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JUNE SCHEDULE

JUNE 4 & 5, Saturday and Sunday. Mary Lou Cox, leader. Trip to Ute Peak in Williams Fork Mtns. Leave Denver Saturday morning to join Collection Group at Slate Creek Ranger Station. Walking distance 4-10 miles. Driving distance 180 miles round trip.

JUNE 9, Thursday, 8 P.M. Horticulture House. Rose Society.

JUNE 10, Friday, 7:45 P.M. Horticulture House. Wildflower Kodachromes shown by Harold Roberts.

JUNE 12, Sunday, Wildflower trip to Estabrook and Windy Mountain. Led by Mrs. A. L. Barbour. Leave Horticulture House 8 A.M. Driving distance 90 miles, walking 4-6 miles.

JUNE 15, Wednesday, 8 P.M. Horticulture House. Commercial Men's Meeting.

JUNE 19, Saturday, 2:30 to 9 P.M. Ford Motor Co. Display Room, 40th and Fillmore Streets. Rose Show, Denver Rose Society.


JUNE 25 and 26, Saturday and Sunday. Collection trip to the Gore Range. Leave Horticulture House 1 P.M. Saturday. Driving distance 280 miles, walking optional. Camp will be made at cars and hike taken to Big Piney Lake.

JULY 2, 3, 4, Saturday, Sunday, Monday. Trip to Monarch Lake and Crater Lake. Leave Horticulture House 8 A.M. Driving distance 250 miles, walking optional. Camp will be made at Monarch Lake.

Please register several days in advance for all trips. On day trips bring a pocket lunch, and on overnite trips bring lunch for the following day and mess kit for community meals. Expense of transportation and meals will be distributed among the participants at cost. Everyone helps with camp duties.

Do not attempt these trips unless you are properly dressed. Good heavy shoes are essential. Wear rough and warm clothes and carry extra dry socks and jacket or rain coat. Bring good sleeping bag for overnight trips. Camera, botany books and such optional. Everyone should always carry a waterproof box of matches.

The Editors are sorry that they failed to note that the drawings on page 25 of the May issue in connection with the Wallace article were made by Joseph G. Dion, a student at the School of Architecture of Denver University.

Colorado Forestry and Horticulture Association
Organized in 1884
"To preserve the natural beauty of Colorado; to protect the forests, to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available current information regarding forestry, horticultural practices and plants best suited to the climate, and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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TRY THIS ON YOUR CAMP FIRE
BY ANNA TIMM

Meat Balls Espanol

3 lbs. hamburger
1 1/2 cups softened bread crumbs
2 teaspoons salt
1/2 teaspoon pepper
1/2 quarts stock or
2 cans Consomme Soup, dilute 1/2 with water
3 cans tomato sauce
1 bay leaf
2 large onions chopped
1 green pepper chopped
4 tablespoons shortening
2 tablespoons flour
2 egg yolks

Combine hamburger, bread crumbs, salt, pepper, egg yolks. Form into soft balls, 1 1/2 in. in diameter. Drop into meat stock; add tomato hot sauce and bay leaf. Brown onions and peppers in hot shortening, add to stock. Simmer 30 minutes. Remove meat balls. Thicken soup and pour over meat balls.

Serve with boiled spaghetti, baked or boiled potatoes, or boiled rice.

To complete the meal serve:
A green raw vegetable salad—Tart dressing or dill pickles—Canned or fresh fruit dessert.

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To complete the meal serve:
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HOW DID your "Glads" do last year? Were the corms you harvested last year fewer than those planted and of a good rot free quality, or did many of them have large brown decaying spots in them? The "Green Thumb" printed an article on gladiolus in their September-October, 1947 issue. This note reports the findings of a much more extensive test run in 1948. The writer, as a member of the Colorado Experiment Station, took part in a national cooperative test to try to determine the best treatment of gladiolus corms with chemicals to prevent corm rot.

Interest was not only in preventing as much disease as possible, but also the effect of treatment on flower production. Ten treatments were tried on 1,500 corms with the experiment set up so a scientific analysis of results could be made to see if differences found were large enough to be due to the treatment or only the soil spot where each lot was planted.

Data was assembled to consider the number of plants producing flowers, the number of rot free corms and the amount of disease present. The four chemicals ranking highest in the over all effect with methods of use are as follows:

ARASAN, applied as a dust full strength. Shake corms with a small amount of dust in a paper bag until they are well coated. This material may be applied several weeks before planting.

LYSOL, 4 tablespoons to 3 gallons of water. Soak corms 3 hours and plant while still wet in reasonably moist soil.

NEW IMPROVED CERESAN, 1 ounce plus 2 tablespoons of Dreft which acts as a wetting agent, to 3 gallons of water. Corroms to be soaked 15 minutes and plant immediately in moist soil.

NOTE: Since this compound is toxic to some people, avoid inhaling dust and do not get paste on hands or clothing.

DOWCIDE B, 6 ounces to 3 gallons of water. Soak corms 15 minutes and plant immediately in moist soil.

Some growers may be concerned about scab which does not cause corms to rot but makes brownish black spots on them. If corms are scabby and also have fusarium rot, we suggest recommendations from recent work in Illinois which is as follows:

Dissolve \( \frac{1}{2} \) ounce of corrosive sublimate in \( \frac{3}{4} \) gallons of water. Mix 1 ounce of New Improved Ceresan and 2 tablespoons of Dreft in \( \frac{1}{4} \) cup of water. Add this to the corrosive sublimate solution and mix thoroughly. Soak corms 30 minutes and plant immediately.

PROTECT YOUR GLADIOLUS CORMS FROM ROT

AUSTIN O. SIMONDS
HERE IS AN UPTURN IN THE TREND OF ROSE GROWING IN AMERICA

ROBERT PYLE

FLORESSANT, Colorado, Bridge Creek and Crooked River central Oregon, have been found sizable Rose that date further back than any discovered anywhere in the United States, I believe. The earliest of the U. S. Geological Survey who have these perfectly preserved early Roses, pressed by Nature in stone scrapbook for safe keeping, estimate them to be nearly 33,000,000 years old. This is long before the age of men and a time lapse that is quite beyond comprehension.

