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Roxford, Eben E.

The flower garden...

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THE FLOWER GARDEN.
THE LAWN AND HOUSE
PLANTS BY EBEN E. REXFORD.
FLORICULTURAL EDITOR OF
THE LADIES HOME JOURNAL.

PUBLISHED BY THE
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INTRODUCTION

This manual is from the pen of the widely known horticultural authority,

EBEN E. REXFORD.

Floricultural Editor of the Ladies' Home Journal.

It is a practical treatise, of permanent value, on the care and fertilization of

LAWNS,

FLOWER GARDENS,

AND HOUSE PLANTS.

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FLOWER-BED AT FOREST HILLS CEMETERY NEAR BOSTON, WHERE BRADLEY'S FERTILIZER ALONE WAS USED

THE FLOWER GARDEN AND LAWN.

BY EBEN E. REXFORD.

Floricultural Editor of the Ladies' Home Journal.

THE FLOWER GARDEN.

Getting Ready for Business.

THE first thing to be done in the garden is to spade up the beds as early in the season as the ground can be worked to advantage. This does not mean, however, as soon as the snow is gone, or the frost is out of the ground. You cannot work soil advantageously until the water from melting snows and early rains has drained out of it sufficiently to leave it somewhat mellow and friable. As long as it is *wet*, let it alone. But as soon as it can be spaded up without clinging to the spade like a mass of putty, dig up the beds, and let the sun and wind get at the earth you throw out of them. In a short time evaporation will take place, and you will find it an easy matter to pulverize the soil into mellowness by the use of the hoe and a sharp-toothed iron rake. Work it over and over until there are no clods in it. There is no danger of working it too much. The finer it is, the better plants you will be likely to grow in it.

Fertilization.

To grow flowers well, it is quite essential that the soil should be rich. True, some plants make fair growth in a soil of ordinary fertility, and blossom considerably, but they never come up to the possibilities in them unless they are well fed. The amateur florist is likely to fall into the mistake of thinking that any soil in which weeds will grow thriftily will answer for flowers. But weeds will flourish under conditions very unfavorable to the growth of flowers, and if we would grow the latter to

perfection we must make the soil in which they are grown strong and nutritious. Some persons apply barnyard manure. This is good, if old and well rotted, but we cannot always obtain it in that condition, and most persons cannot get it at all, if they happen to live in city or village, without putting themselves to considerable trouble and expense, and then they generally have to be satisfied with an inferior article — one in which the elements of nutrition are sadly deficient, while the seeds of weeds are innumerable. Such a fertilizer will give more vexation than satisfaction, for very few of us like to pull weeds from early in spring to the close of the season. I have, of late years, given up the use of barnyard manures in the garden, because I have found, from personal experience, that such fertilizers as those prepared and sold by the * *Bradley Fertilizer Company* are superior in every way, and are open to none of the objections urged against fertilizers from the barnyard. They are quick and reliable in action, lasting in effect, and can always be depended on to do just what is claimed for them. Unlike many fertilizers placed on the market with a great "flourish of trumpets," they never disappoint. The person who tries them one year is sure to keep on using them after that.

Therefore, I would advise the maker of the flower garden to get and apply the fertilizers spoken of, in the proportions advised by the company, when he is getting his beds ready. Mix it well with the soil. Never use it as a top dressing simply, but get it down where the roots of your plants will find it, as they reach out and take hold of the earth.

Seed Sowing.

Do not make the serious mistake of sowing seed before the weather has become settled. At the North it is not safe to do this before the first or the middle of May. We are likely to have cold storms and frost, and if these come, seeds sown before their arrival are pretty sure to fail to grow. Nothing is gained by early sowing, and quite often all is lost. Let the ground be warm and the weather fine before you plant your flowers. These conditions will bring about rapid germination and lead to a vigorous and healthy development of the young plants. Plants grown from seed sown in the beds where they are to grow, under such favorable conditions, almost always get ahead of plants started in the house, early in the season, because the latter are generally lacking in vitality, and suffer greatly when transplanted to the open ground.

In sowing seed, use it liberally. Some will fail to grow. If the plants

* See page 27.

stand too thick in the rows, it is an easy matter to thin them out. It is easier to do this than it is to fill in. Seedlings need not be wasted. You can always find some neighbor who will be glad to get the plants you have no use for.

In sowing seed, do not cover it deeply. I find it most satisfactory to scatter it on top of the soil of the bed. After this is done, I sift fine earth over it, just covering it lightly. Then I press this covering down with a smooth board. This is to firm the soil about the seed, and to make it compact enough to retain moisture longer than it would if left as it fell. This method is advised for seed of ordinary size. Large seed should have a deeper covering. Sweet peas ought to be covered to the depth of an inch, when sown, and they should be planted very early in the season. You need not wait for the frost to be out of the ground before planting them. To grow this beautiful flower well, you should sow its seed in trenches six inches deep. Cover to the depth of an inch, as advised. When the plants have grown to be three inches high, draw in the earth about them to within an inch of their top. Continue to do this until all the soil taken from the trench at planting time has been returned to it. In this way we get plants whose roots are down in the soil where it is cool and moist, and unless we do this we need not expect to grow this flower well.

