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In this issue, articles on:

PERENNIALS, LILIES, DELPHINIUM
COLORADO WILDFLOWERS
HACKBERRY TREES
AUGUST GARDENING
FLAGSTONE
ORCHIDS
ALL WRITTEN FOR COLORADO CLIMATE
WHAT GARDENING MEANS TO ME

Gardening is to me an escape from artificiality into a sane world of order and balance. It gives me a feeling of security, and satisfies a primitive need for the assurance of unchanging fundamentals. In my garden I find never-shifting values. I find the eternal laws of the universe in tangible form.

Gardening makes me humble. For in my garden I work with a force far stronger than I. When I realize that flowers absorb color and perfume from within a dimension beyond my understanding, my belief in God is strengthened. Gardening satisfies my hunger for spiritual beauty and creation.

If ideals seem futile, if friends disappoint me, if my heart is sad, or my mind in turmoil, if my eyes are dull and my body sluggish, I can go into my garden and find faith, tranquility, comfort and physical exercise, all of which give me a feeling of well-being.

Contributed by
WALTER SLAGLE.
Author Unknown.
WILDFLOWERS IN AUGUST
My Favorite Spot
GEORGE W. KELLY

For many years I have been making annual trips to Goliath Peak, above Echo Lake, to study the alpine and subalpine vegetation. Some years the display is at its best in July, but this year it will be in August. Snows have persisted unusually long in the high altitudes.

For residents of the Denver area, Goliath Peak offers the most accessible place to find the high altitude plants. The roads leading to it from either Idaho Springs or Bergen Park are very beautiful.

In 1932, 200 acres at timberline on Mt. Goliath was set aside as the Goliath Peak Nature Study Area. This action was taken to prevent its beauty and usefulness being spoiled by the carrying away of the picturesque timberline trees or by campfires. This makes an ideal location for the subalpine section of our series of botanical reserves.

Just above this reserve will be found all the typical alpine plants that grow on the windswept slopes of the high mountains—those very low moss-like things that carpet alpine peaks—Phlox, Pinks, Sandwort, Cinquefoil, Spring Beauty, Rock Jasmine and Clover. In and below the reserve can be found the subalpine flowers and trees, each in its preferred environment. Under the trees will be the little yellow Draba, blue Mertensia, white Valerian and yellow Cinquefoil. Along the little streams which have their source here are the typical waterloving plants of the altitude—Marsh Marigolds, Globe Flowers, Little Red Elephants, King’s Crown, and Parry’s Primrose.

Within a few hundred feet here you may enjoy the sunny alpine slopes, the dense mountain forest and the timberline area with its grotesque reminders of the rugged weather that exists there.

This is a country of about three months spring (July, August and September) and nine months of winter, so the season when it can be enjoyed is limited.

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THE STATELY DELPHINIUM
By Maud McCormick

After 75 years of gardening, Liberty Hyde Bailey wrote that he had dug up his last delphinium to make room for new enthusiasms. My crystal ball does not tell me when, if ever, I shall cease having new enthusiasms, and I do not need it to tell me that I shall never lose my delight in delphiniums.

For Colorado gardens they are an ideal plant. They like our cool nights and sunny days, and show their appreciation by tall spires of magnificent bloom in white and purple and pastels as well as true blues that reflect the sky-tones captured by so many of our wildflowers of mountain meadows and slopes. What can be more fitting than that our gardens should reflect the exquisite hues? Delphiniums in groups of threes at the back of the border furnish a generous supply of stately spikes during the season of roses and Regal lilies. Groups of fall-sown seedlings transplanted in early spring will take over hardly a month after the older plants have ceased blooming and will carry the display well on until the hard frosts of late autumn end the glory of the garden. Part of that time, the second bloom on the established plants will also help the display. Thus, with very little trouble, we can enjoy the spires and columns of gracious bloom except for a few weeks in midsummer.

Of the innumerable delphinium species, I am writing only of the one that has held the attention of the hybridizers for the past quarter-century or more. These are the giant hybrids developed by innumerable crosses with *D. elatum*, now most commonly referred to as the Pacific giants, since so much of the work with them has been done on the Pacific coast. These plants have double florets often three inches across, with so little of the old tendency to shatter that the lowest blossoms remain on the plant until the very topmost ones open. This is most particularly true of the glistening white Galahad, whose shining columnar spikes are in marked contrast to all the blues and purples and pastels around them. So far, the only pinks introduced have been of the spray type, single florets, and not of the clear coloring and tall spikes the delphinarians are striving for. One man has achieved a tall pink spire but will not introduce it.
until he has deepened the coloring. Another has begun to offer seeds of species types in orange, red, pink, and yellow, which may conceivably be of value to the men working for more color-variation in the fine hybrids. Since all the present tones of delphiniums blend harmoniously together, I am entirely willing to wait long for what might be an overpowering red, and I hope I shall never see an orange spike!