Colorado folks, therefore, may rest assured that they are living in a rural Rose pioneer state. What about present-day Rose growing? What of the future? Let me quote from a letter recently received from Fred Edmunds, the wise and well known Curator of the Interna-
tional Rose Test Gardens at Portland, Oregon: "You, Mr. Pyle, have been my times in Europe. You surely realize that America is due for vast increase over the number of Roses it now enjoys." In fact, he imitates we'll hardly have six times more Roses growing throughout America. The writer agrees that, at present rate of increase in Roseland, love and use of Roses, the edifice of Mr. Edmunds bids fair to be realized, perhaps even in the time of some who read this.

Some cautious, realistic reader may reply to my husband, "That old Rosarian certainly has a Rosy view of things. Wish he'd put down just what makes him think so." So be it! Rose interest and Rose enjoyment has risen ongily in the last two decades. Is there any reason why the uptrend could not continue? Today we find many gardeners in every state of the Union, from the North to the South, from the east to the west, are planting Roses. It is not any one State, but many, many States. In the South, for instance, Georgia, Alabama, Florida, Tennessee, South Carolina, North Carolina, Virginia, have large numbers of Rose growers. In the West, Washington, Oregon, California, have an equal number of Rose growers.

Then, too, there is the fact that the Rose is the flower of the United States, as well as the flower of the world. It is grown in every part of the United States, and in no other part of the world is it grown to the extent it is in this country.

The author of this article is President of the Conard-Pyle Co., introducers in America of the Peace Rose. He is also one of the leading figures in the American Horticultural Society and the National Arboretum. We feel honored to have him as one of our contributors.
Rose growers and Rose introducers in America. This cooperative enterprise brings together new Roses for thorough-going testing, before any are put on the market. Four to six plants of each variety are sent for 18 months and climbers for 30 months testing into 20 Test Gardens in the various climatic areas of the country. Careful scores are kept by the most competent judges and sent to headquarters for compilation and eventual vote by the trustees, none of whom may vote for his own varieties. Out of 51 varieties in this year’s tests, there will be selected a small number, from one to possibly five, for introduction to the public under the name of the All-America Rose Selections.

Before the public announcements are made the growers unite in providing an ample supply to meet a demand resulting from information broadcast to the national press. Pre-introduction testing saves the amateur Rose Grower some thousands and thousands of dollars of needless investment in poor kinds and has measurably and definitely raised the standards by which novelty Roses are judged worthy of introduction. We now have, in the history of Rose Growing, a plan by which the prize for excellence, that is, the AARS award, is one of such value as to stimulate amazingly enthusiastic efforts of hybridizers for varieties that will qualify to merit this Oscar, this Pulitzer Prize in the Rose World. By reason of the stimulus offered by this greatest of American awards, the American family gardener may well turn his attention to Roses as the most exciting and rewarding of any flower he can possibly choose to grow.

START WITH THE TRUE AND THE TRIED

By R. C. ALLEN
Executive Secretary of the American Rose Society

For the beginner, it is a great mistake to attempt to grow too many varieties of Roses. It is much better to stick to a few of known reliability and grow three or more plants of each. Later on, one can experiment by testing some of the new introductions.

There are several ways to obtain help in selecting varieties. One is to visit the gardens of friends who have had experience. Talk with them about the abundance and continuity of bloom, the fragrance, disease resist-

ened in the catalogs of 1909. Entirely new strains and new races of Roses have been added to the range of color, beauty of form, length of blooming season, hardness and vigor. As compared with other species, the rose appears to have been improved more steadily and more rapidly than other types of flowers. Here is a criterion by which to judge. Since the Plant Patent 1930 Amendment to the more than 100-year-old Patent Law of the U.S.A., out of a total of 829 Plant Patents issued, 388 have been patents on Roses or 45.5% of all. The enactment of the American Plant Patent Amendment was like a sunrise of hope in the heart of the hybridizer. Here at last was the prospect of some recompense. With one, a hobby became also a profession and American gardens already reflect the gains made in consequence.

Last of all, but perhaps more important than all other single factors in raising the standard of the product provided to the amateur by Rose producers, is a ten-year-old venture which already has been revolutionary in its good results. Reference is here made to the All-America Rose Selections which, by its operations, have immeasurably improved the quality of new Rose introductions. The All-America testing is different from all others because it takes place before introduction or sale and happily for the amateur purchaser of new Roses, the AARS pre-introduction testing results in a great saving to the Rose purchaser.

The AARS is made up of leading
ROSE GARDEN DESIGN

By Maurice N. Marshall

A question which enters the mind of almost every purchaser of hybrid tea roses, and for that matter also of old-fashioned and polyantha roses, is how and where to place them to get the most in appearance from them. A rose bed is usually spaced about two feet apart. The beds should be open, well-entertained situations away from tree roots and other competing plants. The roses should always be planted in rows or beds of several together, usually spaced about two feet apart. The beds should be open, well-entertained situations away from tree roots and other competing plants. The roses should always be planted in rows or beds of several together, usually spaced about two feet apart.

Designs A and B show how a table portion of an area can be devoted to a beautiful rose garden. Design B can be changed using other beds of roses, that is, beds of the width shown in design A, or even 4 rows of roses wide if necessary. Design C is offered as a suggestion of something more elaborate where 200 or more roses are desired.

It is obvious that these several designs are basic in principle and that actually hundreds of variations are possible.

MINIATURE ROSES

R. D. W. Clapp

EVERY rosarian has a new thrill in store for him. He is, of course, accustomed to that delightful winter occupation of poring over his favorite dealers' catalogs and selecting the new roses. But what is this new thrill? It is the new miniature roses which have only been available for a comparatively limited time and in modest numbers.

