

RURAL AND SUBURBAN

GOOD LATE-FLOWERING SHRUBS

In the past more attention has been given to spring and early summer, rather than late summer and autumn flowering shrubs, with the result that the former kinds are more conspicuously represented in many gardens than are the latter. This is, no doubt, necessary in some places, more especially in those establishments where the proprietors are in residence during the early months of the year and are absent from July onwards for several months; but in those places where a garden has to be kept as bright and interesting as possible throughout the whole year, more attention might with advantage be given to late-flowering shrubs. To public parks this is especially applicable, for the idea in such places should be to provide as lengthy a period of beauty as possible. It may be urged that herbaceous and summer bedding plants provide a sufficient display during these late summer and early autumn months; but though extremely beautiful and showy in their places, they cannot altogether make up for a lack of flowering shrubs.

At first sight the number of late-flowering shrubs appears to be very limited, but further consideration shows that a large number may be collected together. The late-flowering Spiraea alone give us a splendid contribution for we have such showy kinds as *S. Aitchisonii* and *S. lindleyana*, strong pinnate-leaved bushes which bear terminal panicles, sometimes upwards of 1 1/2 feet in length, of which cream-colored flowers respectively. There is not a white inferior in general worth, though a totally different-looking shrub, is the cream-colored *S. discolor*, which may be found anywhere between 8 feet and 15 feet in height. Differing from these again, we find the dwarf-growing set represented by such species as *Salicifolia*, *Douglasii*, *Menziesii*, *betulifolia* and *Japonica*, together with their numerous varieties, which offer a range of colors from white to pink and deep red. Two specially fine kinds may be mentioned in *S. Douglasii* superba and *S. Japonica* Anthony Waterer, both red-flowered varieties.

As a distinct change we find the tall-growing *Genista aetnensis*, or Mount Etna Broom as it is sometimes called, a tall-growing, elegant-habited, yellow-flowered shrub which is at its best during the latter half of July and early August. A closely allied shrub is noticeable in the yellow Spanish Broom (*Spartium junceum*), which bears its rich golden blossoms with the greatest freedom from the early part of July until September. Its great value is apparent when it is understood that it will flourish and blossom profusely even in the poorest soil. On many a common and hillside throughout the country the combination of *Heather* (*Erica cinerea*), *French Gorse* (*Ulex Gallii*) and *Ling* (*Calluna vulgaris*) is such as to induce us to try and reproduce the picture on a less ambitious scale in our gardens, and when we press into service the numerous fine cultivated varieties of *Heather* and *Ling*, together with a few exotic species of *Erica* and the lovely *St. David's Heath* (*Daboecia polifolia*), we are able to produce a wonderful combination of color, in which red, purple, pink, white and gold all take a part.

An effective Japanese shrub during August and September is *Clerodendron trichotomum*. This has large, heart-shaped leaves and flat heads of fragrant white flowers with red calyces, the latter being retained to enclose the dark purple fruits after the petals have fallen. Another *Clerodendron* is also of service, though it is often treated more or less as a herbaceous plant by cutting it to the ground annually. This is *C. foetidum*, from China. In addition to having ornamental foliage, the red flowers are in large terminal heads and appear in September. A couple of blue-flowered shrubs are found in *Paeonia atropurpurea* and *Caryopteris Mastacanthus*, while the several hardy *Fuchsias*, of which *F. macrostemma* is the type, produce rich red and purple blossoms.

Hydrangeas are conspicuous by reason of the large panicle of *H. paniculata* and its variety *grandiflora*, *H. Hortensia* and numerous others. The *Privets* provide several late-flowering shrubs, notably the evergreen *Ligustrum lucidum* and *L. japonicum* and the semi-evergreen *L. Quihoui*. *Hypericum* gives us a lot of material, for all the species flower late. The following may be singled out as being especially worthy of notice: *H. patulum* Henryii, *H. hookerianum*, *H. androsaemum*, *H. Calycinum*, *H. moserianum* and *H. aureum*. *Hibiscus syriacus* and its numerous varieties make bright patches of color in sunny places, and many shades are apparent in the flowers, for they find white, purple, red, blue and intermediate shades represented, while some have parti-colored blossoms and others double flowers. The large-leaved *Aralia spinosa*, which may be familiar to one people by the names of *Hercules Club* or *Angelica Tree*, is content during summer with the effect produced by its large and handsome leaves; but in September it makes a further effort and produces immense panicles of cream-colored flowers. Should September prove to be a sunny month, the last fortnight sees the rosy purple flowers of *Lespedeza bicolor*, which are very conspicuous when at their best, while a month earlier is the dwarf Chestnut (*Aesculus parviflora*) is one of the most conspicuous flowering shrubs. The Strawberry Tree (*Arbutus Unedo*) blossoms during autumn, as also do the fragrant *Clethra alnifolia* and *C. acuminata*. In July the rare and beautiful *Stuartias* blossom, while about the same time we find the showy white

blossoms of *Eucryphia pinnatifolia*. In Southern gardens *Veronicas* are making a bright display of white, purple, red or pink, while few more beautiful shrubs are present than the evergreen *Myrtus Ugni*.