Some people overemphasize the difficulties of growing these most aristocratic members of the delphinium clan, but I am inclined to agree with the President of the American Delphinium Society, Carl Grant Wilson, when he says that anyone who can grow radishes and onions can grow these delphiniums from seed. He should know, since, as Tapco horticulturist for the Thompson Products Co. in Cleveland, Ohio, he has established more than five thousand plants in their display gardens, and seems to have little difficulty in keeping them all in health and showy splendor. Here, where we have less intense heat and few oppressive cloudy days, we should have far less difficulty in growing them to perfection. They will, in fact, thrive in any well-enriched soil where they have plenty of room for growth, considerable sunshine, and ample moisture, especially when the bloom spikes are developing.

Though I have written only of the Pacific hybrid delphiniums and at present grow no other varieties, I have at different times had D. belladonna, D. bellamum, D. chinense, and many of the English hybrids in my garden. For airy sprays D. belladonna is fine so long as it can be kept free from mildew. D. chinense is a pleasing and generous little plant for the front of the border. Some of the other hybrids are chiefly single, and one whose coloring and size I liked very much had florets a bit untidy and loosely put together, like a beautiful girl with blowzy hair. It is because the hybrids from the Pacific Coast seem superior to all others that I find myself partial to their loveliness.

LILIES FOR THE PERENNIAL GARDEN

Mrs. Persis Owen

A generous planting of garden lilies is one of the easiest ways to keep a perennial border in constant bloom. They take up very little room and may be planted between clumps of perennials to good advantage, as they like their heads in the sun but their feet shaded. Their blooms are showy, fragrant, and last over a long period.

The following lilies need no special soil preparation or care in our climate, and will give bloom through June, July, August and September:

Madonna Lily—3-4 ft., small white trumpet, June blooming. Must be planted in August or early September so that it can make a tuft of leaves which carry over winter. Regal Lily—3-4 ft., white trumpet, early July blooming. This and all following may be planted in fall or spring.

Centifolium Lily—3-4 ft., white trumpet, late July blooming.

Estate Lily—2-3 ft., white trumpet, July blooming.

Croft Lily—1-1/2 ft., white trumpet, June, July blooming.

Tiger Lily—3-4 ft., orange with brown spots, recurved petals, August blooming.

Henry Lily—2-1/2-3-1/2 ft., apricot dotted darker, recurved petals, August blooming.

Lilium Speciosum Rubrum—2-3-1/2 ft., pink dotted darker, recurved petals, late August to September blooming.

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THE GREEN THUMB
AUGUST GARDENING

The young of plant or animal require a little extra care. Watch those little plants that were set out a few days ago and give them a little extra water, or shade on a sunny day. Keep the competing weeds down and cultivate shallowly or mulch with peat or compost. Do not apply fertilizer until they are well established and started to grow.

If there are bare spots in the lawn they may be reseeded at any time. Scratch up a little loose soil, seed with the same kind of grass that is already there, cover with a little mulch and water like a new lawn for a few weeks.

Preparations containing Chlordane are very effective in controlling ants and grasshoppers. This chemical is not poisonous to warm-blooded animals (including man). Many other insects are also killed with this chemical.

Good gardens require good planning, good plants and good maintenance. If you have a garden which has not had consideration given to the first two things, at least you may keep it neat, and still have a very good looking place.

BOOKS ON COLORADO PLANTS

One of the objectives of the Colorado Forestry and Horticulture Association is to encourage more and better literature on the plants and horticultural conditions of the state. We now have on sale at Horticulture House several books which should be valuable to those who are interested in the native or cultivated plants of Colorado. “Meet The Natives” by M. Walter Pesman is a simple and convenient guide to the Wildflowers. “Colorado Evergreens” by Robert E. More describes and illustrates the native evergreens in their native habitat and under cultivation. “Around The Seasons in Denver Parks and Gardens” by S. R. DeBoer is a book of observations over the years of one of our pioneer horticulturists. “The Flora of Boulder County, Colorado” by William A. Weber may be used as a valuable key to most of the wild plants of the state. “Nature Games” by Paul Nesbit tells of ways to interest children in the wonders of the out-of-doors. These writers have all put an immense amount of work on these books for your benefit. Come in to Horticulture House and examine them.
THE ORCHID—JEWEL OF FLOWERS

MISS RUBY C. SMITH

Orchids are distributed over practically the entire earth's surface, and have sustained the interest of cultivators since the sixteenth century.

In the early days, the idea prevailed that these interesting plants could never become popular with the general public for the reason that their culture involves a great deal of initial and permanent expense. Amateurs are now beginning to realize that orchids are capable of being understood by anyone who really desires to understand them, and that perhaps no other class of plants has given flowers that exhibit such diversity of form, size and color.