And what a thrill it is! Imagine a well branched, healthy rose bush only six to eight inches high, tough and hardy, that requires no pampering, free from all but normal rose diseases, covered all summer long with tiny perfect rose blossoms about an inch in diameter. Each bud and its opening flower is perfect in a setting of deep green healthy foliage. Isn't that something to get excited about? There are now five species on the general market at not to exceed a dollar a plant.

Rosa Rouletti, a fine rosy pink, is the oldest known species, having been discovered in a Swiss rock garden a few years ago, after having been lost to cultivation for many years. It is quite double and blooms from early summer until frost, holding its color well.

Oakington Ruby, which has received an Award of Merit from the English Royal Horticultural Society, is fully double with a deep carmine bud, opening into a rich ruby flower about an inch and a half in size. It, too, is a continuous bloomer.

Pixie, a patented rose, is the most fully double of all miniatures, with forty or more petals to each floret. Its continuous bloom shows an apple blossom pink bud, opening here in our bright Colorado sun, to nearly a pure white with flush of pink in the center. The plant is quite dwarf and compact.

Sweet Fairy, distinguishes itself by emitting a true rose fragrance from its tiny double apple blossom pink flowers. It is a must with any lover of miniatures.

Tom Thumb, another patented miniature, has deep crimson buds, opening to a lighter shade, and when fully open, discloses a tiny white eye in the center of each flower. It is an exquisitely formed perfect tiny rose showing the usual continuous blooming characteristics.

But aren't these illlupus plants difficult to grow and care for? Not at all in my own experience. Any one who raises healthy normal sized roses should have no trouble with miniatures which require the same care in planting in carefully prepared and well drained soil, ample water, modest fertilization, the same spraying or dusting program as other roses and identical winter hillings, on a scale, however, in proportion to the tiny plant's size.

In fact, I use these dainty, bushy little plants with their healthy green foliage, as a border for my rose garden, where they automatically get the identical treatment as their big brothers, which they outshine completely in the quantity of continuous blooms.

I can only urge anyone interested in roses to try a few of these delightful new plants. You will be amply repaid by their bright cheerfulness and your greatest cheer in their care will be found in keeping the old blooms removed so that the new blossoms are never too long in coming. The little fellows will always look their very best for their admiring and continuous gallery of visitors.
PROPAGATION OF ROSES

L. J. Holland

It is well known that the modern garden Rose cannot successfully be grown from seed; that, if it sets at all, the plant that would result from these seeds would not be a true likeness of the parent plant, but likely a very inferior specimen. In the past, professional hybridists, with their knowledge of plant breeding and their facilities for carrying the work of creating new varieties, do not strive to desirous results more than one-tenth of one percent of the time.

How then can the hobbyist increase the number of Rose plants without purchasing the blooming size bushes? The answer is, by what is known as vegetative or asexual propagation.

With roses, this is almost invariably by the shield-bud method of graftage. Although Climbers, (Except Hybrid Tea climbers) can be grown on their own roots with a fair amount of success. Practically all Briars and Rugosa hybrids are readily grown from cuttings, but too often produce objectionable root-suckers; "Harrison's elbow" is a typical example of this. Our Teplitz and Rosa wichurana (The Memorial Rose) are two old favorites that root readily from cuttings, yet never send up root-suckers.

Cuttings for rooting should be taken from green wood (That is, wood that shows active growth.) during the first week of July, wood hat has produced flowers gives the best results. Usually several cuttings may be made from one stem. Each cutting should be about 6 inches long. The cuts should be made close below the lower bud and at any distance below the upper bud: It is common practice to make the lower cut at an angle of about 45 degrees, but almost straight across on the upper cutting. The leaves should be removed from all but the top bud. The cuttings should be planted as soon as possible, either in a cold-frame or under glass fruit jars, with only the top bud showing above the ground. The cutting should be left in place until spring, then planted out where they are to remain. During the winter it is well to give a protective covering of some kind to prevent freezing. As has been previously stated, Hybrid Teas are seldom successfully grown in this manner, because they do not develop a root system vigorous enough to support a healthy plant.

Hardwood cuttings are made in the same manner, but from well-matured canes of the previous season's growth. The cuttings are then placed in damp sand and kept in a cool part of the basement until spring in the manner prescribed for greenwood cuttings. Hardwood cuttings are best confined to Hybrid Perpetual, Polyanthas and the Rugosa Hybrids.

In any form of grafting, the first consideration is for a suitable understock to which the bud or scion is to be united. Multiflora, (Rosa multiflora japonica), is the most commonly used understock for outdoor roses, except that Climbers are often budded on Cherokee Rose (R. setigera) understock. While all botanical varieties of roses can be grown from seed, the amateur propagator will probably have better luck with understock grown from July cuttings as previously described. The budding is done either the following July with a "live" bud or in late August with a dormant bud. The July bud will start to grow immediately, while the August bud will not show growth until the following spring. Of the two, I prefer the latter, since there is usually less winter damage. In either case, the budded understock is "killed up" to afford maximum protection during the winter. A precaution that must be observed when setting out rooted cuttings is to remove all but the top bud from the cutting, otherwise "shoots" or suckers will develop below the ground level from the understock, to the detriment of the budded scion.

The bud should be placed as low on the understock as it is feasible to work, and preferably on the northeast side to take advantage of the slight shading.

After the bud has "taken" all other growth on the understock should be cut off to divert all strength to the bud. Two years will have elapsed before sufficient new growth has taken place to produce good flowers. Any that might start the first year should be disbudded.

The operation is completed by tying the bud in place with several turns of soft twine or raffia. Wrap the twine over the loose end and for about four turns below the bud, then same number of turns above the bud. The tie may be made by looping the end under the last turn. Covering the edges of cuts with grafting wax is a precautionary measure worth taking in this drying atmosphere.