Necessary Work.

The amateur florist who expects to reap a bountiful crop of flowers from simply sowing the seed, will find that it is quite necessary to do a good deal of hard work after he has got his plants to growing. Weeds must be kept down *from the beginning*. Let them once get the start of your flowers and the latter will be greatly injured, and you will find it a difficult matter to clean out your beds. Therefore begin as soon as it is possible to distinguish between flowers and weeds, and make it a habit to pull up each weed that puts in an appearance as soon as it is seen. By doing thorough work in weeding from the beginning, and keeping up the practise of pulling weeds at sight, you can have your garden clean at all times with but a fraction of the work that will have to be done if the weeds are once allowed to get the start of you.

Keep the soil open. Stir it frequently with the hoe, or rake, or weeding-hook. Some persons have the idea that it is not safe to do this in a dry season. Such is not the case, however. When the soil is mellow and open, it is in exactly the right condition to take in, and make use of, all the moisture from falling dews and slight showers, but, if crusted over, this

moisture is unable to penetrate it, and the plants suffer in consequence. An open soil has something of the porosity of a sponge, and in keeping it in that condition we are benefiting plants in a dry season rather than harming them. The farmer understands the theory and puts it in practise in his cornfield, when he cultivates it time and again in early summer. Instead of wasting what little moisture is in the soil he is putting it in shape to absorb more.

Provide plants needing support with whatever support they are to have early in the season. It is easier and safer to do this when they are small than when they have made considerable growth, and it helps to distribute the work of the season evenly. Some persons let work accumulate, under the impression that it will be easier to attend to it "in a lump." This is a mistaken idea. Do whatever needs doing *at the time it is needed*, and in this way the season's work can be disposed of in such a manner that it will not seem like real work, simply because but little is done at a time. And work done leisurely is work done more thoroughly than it ever is when done under a pressure of necessity.

Some General Suggestions.

Do not undertake more than you know you can do well. The amateur florist is, as a general thing, a very enthusiastic person, — at the beginning of the season, — and he or she will feel like having a little of everything. But by and by enthusiasm wanes to a considerable extent, and then it is realized that more has been undertaken than it is possible to do justice to. Therefore I always advise growing a few flowers, *and growing these few well*, rather than attempting to grow many and having them inferior because not properly taken care of. A dozen *fine* plants are worth more than a whole garden full of *poor* ones.

I would not invest much money in "novelties." Some of the new plants prove to be good ones, but most of them are worthless. Buy only such kinds as can be depended on, and let those who can afford to experiment with the "novelties."

I would never advise buying "mixed" seed. If you do this your beds will be a jumble of colors, some of which *may* harmonize, but many of which will be at enmity with each other. The only way to bring about pleasing results is to know just what colors you are to have. Knowing this, it will be an easy matter to arrange them in such a manner as to bring about contrast and harmony. The only way to be sure of this is to buy packages of seed in which each color is kept by itself. If you do

not care to use as many plants of one kind or color as would be produced from a package of seed, club your order with your neighbors, and divide the seed when it comes.

What Kinds to Grow.

Below I give a list of the most satisfactory plants for the use of the amateur:—

Asters.	Candytuft.
Balsams.	Zinnias,
Calliopsis.	Marigolds.
Sweet Peas.	Larkspurs.
Pansies.	Ten Weeks' Stock.
Petunias.	Poppies.
Verbenas.	Centaureas.
Phlox.	Nasturtiums.
Whitlavia.	Chinese Pinks.
Snapdragon.	Morning Glories.
Sweet Alyssum.	Portulacas.

The above must not be considered as a complete list by any means. It is given as one which the beginner in floriculture will do well to confine selections to until experience has made it possible for him to give more exacting plants the care they require in order to grow them successfully. These are all of easy culture. Give them a good soil, keep the weeds away from them, and prevent them from forming seed, and they will bloom through the greater portion of the season with great brilliance and freedom.

Climbing Plants.

Sweet Peas.	Wild Cucumber.
Morning Glories.	Japanese Hop.
The Gourds.	

Plants for Edging.

Sweet Alyssum.	Pansies.
Candytuft.	Portulacas.

Late Bloomers.

Asters.	Ten Weeks' Stock.
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Bulbs and Tuberous Plants.

By all means have a bed of gladiolus. This is one of our most beautiful flowers. It is of the easiest possible culture. Any one can grow it. It is sold so cheaply that a small amount of money will buy bulbs enough to fill quite a bed, and no investment will give better satisfaction.

The single and semi-double dahlias are charming flowers. Give them a very rich soil, and keep it moist throughout the season, and you will be delighted with them.

Tuberose are beautiful flowers when well grown. To succeed with them, it is necessary to start them in the house, in small pots. Do not put them out until the weather is warm. Give them a sunny place and a light, rich, warm soil.

Cannas are charming plants, both in foliage and flower. Plant them in clumps, and you secure a fine effect.

Caladiums are excellent for the center of beds, because of their tropical foliage. To succeed with them, they must be highly fed and kept moist at the roots.

Border Plants.