The two classes of orchids most generally known are the Terrestrial, such as the interesting little Calypso borealis of our own Colorado Rockies, and the natives of the tropics, Epiphytes, often erroneously referred to as parasites. It is true these orchids use trees as their habitat, clinging tenaciously to the bark, but derive their nourishment from the air, supplemented by decaying organic material present in the crevices.

A commercial collection of unusual interest and romantic growth is that of Kundsen's, Inc. Florists of Boulder, Colorado. Begun as a hobby in 1912 with but a few plants, it now embraces more than five thousand plants of various genera. This hobby was a "natural" for the late Mr. Soren Knudsen who already had a well established retail and wholesale florists business. From collectors in Colombia and Venezuela, he imported cattleyas and odontoglossum. In these groups there came unusual types, some of which were used in primary crosses in the development of some of our outstanding modern day hybrids. In exchange for these, Mr. Knudsen chose promising crosses in community pots, the object being continuous bloom over seasons not covered by the species. With the possession of these tiny babies, began the several years of watchful care necessary to bring the seedlings to plants of flowering age when their true value could be determined.

To the steadily growing collection were added exquisite hybrids imported from time to time from Sanders and Son, England, but perhaps the most significant source was that of Stuart Low and Company, Orchid Nurseries, Sussex, England. Miss W. Eileen Low, a close friend of Mr. Knudsen, came annually to the United States and Boulder bringing first hand information on newer and finer crosses. The purchase of many choice hybrids resulted which today, when in season, delight hundreds of visitors to the Orchid section of Knudsen's Inc. Also many are finding their way to the wardian cases of amateurs where they are grown successfully, bringing great personal pleasure to owners and their friends.

Never being content with limited genera, Mr. Knudsen added other interesting types such as Cymbidium, Cypripedium, Odontioda, Selenipedium, Oncidium, Epidendron, Miltonias, Dendrobium, Lycastas and Coelogyne. In this wide selection, orchid enthusiasts find an amazing range of color, fragrance and size, the smallest measuring approximately one-half inch and the largest showing a wing spread of ten inches.

Mr. Knudsen himself enjoyed hybridizing, and among his own creations is a very good white cattleya. Having met with accidental death, he unfortunately did not live to see this cross bloom.

However, his work is being carried on by his son, Mr. Louis P. Knudsen, who, when recently visiting with a friend remarked, "My father left in his orchids a living trust." He had done just that.

Odontoglossum Orchid. Photo by Mrs. James Waring.
THE AUGUST GAP
By Julia Jane Silverstein
Landscape Architect

WE HEAR much of the “July Slump” and the “August Gap” when gardeners speak of the lack of bloom in the flower border. Since you have suffered through the “July Slump” let us look forward to the other sad state of affairs, if it can be called that. I am in hopes that by the time you have waded through the following, you will be able to feel that August is a mighty fine month in the garden after all.

The reason we are so especially disappointed with the color in the July and August garden is that we have been so surfeited with the glorious display that June has presented to us that we expect this magnificent show to continue. To me it is most gratifying to have some quieting down of gay colors into cool greens, especially as the days become warmer.

Contrast of foliage textures can be as stimulating and pleasing as flashy colors. Notice a group of Columbine leaves in front of Iris spikes, in back of which is the soft gray foliage of the Sulphur Meadow Rue (Thalictrum glaucum); in the more shaded areas the large heavy leaves of Plantain Lilies (Funkia) among Fern fronds with an occasional Day Lily (Hemerocallis) arching in the background. The tower-like foliage of Regal, umbellatum or Tiger Lilies makes lovely accents strutting out of Phlox, Colombine or shiny Peony clumps. Along the front of the border for edging, the gray tuffiness of Dianthus (Clove Pinks) with the gray rounds of Sedum seiboldi is a good combination. Or contrast the gray grass of Festuca glaucum with the circular Coral Bell foliage (Heuchera sanguinea); also Sedum spectabile in front of German Iris—all give interest, and not a blossom in the bunch.

But don’t be discouraged, there is a great deal of color to be had. Phlox in great variety gives some of it to us, with Globe Thistle (Echinops ritro) and early Monkshood (Aconitum sp.). Since Phlox is the iron clad perennial for this season, care should be taken in selecting varieties so as to avoid an over-abundance of mediocre ones, instead of the three or four that exactly fit. Try to restrict yourself to varieties that belong to a single color range rather than a mixture of all colors, and use a touch of white sparingly. One can choose the pale pinks through the true pinks to richer salmon and a few of the polka dot varieties, the white with pink or red eyes. Or you may want lavender shades with a few magenta tones and even an occasional deep red. A cool effect for the hot August days can be obtained with mostly white Phlox with a few soft lavenders like “Silverton” and the metallic flowers of Globe Thistle and Sea Holly (Eryngium amethystenum).