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The following is a list of true and hybrid tea varieties covering a wide range of colors that can be depended on to give good performance.

- Crimson Glory
- Golden Dawn
- "Makers of Beautiful Gardens"
- Loy E. Woodman and Bros.
- "Landscape Gardeners and Nurserymen"
- "Radiance.. .Light Pink
- Charlotte Armstrong.. .Deep Pink
- Eclipse.. .Yellow
- Soeur Therese.. .Yellow
- Peace.. .Yellow Blend
- Kaiserin Auguste
- Viktoria.. .White
- Good News.. .Peach
- President Herbert Hoover
- Multicolor
- Mme. Cochet-Cochet
- Salmon Pink
- Mme. Henri Guillot
- Orange Blend
- "Editor's Note: Not included in Mr. Allen's list, but worthy of notice might be the following, chosen as well as the above by a large group of experts:
- Etoile de Holland
- Brilliant Red
- Picture.. .Rose Pink
- Christopher Stone
- Scarlet overlaid with crimson

1. Unpack plants as soon as they arrive from the nursery and soak the roots in a bucket of thick muddy water for 6 to 8 hours before planting. If planting has to be delayed for a few days, cover roots with soil and keep covered, tops and all, with wet burlap or straw.

2. Most important points in planting roses are preparation of soil to a depth of 24", dig hole large enough for roots to be spread out with 4 to 6 inches of drainage at bottom. Roses will grow in soil that grows good vegetables but ideal mixture for finest bloom and growth is soil plus 15% rotted manure and 25% peat moss, and a cupful of special rose food mixed through the soil.

3. Plant rose so that graft will be at ground level of the bed. Pack soil firmly about roots and when hole is half filled with soil, pour in a bucket of water, then fill with soil. Top few inches should be soil plus 25% peat moss. Space hybrid tea roses 16 to 18 inches apart and floribundas 18 to 24 inches.

4. After planting, hill up 6 to 8 inches of soil over the tops to prevent their being dried out by wind and sun. As soon as new growth has started well, this covering should be removed. At this time, plants should be sprayed or dusted with a special rose spray or dust and 1 tablespoon of rose plant food should be worked into the soil.
ERTRUDE Stein might have said, "A rose is a rose is a rose". Is it really? In this issue we concern ourselves chiefly with the members of the genus Rosa, but in considering a queen, wouldn't it be fitting to look into her family background, and even go into the processes in search of her relations so as better assess her queenly prerogatives?

The royal family, of course, in all present glamorous manifestations, beautiful hybrid teas and hybrid perpetuals, the free blooming floribundas and polyanthus roses have a common direct ancestor in the simple beautiful wild rose which we seeumbering over rocky slopes and on shadow walls in brief July profusion. For earthy strength, the present queens depend on the vigorous roots of their ancestors, with most grafts being on the stock of a wild rose from Japan.

Although the genealogists find themselves in some disagreement as to the position of various members of the family, the general treatment is to consider the family as separated into several sub-families, which would include the true Roses, the Spireas, the Apples and the Plums. The botanical characters which distinguish this group may be seen in the cut. The fruit, in most cases, is fleshy and edible.

In considering the queenly family, one comes to understand how members evolved to royalty, for in few other plants can one find so many examples of beauty of form, sweetness to smell, or deliciousness to taste.

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In Colorado we find both native and cultivated members of all these sub-families. Among the native Spireas are the Rock Spirea or Holodiscus and the Ninebark, growing at altitudes from seven to nine thousand feet. Thriving in our gardens are the low woody Dryas and the Sibbaldia, as well as the tiny Potentilla, have ventured far into the Alpine fastnesses to carry the family banner.

With this background, remarkable for both hardiness and beauty, it is scarcely a surprise to find in the modern Rose almost an ultimate achievement in perfection of form and color.
Richards' Roses

... incomparably better

There is Nothing Like Them in This Region!

(Several nationally-known rosarians who dropped in on us last summer on their coast-to-coast tours were kind enough to tell us there is nothing like them in the entire United States.)

Already planted and started for you, Richards' Roses are growing in large pots in specially-prepared soil, fertilized to insure rapid and permanent growth and bloom. The acquisition of about 160 pounds of the finest rose soil with each dozen roses purchased entirely disposes of all questions as to the adaptability of your garden soil to growing roses and insures success the balance of the season.

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Richards' method of handling roses is no experiment but proven best after 10 years' experience with many thousands of plants. Times without number customers who one year timidly tried one or two have come back again and again, buying one to five dozen at a time. They will never again be satisfied with old-fashioned naked-root plants. Neither will you, once you try Richards' Roses.

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WHAT'S A WEED?
Drawings by Lorene Smith

Have you ever carefully watered and guarded tiny seedlings in your garden to find out later to your dismay that they were weeds and had taken your garden? Here are 15 to be sure to pull!

AMBS-CRANTERS. When young is a more palatable green than spinach. Seeds readily, so found everywhere. Easily eradicated from wys by regular mowing.

DANDELION. When found in mountain meadows it is called “Taraxix officinalis,” but when found in lawns it is called x?!!xx. With the coming of 2,4-D it may be easily eliminated. Public lawn enemy No. 1.

ARROW. In a lawn it may establish itself in almost complete mat. Is found as a native from the plains to the tops of the highest mountains. Eliminated by cultivation or spraying.

COMMON PLANTAIN. Public lawn enemy No. 2. Usually found in poor soil, or over-watered, shady lawns. May now be eliminated with 2,4-D sprays.

WILD MORNING GLORY. One of the most difficult weeds to eliminate as it spreads from underground runners. May now be destroyed with 2,4-D.

COMMON MALLOW. Common, indeed, in most new lawns. Hugs low to the ground and chokes out good grass. Easily dug, as it has just one long tap-root.

PROSTRATE PIGWEED. Common, especially in dry places. Seeds readily, but easily destroyed when young, by cultivation.