The busy woman will do well to make a collection of hardy border plants. These, when once established, are good for years, and they require much less attention than the annuals. I give a list of the best ones for general cultivation :—

Perennial Phlox.	Spireas.
Hollyhocks.	Peonies.
Delphinium.	Pyrethrums.
Dicentra.	Digitalis.
Coreopsis <i>lanceolata</i> .	Aquilegias.
Gaillardia.	Iris.

Best Flowers for Cutting.

Calliopsis.	Asters.
Sweet Peas.	Petunias.
Nasturtiums.	Poppies.
Single and semi-double Dahlias.	Pansies.
Sweet Alyssum.	Gladiolus.

In order to secure a profuse and constant succession of bloom throughout the season, it is very important that seed should not be allowed to

form. If this is done, the energies of the plant will be thrown into its perfection, and but few flowers will be produced after the first general crop. But cut away all seed-vessels, or, what is better, remove all flowers when they begin to fade, and the plant will at once begin to make a new effort to perpetuate itself. The first step in this direction is the formation of flowers. By thus interfering with the processes of nature, it is an easy matter to make most plants go on producing flowers until the latter part of summer. It is quite necessary that this should be done if you expect a succession of bloom from a majority of the plants named in the foregoing lists.

During the latter part of the season, it is well to cut away many of the old branches of the plants. When this is done, fertilize the soil well about them with the Bradley manures, and a new growth will promptly result from which superior flowers will be produced until the coming of frost.

Part II.

MAKING A LAWN.

Nothing adds so much to the attractiveness of a home, be it large or small, as a neat, well-kept lawn. Without it, the home is like a picture without a frame. Flowers are beautiful, and no home should ever be without them, but they should never prevent us from having a stretch of rich green sward about the house, and between it and the road or street. Its cool, refreshing color rests the eye, and the large or little sweep of greenness gives an air of quiet dignity and repose to the place that can never be attained without it. By all means have a lawn, no matter how small it is, and keep your flower beds to one side or the rear of it. Never mar a small lawn by cutting it up with beds. A clean, free stretch of sward is vastly more pleasing than one broken up by flower beds and shrubbery, unless it is of considerable size.

There are lawns and lawns. Some are self-made; but these, while better than none at all, are never quite satisfactory. They lack that depth and richness of turf which is to the lawn what the pile is to velvet, and they lack this because the proper material has not been used. To secure a fine lawn it is necessary to sow such seed as produces a thick, deep sward, and this our native grasses do not do.

PHOTOGRAPH OF FRANCIS B. HAYES ESTATE, LEXINGTON, MASS., FERTILIZED WITH BRADLEY'S ENGLISH LAWN FERTILIZER.

Preparing the Soil.

The first thing to be done is to grade the yard and put the soil into proper condition to produce a strong, fine growth of grass. This may be done by spading or plowing. On small places the spade is most satisfactory. On large places the plow will save time and labor. But bear in mind, whatever tool is used, that much of the future welfare of your lawn depends upon its beginning. *Begin right* and do thorough work, and you are reasonably sure of success.

Spade or plow the soil to the depth of a foot or more. Make it fine and mellow, and level it, or grade it to the slope desired if it is to have a descent from the house to the road or street. And be very sure, at this stage of proceedings, to see that it is made very rich by the liberal application of * *Bradley's Fertilizer*, or something equally as good. *Never apply a manure from the barnyard* if it is possible to procure the fertilizer named, because such manure, *not rich in nutriment, is absolutely certain to introduce weeds*, and there will have to be a fight from the beginning to keep them down. And unless they *are* kept down your lawn will not be a success. They not only rob the grass of the nutriment it should receive during its early stage of existence, but the removal of them will seriously interfere with the satisfactory formation of a strong, fine sward. Prevention is better than cure; therefore use no manure that contains the seeds of weeds. The use of *Bradley's Fertilizer* will produce a rich, velvety lawn that will be a "thing of beauty and a joy forever," if occasional renewals of its application are made.

If the soil is heavy add sand, ashes, or old mortar, if obtainable, to lighten it. Incorporate these with the soil at the time the fertilizer is applied, and work them all in together until you have a light, mellow bed for the reception of seed. If drainage is not naturally good, use tile to carry off surplus water. On ordinary small lots, however, no drainage of this sort will be necessary.

The Time to Begin

is early in spring. Spade or plow the soil, and leave it for a time for the wind, and sun, and rain to act upon. After a little it will be in a proper condition to pulverize easily. You cannot work it too much. The finer it is, the better your chances of success.

* See page 27.

If there are hollows or depressions in the surface, be sure to have them filled before sowing is done. The time to attend to these little details, which are really important ones, is while the lawn is in a formative state. Complete each part of the work as you go along. Do not think that you can go back to it later on and do whatever you are inclined to neglect to do now, and have the result a satisfactory one. You cannot. Success depends on thoroughness as the work proceeds. Bear that in mind, and slight nothing.

Seeding the Lawn.

The best seed for the lawn is composed of several kinds of grass which have the habit of spreading or "stooling" freely, thus forming a thick mass of leaves close to the soil, with a proper proportion of white clover, whose creeping habit makes it valuable in helping to completely cover the soil at an early period of the lawn's existence. In buying seed, get only the best, and patronize only such dealers as you have confidence in, as much depends on the purity of the seed used. Cheap mixtures are generally made up of inferior varieties of grasses, and often contain the seeds of weeds. The "Lawn-grass Mixtures," sold by reputable seedsmen, are the cheapest, because they are the best.