The annuals, of course, lend the most vivid colors to the garden at this season—they should be selected carefully so that they will fill in and blend with the perennials. Zinnias, Snapdragons, Dwarf and even Giant Dahlias, Chinese Asters, Cleome, Nicotiana, Petunias, Lobelia, Torenia, and Sweet Alyssum can be combined with some perennials if carefully thought out. I always like to tuck in a few Nicotiana (Tobacco Plant)
for the wonderful fragrance it brings to the garden in late afternoon and night. It comes in shades of deepest red through to white.

The Early Chrysanthemums such as Aladdin and the profuse blooming Azaeleums with the dwarf Asters give bloom for the edge of the border. Some of the late blooming Day Lilies especially the pale yellow ones are stunning with light pink Phlox and Salmon Phlox with a mass of Giant Lemon Marigolds.

One of the characteristics of the August border which is apt to make us think it less attractive than other seasons is its untidiness caused by the June flowering plants gone by and a few straggly blossoms left on the July ones. We need to prune back some of the too rank top growth of these early plants to keep order in the border. Avoid cutting the plants back too severely, since some foliage is needed to give energy for next year's bloom.

**Sedum, Columbine and tall Iris.**

So many people think they must have a mass of bloom all summer long, but there isn't space enough in the average garden to provide such a color display even if it were desirable. For one cannot fill the same space with all spring plants and cover that space with the June, July, August, and September plantings. The only way to have such a display would be to have separate borders for each season, if your grounds could provide such a setting. This would be impractical in most average gardens. Another question asked so often of a plant—"Does it bloom all summer?" The answer to this is usually "No"—and I would like to add, "How dull if it did!" How would you like to have the Peonies and Iris till September or Tulips till August? I'm sure we would lose the thrill of Spring. It is fun to look forward to the buds of each new season, and to even let the roses have a rest, it gives us a glad expectancy to have them come again later in the season.

Gardening is a stimulating hobby and it is a good thing for us that each plant knows better than we do when its time for blooming comes along. What a mess we'd make of it if we had everything blooming at once. I for one am glad not to have to see the same old blossoms on the same old plants all year long.

Again let me emphasize that foliage background for any flower is essential to and should be retained as a foil and adjunct to all color pictures. In our border I retain an Iris, of the ochroleuca variety, which has never blossomed. It has stately lance-like foliage about three feet high which is essential as an accent in my picture. The Meadow Rues are another favorite of mine along with the shiny leathery foliage of the tall late Monkshead with some Siberian Iris as a background for blooms.

Let us not overlook the grasses which can be very stimulating at this season. The waterfall effect of the 6'-8' Eulalia japonica zebrina cascading from a background planting, and the more compact Fountain Grass (Pennisetum japonica) growing 24" to 30" high can be used effectively.

Fruits of many of the shrubs are now getting color; Honeysuckles, Viburnums, Cotoneasters, Crabapples all can be used in the background of flower borders.

We still have a few more plants for color in August other than Phlox: Helieniums, Buddleias (Butterfly Bush), Boltonia (tall white Daisy), Chrysanthemum uliginosum (tall Daisy), some of the early Asters (Michaelmas Daisy), and Artemesia lactiflora (Southernwood)—with fluffy sweet scented flowers growing about 3' tall.

So, you see, there is really no dearth of bloom if combinations and timing all work out. Weather, soil, exposure, humidity—all make some differences in blooming dates causing a variation from season to season and year to year. We can't very well force nature to our will; we can only hope that our planning will sometimes work according to schedule.

Don't forget that any border or seasonal picture that does not rely on more foliage than bloom is bound to be garish. A picture which is a blur of color can never be truly effective.

**AUGUST TRIPS**

The Trips Committee has planned and conducted many fine expeditions into the mountains in the past year. Much has been learned of the Wild Flowers and other beauties of the Rocky Mountain region.

As yet there are no definite trips planned for August. The Committee would appreciate suggestions as to what kind of a trip and which leaders you would like to have arranged.

Call Mrs. Anna Timm, Pearl 5565 or George Kelly, Taber 3410. Some suggestions at present are trips to Brainard Lake, Jones Pass, and James Peak. The 3-day Labor Day holiday offers a fine opportunity for a trip.
We have great need right now to preserve unspoiled many of the wild and interesting spots in the state, we need to beautify many barren roadside with suitable plantings, we should provide better picnic and camp spots, but the big thing that is needed right now is to beautify our little towns and cities with appropriate plantings.

In spite of the great amount of ranching, mining and industries in Colorado, the nature of its terrain will always make it of first importance as a recreation state. We need to consider this more seriously and plan our development of the state to make it more attractive to our visitors as well as our residents.

Flowering Crabs in Denver could be world famous. There is not a community in the state where some plant or group of plants will not thrive and make a fine showing. Even at high altitudes it has been proven that lilacs and peonies will grow, and at still higher altitudes the native evergreens can be planted to make an unforgettable display.