MEXICAN FIREWEED. (Kochia). Almost as generally distributed as the Russian Thistle. Also easy to eliminate if gone after when it is small.

WILD LETTUCE. Another weed which is much better than spinach when young. We will have to teach a lot of people to eat it, however, before it becomes extinct as it is a liberal seeder. Easily destroyed by cultivation or mowing.

RUSSIAN THISTLE. It evidently likes America. Widely distributed all over the West because of its “tumbling” habit when the seeds are ripe. Easily destroyed when young, by clean cultivation.

CRABGRASS. “Suddenly it’s fall” when the first cold nights make the crabgrass in a lawn stand out prominently. An annual, but seeds freely, and these produce new plants in June. Several new chemical preparations have been developed in recent years which will kill both the crabgrass and the seed without seriously damaging bluegrass.

MOUSE-EAR CHICKWEED. Rather pretty, little, notched, five-petalled, white flowers. Persistent in lawns, but can be controlled by the use of the modern weed killers. Your canary will enjoy eating it if you do not.

CREeping BELLFLOWER. The cancer of the garden. Spreads by underground roots which are very difficult to destroy. Not affected by one spraying of 2,4-D. Innocently spread from one garden to another by gifts from neighbors because of its beautiful blue flowers. About the only control is frequent cultivation or sifting ALL the roots out from the area it occupies.

PEPPERGRASS. One of the many common weeds of the Mustard family. Seeds freely and spreads rapidly, but easily eliminated by cultivation or mowing, as it is an annual.

PURSLANE. Very persistent little plant because its leaves are so succulent that it can lay out all day in the sun without root and still take root and grow if later covered up. Also forms seeds when very young. Another good salad plant.
THE AMERICAN IRIS SOCIETY

BY NINA WINEGAR
Regional Vice President

SINCE 1920, The American Iris Society, which is national in scope and name implies, has functioned as a co-ordinator and mentor of the enthusiastic group of people who have followed with keen enjoyment the fascinating development of their favorite flower. Under the sponsorship of the American Iris Society, all introductions are registered and judged. Judges are appointed in every region to check the plants and observe new seedlings which are grown by the thousands in hybridizers' gardens over the country. Annual meetings are held, this year at Portland, Oregon. Our Bulletins are issued each year with reports from all parts of the country, and comments on both new and older varieties, together with the best of information available on culture and kindred subjects, with many good pictures for illustration.

IRIS—MAXIMUM BEAUTY FOR MINIMUM EFFORT

By Richard D. Hall

The newer varieties of the tall bearded Iris, colorful and dramatic in their wide range of colors, are the center of attraction in every garden here they are grown. However, as a result of the culture of other flowers yielding a similar amount of bloom, the growing of Iris is the essence of simplicity. Any gardener, experienced or not, by following a few fundamental rules can be practically guaranteed luxuriant bloom.

LOCATION. The spot for your plants should receive full sunlight for at least half the day (and preferably more) and should not be a spot where water will stand during a wet spell. The clay soil found through most of the state needs no “conditioning,” but will grow Iris with no more work than a little cultivation to keep the weeds away and the top soil loose. When picking that spot, do remember though that your plant is going to grow much, much larger.

PLANTING. Having picked your location, spade over the soil in the area down the full depth of the blade. Then dig out a shallow hole with a ridge across the center of it, place the rhizome (the bulbous roots of the Iris) on the ridge, spread the roots on each side, pack the earth on top of the roots and water down thoroughly. Though the Iris is not finicky as to its depth of planting, it is desirable for the top of the rhizome to be about level with the bed. The top half of the leaves of the plant may be clipped off after planting to reduce the evaporation rate while the plant is getting established (but only then—do not do it in the fall).

WATERING. The tall bearded Iris is indigenous to arid country and needs practically no watering to live. However, to grow and bloom freely, the Iris plants in Colorado should be watered thoroughly about once a week during the growing season, and even oftener during the blooming season. This assumes the usual watering by sprinkling—if done by irrigation once every 10 days or two weeks would be sufficient.

FERTILIZING. If the Iris is planted in previously untilled soil, no fertilizer should be used for at least two years. After Iris has been grown for some years in the same place, bone meal or the sparing use of well-rotted cow manure is recommended. The application of wood ashes is also helpful. Do not use any commercial fertilizer or sheep manure—they tend to produce a lush growth of the leaves but very poor bloom.

DISEASES. This point is easy to cover in Colorado. If you've given your plants adequate sunlight, drainage and room, there are no diseases of the tall bearded Iris in this state which you need worry about. Root rot and the Iris borer, if they do appear, should be treated by the removal of the diseased portion of the plant and the remedying of the basic cause of the plant's weakness, such as insufficient drainage or sunlight.

DIVIDING. In three to five years the little rhizome that you hopefully planted will have multiplied into a large clump of Iris in which the rhizomes will be so crowded that they will be growing over one another. At that point, the whole Iris clump should be dug up and the rhizomes separated from each other (the easiest method being simply to pull them apart and then cut off with a knife any resulting ragged edges). Some of the old rhizomes in the center of the clump will be dead, and these should be thrown away. The remaining ones can now be replanted to bring you ten, or possibly even fifteen beautiful Iris plants next year.

Colorado has long been prominent in the Iris growing world and was recently given regional status in the American Iris Society, having been made into a new Region 20.

Many of the latest and finest introductions are to be seen in Denver gardens. A list of these gardens may be placed on the Bulletin Board at Horticulture House with days and hours they will be open to visitors. Mr. Everett L. Cline and Mr. R. E. Ewalt have charge of the treks being planned for Pueblo, Boulder and Colorado Springs. Notices of these will go by mail to the membership of Region 20. Membership in The American Iris Society, dues $3.50 annually, is the only requirement to all privileges of Region 20. Mrs. John Newman, of 5152 Newton Street, Denver, is the membership chairman for the state.