In order to produce satisfactory and immediate results, sow seed thickly. The estimate of those who have had wide experience in lawn-making, is that it is advisable to sow at the rate of four bushels of seed to an acre. There is nothing gained by attempting to economize in quantity of seed used. A thinly seeded lawn will be lacking in depth and richness of turf, while a thickly seeded one will have a velvety appearance from the start. Thin sowing makes it necessary to wait until the second season for satisfactory results.

How and When to Sow.

It may seem to be a very easy thing to sow a lawn properly, but it is not. The seed used is light as air, almost, and a slight puff of wind will blow it where it ought not to go. Therefore select a perfectly still time in which to sow your seed. Quite early in the morning is generally the best time in which to do this work. Begin at one side, and sow across. Then return to that side, and sow across again over another strip. Do this until you have been over the ground. Then, to make sure of even seeding, sow at right angles with the first sowing. The seed is so fine that you have to judge of effects as it leaves the hand and settles, for it will hardly be noticeable after it reaches the soil. It is a good plan to roll the surface,

or in some way firm it down after sowing. This presses the seed into the soil and prevents its being blown away. It also assists in its germination, because making the soil compact helps it to retain the moisture which is necessary at this period.

Mowing the Lawn.

Do not mow a newly seeded lawn until the grass has grown to a height of at least four inches. To cut it at an earlier stage of growth is to seriously injure it. Have the mower set so that it will not cut close to the roots at first. The aim in early mowing is simply to clip the top and prevent upward growth. This done, the grass "stools" out and thickens at the crown of the plant, and in this manner is formed the foundation of a sward that will prove satisfactory. Too close cutting injures the crown of the plant while it is young.

In moist seasons the grass will grow rapidly, and it will be necessary to cut it often. If there is a *drouth*, let the clippings remain on the sward to act as a mulch and give some protection to the roots from the hot sun, but be careful and not allow the cut grass to lie in bunches on the lawn while wet, as it will gather heat as soon as the sun touches it and burn the roots of the grass. In cities and villages where connection can be had with some system of water works, the lawn can be sprinkled daily, and the sward kept rich and green throughout the season, but it is not practicable to do this where well or cistern must be depended on. When a good turf is once secured, a lawn will stand an ordinary drouth very well without the application of water.

The Care of the Lawn.

Much of the beauty of a lawn depends on the neatness with which it is kept. Dead leaves, rubbish, and refuse of all kinds should be removed promptly, and nothing allowed to disfigure its surface. A lawn rake having teeth of bent wire will take up anything from the grass without in the least injuring its roots, as is frequently done when a sharp-toothed rake is used. In buying a mower select one that does good, smooth work and runs easily. Keep it sharp and well oiled and it will be a pleasure to operate it.

Fertilizing the Lawn.

To keep up the beauty of a lawn it will be necessary to feed the grass well. You cannot expect it to retain that depth and richness of texture

and color which characterizes it while young after the elements of plant food have been exhausted. That which the plants take from the soil in their development must be supplied from time to time, in order to keep the grass up to a high standard of health. Some persons disfigure their lawns in fall by spreading coarse manure over them, under the impression that they will be greatly benefited by the application. Such is not the case, however. The fertilizing elements of the manure are dissipated and wasted in winter, to a great degree, by the action of the elements. As a protection, it amounts to nothing. Wait until spring comes, and then sow broadcast (scatter) such a fertilizer as that prepared by the Bradley Company over the soil as soon as the snow is gone. Sow it liberally, and as soon as the grass begins to start it will take on that rich, dark color which betokens a nutritious soil, and the result will be a sward of great depth and beauty, and your lawn will be a source of constant pleasure to you.

If you would grow any plant well, you must feed it well. Bear that in mind, and see that both flower garden and lawn are well fertilized.

USE ONLY

Bradley's English Lawn Fertilizer,

On your Lawns, Flower beds, and Kitchen Gardens.

It is the best fertilizer manufactured for this purpose.

LOOK
FOR THE
SICKLE.

NONE
GENUINE
without it.

See description and prices on page 27.

HOUSE-PLANTS.

How to Grow Them, and What Kinds to Grow.

BY EBEN E. REXFORD.

Floricultural Editor of the Ladies' Home Journal.

Soil for Pot Plants.

One of the most important items in the successful culture of plants in pots is that of soil. Many persons attempt to grow plants in whatever soil happens to be at hand, but their attempts are often unsatisfactory. To grow plants well, the soil should be porous, mellow, as a general thing, and of a quality calculated to supply the growing plant with nutriment. A plant must be fed in order to secure proper development, the same as a child. Given a poor soil it may *live* indefinitely, but its growth will be weak and stunted, and its flowers, if any are produced, will be inferior.