I am recommending that public and private groups who are interested in boosting the state might well spend their money to the greatest advantage by employing a competent landscape architect whose responsibility would be to advise with all communities of the state as to the best things that they might plant in their towns. Even Denver, with all her fine parks and estates, does not make a very good impression on visitors by the approaches to the city. Important intersections, like Dillon, should be beauty spots, instead of barren and desolate looking places. Even they might grow sweet peas and spruce trees to be known around the world, if they would make the effort.

As you drive over the state this year, look at the roadides, little towns, and approaches to the cities as a visitor would look at them, and see how much they might be improved. Then talk to the necessary people and let's get this landscape architect on the job.

[Photo of Buena Vista, Colo., by Chas. J. Ott.]

Mountain towns may be very attractive if they make use of the plants available.

WHAT DOES COLORADO NEED?

GEORGE W. KELLY
NETTLED BY THE NETTLETREE?

M. Walter Pesman

MOST of us know this nettletree by the name of Hackberry, and the most common kind found in these parts is botanically known as Celtis occidentalis, or Common Hackberry. We should appreciate it because it is one of the very few trees that are actually native to our region. Aside from the evergreens we have hardly any tree growing wild except cottonwoods, boxelders and willows—really large trees that is.

There was a lone hackberry growing on "Hackberry Hill" north of Arvada; it was a landmark visible from a long distance. Old-timers told the tale of its having been planted on the grave of an Indian Chief. It was old, quite old—and venerable.

Some of us tried our best to save it, when Wadsworth Avenue was cut through the hill, irrespective of a heavy grade, irrespective of the old landmark. A straight line seems logical on paper, and is the obsession of some surveyors and engineers. A deviation of a few feet would have saved the tree, a deviation of twenty-five feet would have saved much excavation and snow hazard. But the straight line won out, and the tree that was said to have drawn Professor Torrey's attention in 1843, was cut down. Two remnants commemorate its fame: the gavel of the Colorado Forestry and Horticulture Association, (donated by Mr. C. R. Root), and a poem by Mrs. Ora Kehn, dedicated to the fallen victim.

Hackberries can be found growing wild in Deer Creek and other foothills valleys west of Denver, Boulder, and Fort Collins. They are mostly small trees; many are of great age.

But what I really wanted to talk about are the fine, large cultivated trees that are found in many parks, along boulevards, and on private home grounds—-in Denver and other parts of Colorado.

Outstanding are the four beautiful specimens at the "auto-turn-off" on the north road in Cheesman Park, and those in the east portion of Jefferson Park. The younger trees along Marion Street Parkway in Denver are beginning to be much admired. Incidentally their seeds, dispersed by birds, are giving rise to a number of hackberries, scattered throughout the neighborhood.)

What is bothering a number of us tree lovers is that, here and there, we find a different type. On the Capitol grounds and in Highland Park for instance, we find hackberries that fail to show the close-knitted bark, whose leaves are without a saw-toothed edge, and whose berries are an orange-brown rather than dark purple, when ripe. We need to look twice before we are reconciled to their being hackberries.

Well, here we have to do with the so-called Sugar Hackberry (Celtis laevigata, formerly called Celtis mississippiensis). It is less dense, its branches are apt to droop more, and its light bark is either smooth or interestingly spotted with warty excrescences. I know of no other tree with a similar bark. And it seems to be quite hardy.

For the sake of completeness we should mention three other species, among which Celtis reticulata, or Net-leaf Hackberry, is known in the Southwest as Palo Blanco; it has rough, leathery, smooth-edged leaves, and rarely grows into a tree. Celtis douglasii, or Celtis Rugulosa, is closely related but has saw-toothed rough leaves, and longer fruitstalks (occasionally found in Colorado). Bigleaf Hackberry, Celtis crassifolia, is considered a variety of the Common Hackberry, again with very rough leaves; Rydberg reports it all the way from Massachusetts and South Carolina to North Dakota and Colorado.

The name "hackberry"? According to Webster's dictionary it has nothing to do with cutting or hacking, but is derived from the word "hagberry", which is a birdcherry in Scotland, and a hackberry in other places. He claims that hag and haw have the same root, and that a hag was originally a wild woman of the woods (hedges). Now let your imagination wander.

"Unknown Tree" is the name given to some scattered hackberries near Schuylerville, N. Y. and near Palatine Bridge. Sugarberry is a logical name, considering its sweet taste.

At one time both elm and hackberry were lumped with the common stinging nettle in the Nettle Family (Urticaceae). While many of the leaves in this family are rough and harsh to the touch, I am not familiar with any "nettle-rash" as a result. Until the name nettletree has been explained more satisfactorily, I think that many of us will still be nettled by it.