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KEEP INFORMED

The Bright Spot Flower Shop and Green Houses
Josephine at 5th
A Complete Line of Bedding Plants
A single rhizome planted in a crowded clump was overdividing in 1947. Note rhizomes over one another in clump.

After being dug, clump was cleaned with stream from hose. Note that healthy, growing rhizomes circle the clump, while those in center have very few white feeding roots.

Healthy, growing rhizomes are separated from old bloomstalks. Some prefer “doubles” as in foreground for replanting. Wash rhizomes thoroughly before replanting.

Before planting a new bed of iris, dig in plant food and cultivate well. When ready to plant, dig two slanting holes, leaving a dividing ridge in the center.

HOW TO DIVIDE AND PLANT IRIS

Place rhizome directly over center of ridge and spread feeding roots evenly to each side. By spreading roots to either side, the plant is securely anchored.

Pull dirt in toward plants from either side. By pressing on top of root, proper planting depth may be regulated. Firm with foot and water well.

Pictures courtesy the National Iris Society from the recently published book, “The Iris, An Ideal Hardy Perennial.”
The Green Thumb

IRIS HYBRIDIZING

H. M. Shulenburg

One of the most fascinating hobbies is hybridizing iris. The "Iris" really gets you about three years after you have made your first cross. It takes from two to three years under ordinary growing conditions for the seed to develop into a root rhizome and plant that produces a wiser stalk. What a surprise when the big moment arrives. Each morning your curiosity gets the best of you and you unfurl the bud and stalk burst forth from a fan of leaves. Every inch it grows as the bud develops, takes on color and expands, you become more patient for a first look at the flower, a something new under the sun, the results of your first effort at hybridizing. You may be so curious you attempt to unfurl the bud, but in a few days the flower flares out into the morning sun. Who knows, it may be a new color break. Most likely it will be just like the varieties in your den for usually only one out of a hundred will hit the "jackpot." It is the gambling instinct with you that starts you off to something new, something more outstanding in color, form, substance and beauty than ever existed before. When this opens, you are on the way to many years of real enjoyment. It is patience and the optimism of creating the unusual and a "real iris" that makes hybridizing one of the most interesting and worth while hobbies.

Now if you are interested, here is the technique to follow. First, let's see how Mother Nature has set the stage. The iris flower has three petals, usually domed and arched. Of these, either flaring or slightly drooping are three more petals known as "standards." These are the upper petals, usually domed and arched. The three stamens, usually loaded with pollen, are "sepals" best described as a crest. Very convenient to grasp with the fingers as if it were made to order. Just beneath this is a small flap, ridge, or shelf like part of the crest known as the "stigma" or lip. This is the receptacle for the pollen.

Nature uses the bee—must be a big bumble bee for real success. The process is simple. A bee makes a landing field out of the falls, pushes into the flower's heart where the nectar lies and the bee's back brushes against the underside of the stamens, acquiring some of the pollen on its back. To the next flower for more nectar and a real "cross" as the bee enters, the shelf like "stigma" or lip just beneath the crests, scrapes off the pollen grains from the bee's back, and the process is complete.

Hybridizers duplicate the process. Using a pair of tweezers, they remove a stamen covered with pollen from one flower. This is known as the "pollen parent." Select a flower on another plant and this plant or flower becomes the "pod" parent, and if the cross is successful, the seed pod will grow and develop on this plant. Using the fingers of the left hand, take hold of the crest, described above, pull them back slightly and brush the stamen and powdered pollen onto the "lip" or stigma. Usually if the flower is ready and receptive the sticky substance present causes the pollen to adhere. The cross is complete. If it "takes" in a few days, sometimes only a few hours, the flower starts to shrivel and the pollen grains pass down the inner parts of the flower and the pod of seed starts to develop. By early fall the pod looks like a pickle and you will soon see the pod crack open and expose the seed.

It is not necessary to place the pollen on all three parts of the flower, the three stigmas, but this is the better practice, three times makes it more likely the cross will "take." Crosses do not always "take" or produce seed. Varieties differ in fertility and some refuse to "take." About one in five or six crosses is average.

In the fall, plant the seed in rows about 3/4 to 1 inch deep, and maybe the following spring they will germinate. Some seed take two or more years. Tests have shown as many as ten or more years to germinate but this is too long to wait so most hybridizers destroy their seed beds after the second year.

This article is only written to cause you to get the "bug" to get interested in a most interesting hobby. Try a few crosses this year. I am sure you will follow through.

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LONG'S GARDENS
Boulder, Colorado
YOUR PERENNIAL BORDERS. THEY NEED NO SPECIAL CARE AND ARE PERFECT BORDERS. SEVERAL VARIETIES CAN BE OBTAINED, WHITE, CREAM, YELLOW AND SEVERAL SHADES OF BLUE. SIBERIAN IRIS, WITH THEIR SMALL FLOWERS AND GRASS LIKE FOLIAGE AND WIRY STEMS ARE ALSO IDEAL FOR AROUND A POOL, WITH GARDEN OR PERENNIAL BORDER. THESE VARIETIES ARE WONDERFUL FOR FLOWER ARRANGEMENTS AND BLOOM AT A TIME WHEN GARDEN FLOWERS OF OTHER KINDS ARE NOT IN BLOOM AND AVAILABLE.

A PERENNIAL BORDER SHOULD ALWAYS PRESENT A CONTINUOUS DISPLAY OF COLOR AND BEAUTY, KEEPING IN MIND PROPER BALANCE AND CONTRAST OF COLOR. IRIS CAN BE OBTAINED IN ALMOST EVERY COLOR, CAN BE OBTAINED IN ALMOST EVERY COLOR AND HUES OF THE RAINBOW. THE LAST FEW YEARS, SOMETHING NEW IN COLOR HAS BEEN ADDED. SHADES OF PINK AND SALMON WITH FIERY RED AND TANGERINE BEARDS. THEY ARE NEW COLOR BREAKS. THE “SEA SHELL” PINKS ORIGINATED BY DR. LOOMIS OF COLORADO SPRINGS AND “FALCON PINKS” OF MR. DAVID HALL OF WILMETTE, ILLINOIS, LEAD THE FIELD IN THIS COLOR CLASS.