It is not necessary, however, as many used to believe, that each family of plants should have a special preparation of soil made for it. Nearly all plants adapted to window culture will flourish in a soil prepared after the following formula:—

Loam (ordinary garden soil)		$\frac{2}{5}$
Leafmold		$\frac{2}{5}$
Sand		$\frac{1}{5}$

The sand should always be coarse and gritty. Mix all parts together, and to such a quantity of soil as will fill an eight-inch pot add a heaping tablespoonful of fertilizer, mixing it in well. Such a soil will be friable, mellow, and one in which plants will make a strong and healthy growth. If leafmold is not easily obtainable, go into an old pasture, turn over some

CRYSANTHEMUMS (IN GREENHOUSE) GROWN ON BRADLEY'S FERTILIZER BY JOSEPH J. COMLEY, NEWBURYPORT, MASS.

sod, and shave off that portion immediately under the grass tops. These will be full of fine, fibrous roots, and these, as they decay, will furnish a vegetable matter almost equal to that from decayed leaves.

For plants having strong roots, like roses and palms, more loam and less leafmold should be used. For plants having very fine roots, like heliotrope and fern, use more leafmold and less loam.

Drainage.

In all pots more than five inches across the top, be sure to have good drainage. This is very important, and not a whim, as some seem to think. The object of drainage is to allow the surplus water to pass readily out of the soil. If it were retained there, a sour soil would soon be the result, and the young and tender roots of plants would be injured, and disease would attack the plant. If chance for the escape of water is given, only enough moisture will be retained by the soil to supply the needs of the plant, and there will be no danger from over-watering. Drainage in a pot is equivalent to the practise of underdraining among farmers. Fields that were worthless because of sour soil from stagnant water have been made valuable by draining them, and the principle involved is one that the floriculturist who would be successful must make use of.

There should be at least two inches of drainage material in each pot. For this purpose use old pottery, bricks, crockery, charcoal—anything that will not readily decay. Pound whatever is used until it is in pieces the size of a walnut, and use the coarsest part in the bottom of the pot. It is a good plan to put some sphagnum moss or a piece of sod, if moss is not at hand, over the drainage material before filling the pot with soil. This prevents the soil from washing down and filling the crevices in the broken pottery until the source of exit for surplus water is clogged up. Always see that the hole in the bottom of the pot is kept open.

Potting.

In potting plants great care must be taken not to injure tender, delicate roots. If you are shifting a plant from a small pot to a larger one, it will not be necessary to disturb its roots. Simply invert the pot in which the plant is growing, holding the hand across its top with the stem of the plant between the first and second fingers; then give the pot a sharp tap on the bench, or something firm, and the entire ball of earth will slip out readily. If the plant has been watered just before repotting, the soil will not crumble

away from the roots. Place the ball of earth in the center of the pot to which the plant is to be shifted — first having put an inch or two of soil in its bottom, above the drainage material — and then fill in about it with soil, working it down carefully with the fingers and by jarring the pot from time to time. When the pot is full to within an inch of the top, add no more soil but water the plant well. This will settle the soil firmly about the roots. Put the plant in a shady place and leave it there for a week or ten days, to become established in its new quarters before exposing it to sunshine. In potting a plant whose roots have been shaken out of the soil in which they have been growing, be careful to spread those roots out naturally, and sift fine earth among them, settling it by jarring rather than crowding with the hand, as it is very easy to injure a plant by breaking its roots if much pressure is exerted on them.

Repotting is something that should be attended to whenever the old pot is filled with roots. To neglect it at this stage of its development is sure to check it, and very often it so interferes with the welfare of the plant that it never fully recovers. Slip the ball of earth out of the pot and ascertain the condition the roots of the plant are in. If they form a thick network about the soil, you may be sure that a larger pot is required. But do not make the common mistake of giving small plants a large pot. To do this is a mistaken kindness. As a general thing, the new pot should be but one or two sizes larger than the one in which the plant has been growing.

Young plants, grown from cuttings, or those just received from the florist, should on no account be given large pots. Three and four inch pots are quite large enough.

Watering.

How to water plants seems to be a question that sorely puzzles most amateurs. Some give an application daily, without regard to the season, the condition of the soil, or the needs of the plant. Others go to the other extreme, and give no water until the plant wilts from lack of moisture. Some go on the "little-and-often" plan, and give enough to moisten the top of the soil every time they think of it. In effect, this is the worst plan of all, as generally the surface of the soil only will be moist. Below that, the soil will be very dry — as dry as dust, in most instances, in summer time, — and, of course, no plant can be expected to grow unless moisture penetrates as far down as the roots of the plant extend.

There is but one general rule to follow, and that is this : —

Wait until the surface of the soil *looks dry*. Then apply enough water to

thoroughly saturate *all the soil in the pot*. You can tell when this is done by the escape of some water through the hole in the bottom of the pot. Then wait until the surface again looks dry before making another application.

There can be no rule as to frequency of application. Be governed by the appearance of the soil, and water daily, triweekly, or twice a week, as seems necessary. But be sure to do it thoroughly. Some plants, like the calla, require a good deal of water. Others require but little. These are exceptions to the general rule given above, and their habits must be studied before you can intelligently care for them. Observation of effects will tell you just how much water to give your plants, and when to give it. Each person should learn to decide this matter for himself or herself, because conditions differ so widely that the general rule must be modified more or less.

Showering.