Though those mentioned do not exhaust the list, sufficient plants have been enumerated to show that a goodly set of late-flowering shrubs are available. Flowering trees at this period are less in evidence, and the most useful of all are the various *Catalpas*, which during August are conspicuous by their immense panicles of bloom.

ANNUALS FOR AUTUMN SOWING

To what extent annuals in general will submit to autumn sowing and provide beautiful drifts of color in spring when the ordinary seedlings sown at that period are but a few inches high is very much a question of soil, of season and of experiment. Altitude, too, plays a by no means unimportant part, though in lesser degree perhaps than the all-important question of soil, warmth and perfect drainage. These, indeed, are the essentials to success, and in all those instances where chalky or sandy soils obtain cannot be made too much of. For example, the heat of an ordinary summer is frequently found too much for annuals on a thin soil or chalk or much sand, and spring sowings of the seeds in such an uncalculated to provide but a poor as well as a short-lived display of flowers. All this is disappointing in the extreme. On the other hand, it is possible by the sowing of the seeds in autumn to provide in the same soil area a feast of color or impossible of description, apart from the advantages of a spring display weeks in advance of scheduled time. To the gardener thus located this a great gain, and, of course, the amateur, from his point of view, will appreciate it likewise.

Let me say at once, however, that it is next to useless to attempt the sowing of seeds of annuals in autumn on soils that are continuously cold and wet, for here one needs to be just as emphatic in forbidding operations as, conversely, one would urge that the most be made of soils, suitably warm and well drained. It may be, of course—indeed, is—that failures will be frequent even in these latter soils, for the gardener in all work of this kind must ever take his chances of seasons, of frost and insect pests, which occasionally play their part in the annihilation of the crop of seedlings from which so much had been expected. Such failures, however, are never to be regarded in any very serious light—they are disappointing, naturally—for seeds are so cheap and the conveniences for raising fresh batches are so abundant that it is quite an easy matter to repeat the sowings of any that fail either in the open or in pots. That there are failures other than those which arise from frost and inclement weather none having expert knowledge of the subject will gainsay, one of the chief causes probably being that the seeds are too deeply buried. In such a case the cause of the failure may not be apparent at the moment. It may, indeed, be, and I think it often is, attributed to a too cold condition of the soil, to the indifferent quality of the seeds and to other causes that may not be exactly true.

Rarely, however, does the operator realize that over-deep sowing is the chief cause of failure. Rather does he take the misguided view occasionally that a deeper sowing of the seeds at such a time is a sort of necessary protection to the crop. In this, however, he is wrong. Instances, indeed, are known where the seeds have quickly vegetated and perished as promptly in their over-deep setting. Hence I urge, with some emphasis, that even for autumn sowing there is no need for any deeper soil covering than at any other period. The merest covering of soil then is sufficient, remembering always the lesson of the self-sown seedling, of its sturdy growth and freedom of flowering, of the power to care for itself, so to fall into crack or crevice and vegetates there with practically no covering at all.

These remarks upon shallow sowing of the seeds apply to all annuals except Sweet Peas, which may be sown somewhat deeper than the same in spring. With perhaps no other flower is there so great a gain as with the autumn-sown Sweet Pea, the plants, in those districts and soils were such sowings can be relied upon, springing up and forming hedges of color, bright, pleasing and effective, and comparable to no other flower. It so happens, too, that the "people's flower"—if one may coin a phrase, seeing that it is the flower of the million rather than of the few—admits of being transplanted, which many annuals do not, admits also of being raised in boxes or permanent place at a later date. Hence the Sweet Pea is possessed of many advantages, of which the most should be made. But it must be borne in mind that the best and earliest flowers are always the product of open-air sowings, that is, the sowings that have been made in the trenches where the plants are intended to flower, provided, of course, that they pass the trying ordeal of winter.