THE BEARDED IRIS, WHICH IS THE BEST KNOWN AND MOST USED IN OUR PRESENT DAY GARDENS SHOULD BE SUPPLEMENTED BY A FEW OF THE LATER BLOOMING VARIETIES TO EXTEND THE BLOOMING SEASON WELL INTO JULY AND EARLY AUGUST. TRY A FEW SPURIAS. YOU SEE THEM IN THE FLOWER SHOPS. THEY CAN EASILY BE GROWN AROUND A POOL OR IN your perennial borders. THEY NEED NO SPECIAL CARE AND ARE PERFECT BORDERS.

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ments so you have proper balance and contrast as this is important. They can be obtained in almost every color from the white to almost black, blues, reds, yellow, violet and all the shades and hues of the rainbow. The last few years, something new in color has been added. Shades of pink and salmon with fiery red and tangerine beards. They are new color breaks. The “Sea Shell” pinks originated by Dr. Loomis of Colorado Springs and “Flamingo Pinks” of Mr. David Hall of Wilmette, Illinois, lead the field in this color class.

The Bearded Iris, which is the best known and most used in our present day gardens should be supplemented by a few of the later blooming varieties to extend the blooming season well into July and early August. Try a few Spurias. You see them in the flower shops. They can easily be grown around a pool or in

the perfect complete fertilizer supplying all the natural plant food minerals. Fortify your trees, lawn and garden against insect attack. Hunt’s Plant Food contains all the essential mineral elements for health of plants and human needs. Be sure your garden gets all the minerals your vegetables should contain.

A mineralized garden should add years of good health, as good health depends mostly on the minerals you eat. If you want to live a full life as intended by nature, and enjoy youthful living as long as you live, eat vegetables and fruit grown with all the essential Hunt’s Plant Food minerals. Soil depletion means barren livestock, heart disease, deformities, arthritis, rheumatism, undulant fever, all due to lack of essential minerals in plant foods. Ask for free government booklet about minerals.

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LIVING IN SPACE

Jan Ruhtenbery, A.I.A.

The essence of a contemporary home is derived from two primary principles: the plan based upon the interests of the family to occupy the home, and the use of logical building materials. The outer form of a house depends on these thoughts becomes a three-dimensional realization of the plan, designed around the activities and the interests of the client and his family in terms of the material employed. By creating a house from the inside and using a free form instead of the old building, we are designing our contemporary homes only for the comfort and re-requirements of our age. It is hardly necessary to explain that our post-war living is greatly influenced by changing economic and social changes in this country. Where Europe and South and Central America went through a great change in their way of living after the First World War, our country has experienced the change only after the end of the last fighting.

Most of the old houses have become a burden on the modern housewife and her family, not only because they have too much waste space and were designed for upkeep with a staff of servants, but they were built for a generation that was afraid of sunshine and outdoor living. Their life was grouped around the parlor which today seems to us stiff, unfriendly and unlivable. The view of the mountains was not included in their life, and sunshine was carefully kept out by drawn shades and heavy drapes in order to protect the furniture as well as the light, white skins of the ladies.

All of the houses in our suburbs faced the street without considering the exposure and view. Kitchens and the servants' living rooms were the only rooms where the sunshine and view predominated since it was considered wrong to have those rooms face the avenue.

To live today in such a house becomes a trial; heating and cleaning bills grow into an economic menace for the average contemporary family. Parlor, reception rooms and waste dining halls become a burden to the modern family.

Today we know how to use the sun for our main heat factor during the winter, especially in our Rocky Mountain region where even in sub-zero weather the sun has the strength to bring the temperature up to 90° and higher, to melt the butter on the early winter morning breakfast table and to keep the furnace from running until sunset. By facing the house to the southeast and enlarging the windows or using glass walls, we have solved not only the heating problem, but we have opened the house to the garden so that the latter now becomes a part of the house and forms an outdoor living space which is part of the indoor one.

The living space is designed to live in during every moment when the family or part of the family likes to be together. Fireplaces, furniture, pictures and sculptures are designed and chosen for living. Perishable silks and damasks of the old parlor have left
his family assembly room. Instead of murals and flowered wallpaper, the view of the Rocky Mountains has become the main wall decoration of the living room.

This is why the designer has to incorporate the garden plans when designing the house. The glass wall saves the family enough protection, and in case the elements become too attractive, simple drapes may be pulled over the glass. Since only a transparent wall separates the indoors from the outdoors, the flowers can be grown the whole winter on the inside of the glass, benefitting from the sun, and bringing the garden right into the indoor living space.

If the location allows the house to be built in an open "U" shape so that a wing attached to each side of the living room forms a sheltered patio, in our climate this makes it possible to use the so-achieved outdoor living space almost the entire year. Thus the patio becomes a flower garden during the warm months, enlarging the above mentioned flower bed to any size. To us who are sensitive to nature's moods, this outdoor feeling leads to aesthetic appreciation and spiritual stimulation.

This is why the contemporary house is no mere shelter, but gives the occupant opportunity for unhampered and gracious living.

Taking into consideration the strong winds in this area, it is advisable to plan the house as a windbreak too; a second outdoor living space on the northeast side of the house becomes imperative. By providing large overhangs, these terraces actually become "open rooms," and add even to the smallest home, two more living spaces without considerable cost. In planning a larger residence, more wind-sheltered patios, terraces and outdoor living spaces can easily be added. This way we can protect the occupants from the elements and assure them pleasant outdoor living.