Water overhead is very beneficial to many plants. Some, like the fuchsia, cannot be grown to perfection unless showered daily. Others, like the rex begonia and the gloxinia, having hairy foliage, are injured by showering. If drops of water fall and stand on the leaves, they will soon be disfigured or completely spoiled. Hence the rule:—Shower smooth-leaved plants only. Do this when the sun is not shining on them. The water should have a chance to dry off before the sun strikes them.

For showering plants I have seen nothing superior to the little force pump whose piston can be worked with one hand while the other manages a hose to which there is attached a nozzle throwing a solid stream or a spray that can be graduated to a mist if desirable. The pump is held in place in a pail of water by an iron brace, which extends over the pail to the floor. The person working the pump places his foot on the flat end of the brace and holds the pump firm and upright. By the use of this pump it is an easy matter to throw water all over and among the plants in any quantity. Next to this in availability is the brass syringe made for florists' use. But it is a clumsy thing compared with the pump mentioned. Hand-sprinklers, whisk-brooms, and the like are, of course, better than nothing, but they are never satisfactory.

Make it a rule to shower all plants that like a bath daily. It not only helps the plants to grow, but it keeps them clean, and where water is used freely there is but little danger of injury from red spider.

Light.

Strong light is necessary for most plants, and flowering plants, as a

general thing, must have plenty of sunshine. Southern windows are best of all. Next to these are eastern ones. Palms and plants of that class can be grown in windows having a northern exposure. Western windows are too hot in summer for any plant except the cactus.

Dispense with curtains. Let in all the light and sun possible.

Place tall or large plants at the sides of the ordinary window, and put small, low-growing ones next the glass, and in the middle, so that all can get a chance at the sunshine. Those that do not care for the sun can be given a place back of the tall or large plants where they can be protected from its strong rays without being deprived of a good light.

Temperature.

In ordinary living rooms the temperature is almost always too high for the healthy development of plants. It will generally be found at 80 to 95 degrees. Both plants and persons would be better off if it could be kept at 65 or 70. It is not safe to let it fall below 55 degrees in rooms containing a mixed collection of plants, as very tender sorts are quite often injured nearly as much by a chill as by a decided freeze. Have the windows at which plants stand snug and tight, to keep out wind and drafts. On very cold nights place a thick paper between the plants and glass. Double sash is very desirable in winter, as it does away with the necessity of moving the plants from the glass.

Fresh Air.

Fresh air is very essential to successful plant culture. In close rooms, the vitality of the air is soon exhausted, and there must be a new and regular supply to make and keep it what it ought to be. It is an excellent plan to open a door or window at some distance from the plants, and let the air from out of doors come in and mix with that of the room. In this manner its chill will be taken off before it reaches the plants, without being robbed of its purity to any great extent. If allowed to blow directly on your plants they would be injured by it, as outdoor air, in winter, has a frostiness in it that would be sure to injure almost any plant with which it comes in contact. Be sure to temper this frostiness before it reaches the window where your plants are.

By giving fresh air, as advised, several times a day, you will be surprised to see what a beneficial effect it has on your plants, if you have been in the habit of keeping them in a room that has been getting but little fresh

air. They will take on fresh strength and vigor, and much of the danger of blighting buds will be done away with. But be sure never to open the window *at which they stand*, in cold weather, so that the cold air can blow directly upon them. Bear this in mind and it may save you a good deal of trouble.

Moisture in the Air.

In the living-room the air is almost sure to be very dry. Plants cannot be expected to do well in it. To remedy the defect, shower the plants well and keep basins of water constantly evaporating on stove or register. If a table is used for your plants, nail a strip of wood two inches in width around its edge, and cover it to that depth with sand, which should be kept always wet, thus securing constant and steady evaporation which will be of great benefit to your plants.

Insects and Insecticides.

Plants have their enemies, and it is often necessary to fight for their lives. The most common one is the aphid or green plant-louse. This can be routed by fumigating, or by the use of an emulsion of kerosene prepared by churning two parts oil with one part slightly sour milk till a union takes place. Use one part of this emulsion to fifteen parts water, and apply the liquid with a syringe or spray, being sure to reach all parts of the plant with it. This emulsion is also sure death to mealy bug and scale. The red spider can only be routed and kept down by the liberal use of water. He will not stay where the water is kept moist.

Worms in the soil can be got rid of by using lime-water. Put a piece of fresh lime as large as a teacup in a pailful of water. When it has dissolved pour off the clear water and apply enough of it to each pot to thoroughly saturate the soil in it. Repeat the operation if necessary.

Propagation.

Most plants are propagated from cuttings or "slips." A cutting should not be too old or too young, but about half way between the tender and the ripened growth. It should be taken from a strong and healthy branch, and be from three to four inches in length. Remove all the leaves except those at the tip. Insert the base of it in your propagating dish, and make the soil firm about it. Water well and put it in a warm place. Roots will soon form if conditions are favorable. I have best success in rooting

cuttings in clear, sharp sand. I use a shallow vessel like a soup plate. This I fill to the brim with sand and apply enough water to make it wet all through. It will be necessary to keep it moist at all times. To do this, put on water about twice a day, in a warm room, as evaporation will be rapid. Keep it in a warm place and a light one.

Generally cuttings will root in about a week. In ten days most of them will begin to grow. In three weeks they can be put in little pots, being very careful not to break their delicate roots.