The best time for making these sowings is the month of September, while the soil is still warm and capable of being worked to liberal fare than the majority of the subjects. I shall presently name. Indeed, in not a few instances—the annual *Chrysanthemum* and the *Ecchscholtzia*, for example—a rather poor soil is preferable, the former group in particu-

lar making leaf growth at the expense of flowers when growing in soils that are too rich. Such things, however, are rather for the observant worker to decide, and it should be quite an easy matter to make note of those plants in any locality that appear to be given to grossness, and in future adopt measures, such as quiet firm and poor soils, to prevent its repetition.

The following are some of the most suitable subjects for autumn sowing, and there may be others, for the list is not intended to be an exhaustive one: *Godetias* in variety, Sweet Peas of many shades, *Clarkias*, *Nemophila insignis*, *Larkspurs*, *Limnanthes Douglasii*, *Eschscholtzias* of sorts, *Candytuft*, *Silene pendula*, *Virginian Stock*, *Bartonia aurea*, *Poppies*, and *Cornflowers*, than which few things are more delightful, the blues, violets and pink-flowered sorts being those mostly favored. Then there is the valuable Star race of *Chrysanthemum*, which Messrs. Sutton have done so much to popularize, *Morning Star*, *Evening Star*, *Eastern Star* and *Northern Star* constituting a quartet as beautiful and desirable as they are distinct. To these doubtless may be added others, for the gardener should never tire of experimenting with those as yet untried, nor should he take for granted that a failure in one garden or season may be repeated in the next. Indeed, there may be many surprises in store—surprises that come not to him who waits, but to him who seeks to find.—E. H. Jenkins.

HOW TO KEEP HOUSE PLANTS HEALTHY

The ideal conditions for house plants are practically the same as for human beings, that is, a temperature of about 67 degrees to 70 degrees during the day time and 50 to 55 degrees at night. It may not always be possible to maintain this warmth at night, but strive to keep as near that as possible.

The next consideration is fresh air; keep the rooms well ventilated, i. e., have a window open somewhere in the room, preferably on the opposite side from the plants, for they cannot stand draughts. When a room gets too warm and too dry, the plants transpire an excessive amount of water, faster than the roots can supply it from the soil—but worse still, the surface of the soil itself is dried out and even the pot as well. Thus an irreparable injury is done before the owner realizes it.

When plants are grown in an abnormally high temperature, with moisture, the growth is forced and being soft is easily injured. A strong draught, even if only 10 or 20 degrees cooler than the surrounding air, will seriously chill plants in this condition. The result will be that deciduous plants, like the geranium and heliotrope, will turn yellow and drop their leaves; with palms, the tips of the leaves will turn brown. To get the plants back into proper condition will take months of careful attention, and in the case of palms or ferns it will take a year—preferably at the florist's.

To give the atmosphere the proper amount of moisture have a small dish on the radiator, register or stove, and keep it full of water. Most hot air furnaces have a water compartment inside the jacket which holds about a pintful. Under ordinary conditions this will need filling only once a day, but during the coldest days of winter when the firing is heavy it may be necessary to fill it twice.

The second most exacting requirements of planting is watering. Too much water will make the soil sour, with too little water the plant will wilt. The effect of either will be yellowing and dropping of the leaves. It is easier, however, to drown a plant than to kill it by drought. No hard and fast rule for watering can be made. Plants may need water twice a day or only once in two days. The best way to determine whether a plant is dry is to tap the pot sharply with the knuckles of the hand. A hollow, or rinking sound shows that the soil needs water; a heavy, dull sound indicates that it has sufficient moisture. Usually you can tell whether the soil needs watering by looking at the surface. If it is dry and powdery give water.

The common fault in watering is not doing the job thoroughly when it is done at all. Never give a little surface sprinkling. The best way, if convenient, is to take the plants to the sink or bath tub and give the soil a good watering, allowing the pot to stay in the sink until the surplus water has had a chance to drain off. If it is impossible to do this, have a saucer under each pot, and ten or fifteen minutes after the watering go around and turn out all the water standing in the saucers. Never allow water to remain in the saucers, as it will prevent aeration through the hole in the bottom of the pot, and also rot the roots. When plants are kept in jardiniere people often grow careless, let water collect in the bottom and then wonder why the plant is not doing well.

If by chance the ball of earth should become very dry plunge it in a pail of water and let it stand five or ten minutes—until the whole ball is soaked through. When the air-bubbles cease to rise the ball is generally thoroughly soaked. Pouring water on the top of the soil of a dried-out pot plant is generally useless, because the ball contracts in drying and leaves a small space between itself and the pot down which the water will run.