Our advertisers are interested in returns from their ads. When you buy be sure to tell the salesman that you saw the ad in the Green Thumb.
If you were banished to a desert island, what plants would you take with you? Since you'd be far from plant-doctors and dust-guns, you'd be wise to choose the sturdiest kinds that held beauty and charm for you. If your island had a Colorado climate and virgin mountain soil, what joy you could have in selecting your favorites among the myriad blues that fare so well in high woodlands and meadows under our blue, blue skies! Columbines and forget-me-nots, pentstemon and lupines, and all the delphiniums and bluebells of campanulas and mertensia. All these and many more would flourish in your island garden.

Even where the soil is more arid and alkaline, the rainbow-hued iris and pyrethrum repel virus and rots and baleful bugs. The balloon-flower, too, is another iron-clad plant to add blues and whites to the border. More of the toughest perennials, though, seem to be of the orange-tawny hues most easily recaptured by color film. Gaillardias, torch-lilies, coreopsis, and all the new and lovely hemerocallis are on the bugs' black-list here, and none of them want coddling. All will take full sun or thrive equally well in dappled shade for a part of the day.

Sometimes I toy with the idea of having only iris and hemerocallis in my pest-free island garden. The day-lilies now have a color range from near-white through all the yellow and orange tones to russet-red. The iris, of course, have all those and blues and pastels as well. Together, the two have a blooming season stretching over a large part of the blossoming year. But I should have to include delphiniums, and grow more of them from seed if they succumbed to disease. Their tall spikes combine so well with the paler daylilies that they are almost a necessity in the garden picture. And I could never omit the delphiniums, and grow more of them from seed if they succumbed to disease. Their tall spikes combine so well with the paler daylilies that they are almost a necessity in the garden picture.

Mrs. Timm is responsible for several of the fine dinners recently arranged for visiting Horticulturists at Horticulture House. She also supervises the cooking on our botanical expeditions. Several have requested this recipe for one of her favorite dishes.

2 boiling hens—large.
Salt, bay leaf, onion, few pepper corns.
Bone chicken and cut into one-inch cubes.
Run skin thru grinder and add to chicken.
Boil one cup rice (Uncle Ben’s Improved preferred) in chicken broth.

Add ¼ teaspoon salt and two tablespoons fat to the boiling broth (4 cups cooked).
Saute 2 cups shredded almonds in teaspoon butter.
Saute one 7-oz. can mushrooms, drained, in teaspoon butter.
¼ cup buttered bread crumbs.
2 tablespoons chopped green parsley.

WHITE SAUCE

1 large onion, thin sliced, browned in 2 tablespoons butter and 1 tablespoon chicken fat.
Remove onion and add 2 tablespoons flour.
3 cups broth, 1 cup sweet milk, pepper and salt.
Sauce must be very thin. Add broth to thin if too thick.

Chop 1 tablespoon each of green pepper, red pimento, canned tender celery stalks and leaves, green onions and a pinch of celery salt to white sauce. Cool white sauce before adding these chopped ingredients.

Use large casserole or bake pan.
Alternate layer of rice, chicken, mushrooms and nuts, and repeat until casserole is full; then sprinkle bread crumbs and parsley on top.
Bake 45 minutes. Start at 375° until brown and then lower to about 325°.

Check your Honeylocust and Birch for any signs of dead limbs or leaking places on the trunk which might indicate the presence of the destructive borers. We must all be alert for evidence of the work of these beetles if we would save these fine trees.

The common weedy Bluebell is difficult to eliminate. One application of 2,4-D does not seem to disturb it, but three or four applications a week or so apart should help. Digging up the soil where it is established and sifting out ALL the roots is the only really sure way to get rid of it that has been discovered at present.
DO YOUR OWN FLAGSTONE WORK

George W. Kelly

Telling one how to cut and lay flagstone would be very much like trying to teach skating by correspondence, but there are some pointers that could be given for those who think that they would like to do their own work.

The first requirement might be to have a strong back and/or a weak mind. Certainly one of the first things to learn is how to handle heavy stone with the least strain on your back.

Frank Schultz cutting flagstone. After reading this article you will probably decide to get an expert like this to do your flagstone work.

Usually the heavy pieces can be partly lifted with levers and then blocked in the middle so that they may be "rolled" or "walked" without actually being lifted. Care should always be taken to avoid dropping, as this might start small fractures which would prevent their being "cut" later in the places wanted.

The first consideration in preparing a stone to be cut is to have it solidly seated on the ground or cutting table. There should be no vibration, and it is better to have the bed where it lays slightly higher at the sides than in the middle, so that it will rest solidly. A level spot covered with sand makes a good place to cut stone.

After laying out the lines to be cut with pencil or sharp rock, the first cut is usually made near the middle or the shortest distance across the stone, as stone always tends to break across the narrowest way. A good sharp stone chisel is important. The stone is marked across with the chisel, gradually using heavier and heavier strokes of the hammer. If the stone is over an inch or so thick it is safer to turn it over and mark it on the reverse side. The trick to be learned in cutting stone is to govern the weight of the stroke to the thickness of stone, type of stone and progress of the cut. This comes, after a time, almost by instinct.
The most difficult cut is that in which a long stone is to be cut into narrow sections. In stone of some textures this is almost impossible. The white flagstone is more tractable than the red. Red varies in workability. A soft "punky" stone and a hard brittle stone can be told by the ring when it is hit with a hammer.