Some plants can be increased by a division of the roots, like ferns, aspidistras, chrysanthemums, rex begonias, callas, and amaryllis.

Cuttings of English ivy, oleander, and some other plants of that class, having thick, leathery skin, can be rooted most satisfactorily in vials of rainwater, suspended in a sunny window. Simply drop the cuttings in the water, and see that it never dries out about their base.

Flowering Plants for the Window.

The following list will be found to comprise most of the flowering plants adapted to general cultivation in the window : —

Abutilons, in variety.	Eupatorium.
Geraniums, in variety.	Stevia.
Begonias, in variety.	Plumbago.
Fuchsias, in variety.	Gloxinia.
Hibiscus, in variety.	Cyclamen.
Amaryllis, in variety.	Primula Obconica.
Chrysanthemums, in variety.	Chinese Primrose.
Lantanas, in variety.	Calla.
Agapanthus.	Vallotta.
Streptosolen.	Pelargonium.
Carnation.	Achania.
Roses.	Oleander.

Decorative Plants.

Palms.	Agave.
Ficus.	Dracena.
Aspidistra.	Anthericum.
Grevillea.	Coleus.
Strobilanthes.	

Hanging Plants.

The following plants are among the best for baskets : —

Othonna.	Lysimachia.
Oxalis.	Tradescantia.
Saxifrage.	Petunias.
Moneywort.	Ivy Leaf Geraniums.

Tall Growing Plants.

The following plants grow to be five, six, and seven feet high, and become quite little trees with age : —

Oleander.	Ficus.
Abutilon.	Rose Geranium.
Achania.	Grevillea.

Summer Blooming Plants.

The following list comprises such plants as are summer bloomers. In the winter they should be put in the cellar, or kept in some cool, frost-proof place with very little water at their roots. They will not be harmed if they become so dry that they lose their foliage : —

Fuchsias.	(With the exception of Speciosa, which is the only really good winter bloomer.)
Tuberous Begonias.	Vallotta.
Gloxinia.	Oleander.
Hibiscus.	Plumbago.

Vines for the House.

English Ivy.	Passion Flower.
Hoya. (Wax Plant.)	Cobea.
Madeira Vine.	Jasmine grandiflorum.
Senecio. (German Ivy.)	

Plants for Shady Windows.

Palms.	Primula Obconica.
Aspidistra.	Sword Fern.

Calla.	Lycopodium.
Chinese Primrose.	Asparagus <i>plumosus</i> .
Some of the begonias having white flowers.	

Bulbs.

Tulips.	Bermuda Lily.
Hyacinths.	Narcissus.
Chinese Lily.	

How to Grow Bulbs in the Window.

This little treatise would not be complete if I were to neglect to say something about the proper method of growing bulbs in the house. Most persons buy their bulbs in the fall, pot them, and place them at once in the window. The result is, roots and top begin to grow at the same time, and we have a weak plant from which we get inferior flowers if any,—generally none at all. The mistake made consists in putting the plants in the warmth and light before roots have formed, thus exciting a premature growth of the top. The bulbs should be potted in a rich, mellow soil, watered well, and put in a dark, cool place and *left there until roots form*. This is very important. If this is done, there will be something to support and nourish the top when it begins to put forth, which will be as soon as we bring the plant to the light and warmth. Thus we get a healthy and natural development, which is never the case when the top is allowed to develop before there are good, strong roots. Bear this in mind, and be sure to give your bulbs at least a month in the cellar, in which to form roots. When they are brought up, and the top begins to grow, dig in a spoonful of fertilizer about each plant.

Sometimes hyacinths will form buds which do not properly develop. The spike on which they are borne will not shoot up as it ought to. To overcome this defect, make a cone of thick paper. Cut off the apex of it, making a hole about two inches across. Place this cone over the plant. The buds will want the light, and as they cannot get it if they remain snuggled down among the leaves, they will reach up towards the hole in the covering given them, and thus they are coaxed into a more satisfactory development.

Training Plants.

Some persons like to have their plants shrubby, bushy, and compact. Others prefer to grow them in tree form. It is an easy matter to grow them to suit one's taste in this respect, if we *begin right*.

If you want your plant to be like a little shrub, take it in hand when small. As soon as it is four or five inches high, pinch off its top. Generally, several branches will start below. Encourage as many of these to grow as you think will be necessary to give body to the plant. When they have grown to the height of a foot, nip off their ends. In this way you can secure as many branches as you want, making the plant thick and compact without having it very tall. I prefer this form for such plants as fuchsias, chrysanthemums, and lantanas.

If you prefer a tree form, allow but one stalk to grow. When it has reached a height of two, three, or four feet, according to the height you desire the head to be, pinch off its top. Branches will be likely to start all along the stalk, but only four or five near the top should be allowed to remain. Let these grow to a length of five or six inches. Then pinch their ends off. This will induce them to put forth branches, and in this way you secure a "head" for your tree.

Fuchsias that are of slender habit should have a central support. Tie the main stalk to it, and let the branches droop to suit themselves. Never fasten a fuchsia to a flat trellis if you want it to look graceful.

Some Common Plants for the Window.