Bathe the leaves frequently to remove dust, which will inevitably settle on them and choke up the pores. When the plant is in the sink or tub a hand syringe can be used to spray the foliage without wetting the floor. If this is inconvenient, then carefully rub over the surface

of each leaf with a damp sponge. If necessary a little soap may be used in the water.

Many amateurs do serious injury to their house plants by not leaving well enough alone while growth is dormant or almost so. It is simply folly to fuss about with potted plants at that season. Do not disturb the roots at all during the winter, for most plants are resting and cannot quickly put out new roots. This is particularly true of such decorative plants as palms, rubber plants, and ferns, which can be shifted or fed with fertilizers only in summer. Soft wooded plants like geraniums and heliotropes are not so easily injured by transplanting, but even so I prefer to put them in large enough pots in the fall so that they will not need shifting until spring. If they should need extra feeding, on account of large growth, it is much better given in liquid form. The best form of liquid plant food is made from cow manure—at the rate of a bushel to a barrel of water—because there is no danger of burning the roots. I have used horse manure very successfully when the liquid was the color of very weak tea. These are messy to handle. Neater are the special plant foods put up in tablet or powder forms. These can be bought in the local stores or ordered from the catalogues of seedsmen.

Perhaps the greatest enemy of plants grown in houses heated by hot air furnaces or coal stoves is coal gas. An otherwise imperceptible trace of it in the air will cause the leaves of some plants (as the Jerusalem chery) to drop off promptly. With a good chimney draught and with proper regulation of the dampers when attending to the fires there should be no trouble from this source.

Illuminating gas is almost as bad as coal gas. The slightest trace will retard the development of new leaves on all but the toughest-textured plants, like rubbers and palms. Such thin-leaved plants as geranium, coleus, heliotrope, and begonia succumb quickly. When gas is present in small quantity, the plants do not necessarily die, but growth is stunted and the flower buds wither when beginning to show color, looking much as though they had been chilled.

The commonest insect enemies of house plants are the plant lice or aphides, especially the "green fly." Look for these pests on the under side of the leaves where they suck the sap. Against these use tobacco water or soap suds. Tobacco water may be made from tobacco "stems" which can be bought from almost any florist or seedsmen. Put a large handful into a gallon of warm water and let it stand for twenty-four hours, then dilute it to the color of weak tea and syringe the foliage, being careful to hit the under sides of the leaves. A simple way is to buy a tobacco extract and follow the directions on the package.

If soap suds are used rinse the plants with clear water.

If the plants are grown in a conservatory, or a room that can be completely shut off from the rest of the house, fumigating is the easiest and best method of fighting the aphides.

For this tobacco stems may be used, but the tobacco preparations offered in the stores are easier to handle, according to directions.

One can now buy sheets of paper which are impregnated with tobacco, and all that is necessary is to distribute enough sheets about the room to give the required density of smoke and set them afire.

Whatever method is used select the quiet night for it and shut the room tight. By morning all evidences of the smoke will have disappeared. Then syringe the plants to knock off the aphides. Badly infested plants will need fumigating twice a week on succeeding nights.

A blue aphid sometimes attacks the roots, causing the plants to take on a sickly or yellow color. It is easily found by digging down near the base of the stem, and is attacked by watering with the tobacco water already described. If this does not kill the aphides, the plant must be removed from the soil, the roots washed with whale-oil soap (one quarter pound to two gallons of water). Then re-pot in fresh, clean soil.

Next to the aphides in destructiveness is the red spider, a very small red mite which can scarcely be seen by the naked eye. It lives on the under side of the leaves, but its presence can be readily told by numerous minute yellow spots on the upper side. The red spider subsists on the plant's juices. It thrives in a hot, dry atmosphere and its presence is a sure sign of insufficient moisture. The conditions ordinarily found in living rooms are very favorable for this pest. The remedy is obvious; syringe the plants with water, applying it on the under side of the leaves, and with considerable force because the spider is protected behind a web.

Mealy bug is almost always present in the greenhouse, sometimes infesting house plants, too. This insect looks like a small tuft of white cotton, and is found on the under side of the leaves and in the joints. A strong stream of water will usually wash it off, but if that fails, use kerosene emulsion or fir-tree oil, which must be diluted according to the directions on the package and applied as a spray or with a feather.