In laying platforms or walks, rather thin stones can be used if they are set in several inches of concrete. Where they are laid in soil they should be at least two inches thick and of sufficient size that their weight will prevent their being tipped up when someone steps on their edge. When laid in concrete the total thickness should be around four inches.

One of the interesting things about laying flagstone is that it is a combination of art and science. There is a thrill to piecing together irregular flagstone into a satisfying pattern equal to that of a jig saw puzzle.

Walls may be laid with concrete or "dry". If dry they should have a "Batter back" or lean in at least at the rate of one in five. They should also have sufficiently large rocks so that they will hold the soil behind them and not be knocked out of place every time someone sits on them. Laying a dry wall with pockets left for appropriate rock plants is a very interesting job. In this informal handling of flagstone very little cutting or dressing is done, as a natural looking...
break is more in keeping with the character. Formally dressed and shaped rocks can be used in walls attached to houses or in other places where the general idea is formal.

Steps designed to fit the particular place may be made things of beauty if carefully worked out and constructed. Fireplaces, pedestals, porches and gateways may also be constructed with this material so that they tie up with other features in the garden and about the house.

Varying effects can be secured by using different colored mortar to secure these rocks, by making tight or wide joints or making flush or "raked" joints.

Much of the beauty of flagstone work, where mortar is used, is in carefully and quickly washing all edges where the cement stain may be made from the mortar running out.

A nice effect can be secured by using the naturally weathered flagstone for informal pool and rockery work in connection with formally cut stone.

Tools necessary for ordinary flagstone work would include several chisels of varying width from one inch to three inches, a medium weight, short-handled hammer, mason's level, trowel, tape for and straight edge. Stone may be secured from local dealers, the quarry at Lyons, or sometimes old sidewalk can conveniently be used.

Flagstone is a very adaptable material especially appropriate for garden use in Colorado.

Mrs. Helen Fowler, proprietor of Shadow Valley Gardens and donor of the original library at Horticulture House, has announced that she is preparing a complete manual of annual flowers which will be available at Horticulture House soon for anyone desiring a copy.

We are interested in finding several issues of Volume 1, Number 3 of The Green Thumb (May, 1944). These are needed to complete volumes to be used for binding. We will pay 50c for this issue. Call TAbor 3410 if you have one to sell.

Beginning at once, all books taken from the library at Horticulture House, which are not returned within two weeks will be subject to a fine of 2c per day.

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RESEEDING COLORADO WILDFLOWERS

L. J. Holland

COLORADO has long been noted for the beauty and variety of the wildflowers found throughout the entire mountain region; and the plains region certainly is not lacking in its seasonal display. Indeed, only a few states have a greater number of species represented. This is due to the fact that there is over 10,000 feet difference in the altitude of the highest and lowest points in the state; geologically, this reaches from the Upper Sonoran zone to the Arctic zone. Thus, we find here plants that are indigenous to northern Mexico as well as those that are encountered on the frozen tundras of northern Alaska and Canada.

Therefore, the fact that the number of plants that grace our by-ways has steadily diminished in the last decade should be of prime interest to flower-lovers everywhere.

This condition has been brought on by several factors, some of the more apparent are: the drought of the thirties, the expansion of agriculture during the war years, overgrazing in certain areas and, to a greater extent than most persons realize, the indiscriminate gathering of wildflowers by tourists and natives alike.

However, the existing condition is one that is not too difficult to rectify, and the cost to any individual is negligible; the little effort required is far offset by the knowledge of having done a bit toward the preservation of our wildflowers. The solution, as I see it, is in each of us planting a few seeds at every opportunity. This can be done whenever on a hunting or fishing trip, a picnic, or just a drive through the country. Remember, the plains and the foothills should be as much a field for this endeavor as the mountains. In fact, farmers and ranchers can aid in preventing erosion, as well as making their holdings more beautiful, by a judicious planting of native shrubs and flowering plants. That native plants do it better here, ordinarily, than exotics, is well kept in mind.

Perhaps there is a question of what, when and where to plant, and also of how to obtain the seed. Of course a great deal of seed may be gathered from the wild, and that not so obtainable may be had from Rex D. Pearce of Moorestown, N. J. It is well to note that the percentage of germination is much higher with seeds that are planted correctly than with those sown by natural methods. Practically all the perennial wildflowers do best if the seeds are planted as soon as ripe, but may be sown in the early spring while the soil is still cool. The annual varieties are usually best planted in the spring. All seeds should be covered very lightly, not over one-fourth inch.