The ordinary single petunia is an excellent plant for the window in summer or winter. It will bloom constantly and profusely, and give you much pleasure because it is such a bright, cheerful plant. Cut it back in the fall, and new branches will be put forth from which it will produce a profusion of flowers until spring. It makes a charming plant for a bracket.

Ten weeks' stock is a fine winter bloomer if grown in pots during the summer. Having a long tap root, it does not transplant well. It is not only pretty, but it is very fragrant and blooms profusely.

The best rose for the house is *agrippina*—dark crimson. *Queen's scarlet* is very much like it in form and color, but has larger flowers. I would not advise the amateur to attempt to grow any other varieties until success has been attained with these.

The Use of Fertilizers.

I have given up the use of barnyard fertilizers, because they are almost sure to breed worms in the soil. I find a fertilizer prepared after scientific formulæ, such as * *Bradley's Flower Food*, not only entirely safe, but quite as effective as the best manures from the barnyard, and vastly more uni-

* See page 28.

form in its action. Apply it according to directions, and you know just what it will do. It is inoffensive, easy to use, and prompt in its effects. It produces a strong, healthy, luxuriant growth of leaves, and large, fine flowers of the richest color and texture. There may possibly be other fertilizers that are as good as this, but there are none better, as recent personal experience has proved. It can be applied by mixing it with the soil about the roots of the plants, or by dissolving it in water. Instructions for its use accompany it, so that the user need make no mistake about the quantity to use or the frequency with which it should be applied.

Most plants have a period of rest. They stand still for a time. The impatient amateur is not satisfied with this, and wants them to grow, and frequently he applies a fertilizer to bring about the desired result. This is wrong. If a plant looks healthy, but does not grow, let it alone. Give just enough water to keep it from drying up. By and by, when it has rested sufficiently, it will begin to grow, and not till then should any fertilizer or stimulant be used. If the amateur will remember never to apply a fertilizer to a dormant or a sick plant, he may save himself from the loss of plants that he values highly. A plant which is not making active growth is not in a condition to make use of rich food. Therefore wait until it begins to grow before you feed your plant. Remember that.

If your plants have not been repotted lately, you will doubtless find that they are not doing well. It may not be convenient to repot them now, and it will not be necessary to do so if you use the fertilizer spoken of. It contains all the elements of plant growth, in a condensed form, and will give vigor to your starved plants in a manner that will please you as well as them.

**On house plants use only Bradley's Concentrated
Flower Food. See page 28.**

BRADLEY'S English Lawn Fertilizer.

An Odorless Chemical Fertilizer for Lawns and Kitchen Gardens.

This is a high-grade chemical fertilizer, especially prepared to promote the vigorous and healthy growth of luxuriant grass, enabling it to withstand rough usage and the protracted heat of summer.

Being free from weed seeds, and odorless, it is far superior to unsightly and strong-smelling stable dressing for use on lawns and tennis courts.

Put up in strong bags of 10, 25, 50, 100, and 200 lbs. each. Full directions accompany each package.

QUANTITIES to USE and PRICES :

10 lb. bag for 1,000 sq. ft. of lawn, or 500 sq. ft. of garden	\$.50
25 lb. bag for 2,500 sq. ft. of lawn, or 1,200 sq. ft. of garden	1.00
50 lb. bag for 5,000 sq. ft. of lawn, or 2,500 sq. ft. of garden	1.75
100 lb. bag for 1-4 acre of lawn, or 1-8 acre of garden,	3.00
200 lb. bag for 1-2 acre of lawn, or 1-4 acre of garden,	5.50

Take no substitute, but insist on having the genuine "English Lawn."

It is manufactured by permission exclusively by
Bradley Fertilizer Company,
BOSTON, MASS.

BRADLEY'S

Concentrated Flower Food.

THE LILY BRAND.

For House Plants and for Florists' Use.

THIS Fertilizer is prepared expressly to promote the growth and beauty of plants. It contains in concentrated and available forms the plant-food elements required to produce healthy growth and perfect development. It changes the color of the leaves to a dark green, increases the number, beauty, and fragrance of the flowers, and in short, if properly applied, will change weak and stunted plants to thriving and vigorous ones. It is in a powdered form, entirely inodorous, and hence especially adapted for use on parlor plants, as well as for enriching the soil when bedded out in the spring.

Cut Flowers. By the addition of a small quantity of this Fertilizer to the water in which cut flowers are placed, they may be preserved for at least two days longer than under ordinary circumstances. A small pinch is enough for one half pint (cupful) of water. After one trial, no florist, whether professional or amateur, will be without it.

Put up in boxes, two sizes, No. 1, sufficient for twenty-five plants, one year, by mail, postpaid, 50 cents.

No. 2, sufficient for twenty-five plants, three months, by mail, postpaid, 20 cents.

For sale by florists and our local agents, or we will send it by mail to any address on receipt of charges as above.

Full directions with each package.

BRADLEY FERTILIZER COMPANY,

Boston, Mass.

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"I shall never use stable manure on flowers again. My experience has proved that Bradley's Fertilizers cost less in money and labor, and are far more available. Our flower beds that had nothing on them but Bradley's Fertilizer can hardly be surpassed for beauty and vigorous growth."

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