Sometimes plants are infested with thrips, which eat the epidermis of the leaves. They are small, slender, brown or black insects, about one-fourth of an inch long, and are easily controlled by any of the contact insecticides already mentioned, or by paris green—one teaspoonful to twelve quarts of water.

If angleworms infest the soil in the pots they may easily be gotten rid of by watering with lime water which may be made as fol-

lows: To ten or twelve quarts of water add one and one-half to two pounds of fresh lump lime, letting it stand for a couple of days or until the lime has slacked and the water cleared, then pour off the clear water for use. Several waterings with this at intervals of three or four days will drive out the worms.—P. T. Burns, in Garden Magazine.

IMPORTANCE OF ANIMAL FOOD FOR POULTRY

Poultry raising, like many other things, is becoming more practical each succeeding year, showing marked advancement. A glance backward over the field of artificial incubation and breeding shows the wonderful improvement that has been made in methods and appliances and the greater practicability of the same. In feeds and the manner of feeding the same sense of practicality and the longing for a more definite knowledge of the real and relative value of the different food stuffs, and the desire for better results, has led to great advancement along this line. This indeed is a practical age, an age that not only demands results, but that the results be the very best possible. Poultrymen, as well as people in other walks and vocations in life, are not satisfied with the ordinary, they want the very best. It is an encouraging and commendable fact that such a spirit prevails among poultrymen. It means better poultry and more of it, a better understanding of the principles of breeding and feeding, a more thorough knowledge of the real food elements in the different foodstuffs and the proportions in which they should be fed, and as a consequence a more general use of a well-balanced ration.

It is hardly necessary to state what is meant by a well-balanced ration, as this subject has been threshed over in the poultry press until it should be pretty well understood by the careful reader. However, for the benefit of those who may have but started in poultry raising, or for one reason or another are not informed on the subject, we will state that it is simply compounding or combining a food ration so as to include in proper proportion all elements necessary to maintain life and promote healthy, vigorous growth and egg production. In other words, to supply a ration that will produce the greatest possible results, one that does not make it necessary to supply one element in excess in order to get another in sufficient quantity.

And in this connection it may be stated that one of the very important food elements necessary to this end, and one which is, perhaps, more frequently omitted than any other, is that of animal food. In their natural state the fowls generally get this element in the bugs, worms and various insects that abound on the range, especially during the summer. In the late fall and winter this is not so, and as with the birds confined to pens or runs, it must be supplied or they do not get it in sufficient quantity. As a result the stock is often not vigorous, the per cent of fertility is low, the chicks are weak, and the egg production is not satisfactory. The breed, variety or strain is found fault with when as a matter of fact it may be only a lack of animal food in the ration.

Among the many forms of animal food suitable and acceptable to poultry is green cut bone. It has the advantage of being cheap and contains in about the right proportions the elements necessary to produce healthy, vigorous growth, in both old and young stock, a high per cent of fertility in eggs and a heavy egg yield. The green cut bone and the fresh laid egg contain about the same elements in nearly like proportions, hence its great utility as an egg producer.

It is very acceptable to the fowls, being readily and greedily eaten by them, as one will quickly discover on feeding it. Being rich it must be fed in moderation, about an ounce per hen per day being the amount recommended by the majority who have had experience in feeding it. This will partially, and in some cases wholly take the place of one feed. At least the other food can be reduced to an extent, which will probably be more satisfactory than entirely missing one feed. Some feed it alone, while others put it in mash. The latter method will no doubt give better results for the average poultryman. It has the advantage of insuring a more even distribution of the bone amongst the flock by preventing, in a measure, at least, the more greedy ones from getting too much. This need not be a wet mash, it can be a dry one, as the feeder prefers.

The bone should be fresh and free from all bits of putrid meat. It can generally be obtained at the meat markets at a reasonable figure, and if but a small flock is maintained can be broken to bits with an axe or hammer. With a large flock a cutter is necessary. In buying, get one large enough to do the work easily, better too large than too small. Those who have not tried green bone can very profitably do so. They may be considerably surprised at the results a judicious use of it will produce.

In conclusion, a few words of caution may not come amiss. Don't feed too much, and don't depend upon the green cut bone as a complete ration, notwithstanding the fact that it contains about all the elements of the egg in nearly like proportion. It does not take the place of good sound grain, and bran, green food and the many and various other foods that might be mentioned. The intention of this article is simply to point out the importance of animal food in the ration and the value of green cut bone in supplying that element. Another point that makes green cut bone a valuable food is that it is easily assimilated and thus is quickly converted into active profit-making energy.



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