. 7. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted on the 1st of May, 1910, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.

No. 8. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted on the 1st of May, 1910, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.

No. 9. PROSPECTING NOTICE

Other District.
I HEREBY GIVE notice that I intend to apply for a license to prospect for petroleum on the following de- scribed lands and lands cov- ering a post planted on the 1st of May, 1910, in the Province of British Columbia, marked R. K. 1's thence east eighty chains, thence north eighty chains, thence west eighty chains, thence south eighty chains, following the sinuities, thence to the point of com- mencement, and intended to contain six hundred and forty (640) acres, more or less.

R. KENNETH LINDSAY,
R. G. GIBBONS, Agent,
10, 1910.