But we who live and build on the east side of the Rocky Mountains have our best view to the west where the deep overhangs will not protect us from the hot sun in the late afternoons during the summer. The most pleasant solution of this unavoidable problem, it seems to me, may again be solved by planning. If we plant a few shade trees, in July and August when the evening sun heats the glass unbearably these trees will give ample protection by their leaves. We face the same problem in the mornings from the northeast, but in most cases the view here is not so predominant and we can take care of the morning sun by properly planning and facing the house.

Thus we see how the house and garden have become living units which must be planned together. Where a house designed in the old style had only to be surrounded by a...
WHEN I am weeding or pruning in my garden, I always take out a large old cloth which I throw to the weeds or trimmings on. As I progress around the garden, I drag the cloth with me, so that when I have finally made the rounds of the garden, I need not rake or clean up after myself, but simply trundle the bundle to the dump heap.—Mrs. A. Moore.

In order to avoid having your hose twist and kink as it does when you coil it in a circle, try coiling it in a figure eight design. You will find that the hose is easier to wind and unwind, and will not kink.—Jim Haines.

Have you found how useful your child’s wagon can be in the garden? I use mine for hauling potted plants from the potting bench to the patio, for bringing peat moss to the bed I am cultivating, for carrying the flats of bedding plants I have just bought to the place I intend to plant them. It is easier to wheel than a wheel barrow, and on account of the fact that it remains level, is more satisfactory for carrying potted plants.

—Mrs. J. Tippee.

I got so discouraged in dragging the hose from one part of the garden to another to find that I had injured a plant on the edge of a bed, that I have now put stakes at the corner of all my flower beds to prevent this type of injury.—F. M. I.

For a convenient cultivating tool in very crowded beds, try bending a tire tool to L shape, drill a couple of holes in it, and bolt it to an old broomstick. You will find it a good addition to your garden tools.—Martin Keul.

In cutting roses, I find that if I use the following procedure, the roses last longer in the house than on the bush. Cut them with a clean cut when in a loose bud early in the morning while they are still cool. Pull off the lower leaves and hold the lower inch of the stem in boiling water and set in a cool place for a few hours until the stems are soaked full of water. The use of Floralife or other commercial preparations in the water will help keep the flowers fresh, but if you don’t have the other preparations, one teaspoon of powdered alum to a quart of water equally effective. Keep the arrangement in a cool place and out of drafts, and you will be amazed how long the bouquet will remain fresh. —Mrs. Earl Davis.
STARVATION . . .
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Trees growing on well-groomed lawns are robbed of the natural nourishment normally received from decaying grass cuttings and leaves. That soil must be artificially restored to healthful vigor or slow tree starvation and eventual death may result.

Your Davey Man knows how to feed your trees quickly and effectively. He will funnel specially prepared high nitrogen content Davey Tree Food into numerous holes drilled in the soil around the base of the tree. This insures better, faster results. Ask your Davey Man to feed your trees now. Enjoy the full magnificence of healthy trees.

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THE GREEN THUMB
GARDENING REMINDERS FOR JUNE

Finish planting out tender annuals early this month. Clumps of perennials may be planted at this time if they are not too nearly in bloom. Some of the nurseriesmen carry roses, various perennials and even a few shrubs and vines in pots which may be planted out at any time.

Many weeds that appear in spring in a fall seeded lawn are annuals and may be eliminated by a few mowings. If they are kept from smothering patches of the lawn they may even do some good by shading the surface and allowing the grass to get a good start. The perennial weeds may be largely eliminated with a spray of 2,4-D when the grass is well established.

Get the jump on the weeds. They are easy to eliminate when they first start, but a few weeks later they are a real back-breaking chore. In the meantime they have also robbed the soil of valuable moisture and food.

Try putting a thing layer of peat or vermiculite on your ground every time you cultivate and see how it simplifies weeding and how much less caked the tops of your beds stay in the hot days to follow.

Use one of the attachments for sub-irrigation which you can fasten to the end of your hose, and you will find that a deep watering every few days will benefit your plants far more than a superficial sprinkling every day. Watering underneath will prevent mildew on those plants which are susceptible to this disease.

Inspect everything every few days now for signs of the appearance of insect damage. Especially look for the start of aphids on the tips of spruce, spirea, dogwood and many other plants. Curled leaves will usually indicate these. An ounce of prevention here is worth many pounds of cure. Nicotine sulphate (Blackleaf 40), Pyrethrum, Rotenone and several new preparations are effective, but you must hit them to kill them.

Shrubs which have bloomed may be pruned now. Do not shear back the Bridal wreath spirea and such naturally arching habit shrubs. Flowering almond and the early Garland spirea should be sheared back to keep them from becoming thin below with age.

Do not remove ALL the suckers from around lilac bushes. Leave a few of the most vigorous to form new growth to cover the bare stems of older growth. Some of these very old stems may be taken out down to the ground each year if a young vigorous looking bush is wanted.

Watch for suckers of wild plum coming up from below the graft in flowering plum and flowering almond. These can usually be identified from the different shaped leaf and more vigorous growth. If these suckers are not removed they will gradually choke out the better double flowering grafted top.

Don't cut the leaves from your tulips, hyacinths, narcissus and other fall planted bulbs, but leave them on to manufacture food for the formation of the new bulb which will bloom next year. If these ripening leaves look unsightly they may be tied together, staked down or hidden by a planting of annuals.

Many red spiders have overwintered on evergreens and shrubs. Spray or dust with sulphur or one of the new miticides. They may not do a great deal of damage until hot weather, but they may be prevented from building up a large population by starting your control program now.
Do you patronize the Green Thumb advertisers? When you buy, say that you saw the ad in The Green Thumb.

The Iris shown on outside back cover is Wedgewood. Those on inside back cover as numbered are:

1. Hiawatha
2. Minnehaha
3. Chester Jay Hunt
4. Juanita
5. Pocahontas
6. Montezuma
7. Hugo
8. E. L. Crandall
9. Pauline
10. Wyomissing
11. Aletha
12. Red Cloud