Those having a mountain cabin will greatly enhance the beauty of the location by planting all suitable kinds in liberal quantities, probably this would be the only place that those rare beauties, Wood-lily, Mariposa (Calochortus), and Fairy-slipper (Cypripedium) should be planted. Under no circumstances must these be taken from their natural habitat, but I will be glad to name a source of supply, if anyone interested will contact me.

For those sunny slopes or open glades any of the following will naturalize nicely: Beard-tongue (Penstemon, spp.), Chiming Bells (Mer tensia ciliata), Flax (Linum rigidum, yellow and L. lewisii, blue), Evening Primrose (Oenothera missouriensis), Golden Banner (Thermopsis mon-

tana), and Prairie Coneflower (Lepa chys columnaria). If a rocky spot is available Bitter-root (Lewisia reti viva) and the various Cacti will feel quite at home.

Where there is light shade and a little more moisture than is usually encountered on the plains, White Globeflower (Trollius albiflorus), Columbines, Delphinium, Trout Lily (Ery thrinum), Bellflower (Campanula), White Geranium (G. richardsonii) are very desirable and comparatively easy to grow. One should be extremely careful to plant Delphinium where there is absolutely no chance of livestock getting to it, as it is virulently poisonous and causes a very appreciable loss to stockmen.

I believe that reseeding the depleted areas would be a commendable project for Garden Clubs and hiking or mountain clubs. Such organizations could make a co-operative project out of such a venture. At least it is a suggestion that merits serious consideration.

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THE MODERN ARBORETUM
(Extract from a talk by Frans Verdoorn as recorded in
"The Journal of Forestry")

THE modern Botanical Garden or Arboretum, in any region, should
not be merely a collection of living plants but a center, coordinating the
interests of all those in the region, concerned with plants. Directors of
large botanical institutions dwell increasingly on the interrelations-
ships between plant life and the life of man. A broader concept of
horticulture is making its way all over the world. I believe that many of
the efforts to establish new arboretums and botanical gardens are symptoms
of a general feeling that there should and could be a stronger link between
those who grow plants, who play with plants, and who study plants as well
as those who are responsible for the conservation and development of nat-
ural resources as far as they concern plant life. This feeling, this world-
wide new concept, ill-defined though it still is in its immediate objects, may
well become something of great national and international value, both
in plant science and practice, as well as in human relationships generally.
To fulfill its task the modern arboretum will first have to consider
the various groups of the population which it will have to serve. I dis-
tinguish ten groups of citizens with which an arboretum may be con-
cerned: (1) school children (and their teachers); (2) the general pub-
lic (whether it has only a few potted plants or a sizable garden); (3) the
horticultural amateurs (considered as individuals); (4) the owners of large,
diversified gardens; (5) commercial and semi-commercial growers; (6) the
gardeners employed by commercial growers and on estates; (7) amateur
botanists and other amateur naturalists; (8) professional botanists, horti-
culturists and many other biologists; (9) the horticultural and other bio-
logical societies in the area served by the arboretum; (10) last, the city,
county and federal governments and several of their special agencies.
Your tulips are completely dormant now. Some of the old top may still be present to show where they were. If they bloomed well this spring they should be left alone. If they were weak and appeared to have divided into many small bulbs, it is time to dig and divide them. They do not need to be kept out of the ground until fall, but may be replanted at once. Put them in about 10 inches deep in a partly shaded place, for best results.

Hollyhocks are one of our most showy flowers. The reason more people do not like them is because of their ragged appearance after they bloom. The solution is simple—just cut them down when they are about one late dandelion going to seed can undo all your careful work of weeding. Does your garden look empty now? Check for this August gap. Make notes now of the empty places in your borders and note valuable plants that you see in your neighbors' gardens. Put this all on paper or you will have forgotten by next spring, when planting time comes.

Do not let down in your war on garden insects and diseases. The large red aphids are likely to be on your goldenglow and goldenrod. Perennial Phlox may be losing their lower leaves. Dust with sulphur to control both rust and red spiders. Aphids may be sucking the life out of your delphinium, columbine or spirea bushes. Any necessary trimming to trees or shrubs may be done now as well as any time.

The most important gardening chore in August is watering. If you have started weeks ago to train your garden for this hot weather, by watering more thoroughly and less often, your plants will have developed a deep root system which will enable them to survive the weather with little damage.

Weeding, first of all, is to prevent competition in the young plants and let them get a good start. Now we are inclined to let a few weeds grow, thinking that it is unimportant. The great damage that weeds can do now is to propagate themselves and scatter seeds to bother you again next spring. One late dandelion going to seed can undo all your careful work of weeding earlier.

Every year gardeners are learning more of the value in mulching. This eliminates much weeding and cultivating. It keeps the surface of the soil more uniform in temperature and moisture content. Peat, compost, manure, straw or vermiculite all may be used, even sawdust is effective if used in the right way.

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