THE GREEN THUMB
A Bulletin of the
COLORADO FORESTRY AND HORTICULTURE ASSN.
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"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 correct 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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"Shall we plant a Victory Garden again this year?" "Is the need still as great?" "Is there too much emphasis on Victory Gardens?" "Is there danger of interfering with commercial producers?" "Should we plant flowers and ornaments instead of vegetables?"

These are some of the questions that we are being asked every day. We are not including a great deal about vegetable gardens in this issue. This is truekeeping with our editorial policy of trying to supply those things which are not obtainable elsewhere. Last year, when the need for authentic Victory Garden information was great the Association printed 11,000 copies of a Victory Garden Manual written by Chas. M. Drage.

Personally we feel that wherever conditions of soil, water, time and situation are suitable everyone should hit the Victory Gardens harder than ever this year. When the urgent necessity is over we do not believe that there will be so many people continuing the raising of vegetables as to seriously affect the commercial growers.

VICTORY GARDENS

"There will be those of course who will appreciate the extra quality of fresh vegetables enough to be willing to have them cost several times the price paid for vegetables raised on the large scale farms. Many other Victory gardeners will satisfy their new-found enthusiasm for working in the soil by changing over to flowers and ornamentals.

There is so much information available this year for gardeners that it seems unnecessary to offer similar material. Mr. Joseph A. Bixby, City Forester, has accumulated in his office at the City Hall a collection of 60,000 bulletins from various sources covering all phases of gardening.

The Denver county agent, with offices at 513 Insurance Bldg., has bulletins and personal advice available for all Denver residents. The Colorado A. & M. college at Ft. Collins, has bulletins and experts for the benefit of all residents of the State. All the reliable seed companies are glad to give advice to gardeners.

Yes, we recommend that you plant a Victory Garden.

MORE ABOUT DDT

Our attention has just been called to an article and editorial in the March "Nature Magazine" about DDT. It warns us not to be too enthusiastic about a "world free from insects" because of DDT. DDT is still in the experimental stage, and we do not know all of its possibilities. We do know that it does not kill all kinds of insects, and that it does kill many beneficial insects. With the "balance of Nature" upset by killing off many predatory insects, many other "bugs" are allowed to multiply in alarming numbers. A "World free from insects" would not be without a great many of our finest flowers and fruits. DDT is a wonderful and powerful drug, but as yet we had better let an experienced "doctor" prescribe it or it might do more harm than good.

In answer to the comments of Mrs. U. M. Andrews of Boulder, about windbreak trees, we would like to say a few words in defense of the recommendation of the planting of Chinese elm in Eastern Colorado windbreaks. The Chinese elm grows too fast for its own good. It grows very rapidly for about ten years and then usually begins to deteriorate with the brittle branches being broken by wind and snow. But it is the rapid growth and better than average form that makes it a very valuable tree in the plains country of Eastern Colorado. Its remarkable growth, under adverse conditions, demonstrates to the farmer that trees will grow in this treeless country. Its growth convinces farmers on the plains that they can have a line windbreak around their buildings. When Chinese elms are recommended every attempt is made to explain to the landowner that the trees are short lived and plans must be made to have slower growing trees such as grees ash or hackberry, replace them in 10-15 years.

The thornless honey locust grows well on dry sites, but its rather thin crown reduces its value as a windbreak tree. Black locust has a valuable secondary value as a fence post material and for this reason is a good windbreak tree where fences will leave it alone.

JULES S. RENAUD, Associate Forester, Soil Conservation Service, Littleton, Colo.
LILIES

By Kathleen Marriage

Lilies and their culture have been so thoroughly and so interestingly covered by George Slate's book that there's little to say except as to varieties that have proved good in Colorado and a word as to culture.

Those we have found hardiest and most permanent are: Regal, Candidum (Madonna), tenuifolium (Coral Lily), Concolor, Formosum philippinense, philadelphicum, Mariposa, elegans, croceum, umbellatum, tigrinum.

L. Regal holds first place for staying on the job year after year as well as for beauty and fragrance. Madonna Lilies, lovely as they are, would be more welcome if they could give up that silly habit of fall growth that can suffer acutely in alternate sun and cold.

L. tenuifolium is an airy, graceful thing, hardy as Pike's Peak, and welcome. It looks best planted closely in groups.

L. concolor, another dainty little chap, bright scarlet, upturned and very hardy.

L. Formosum, an exquisite satiny flower which changes from pure white in youth to deep crimson in old age.

L. philadelphicum (montanum), a native, orange scarlet, upturned flowers of delicate texture.

L. Calochortus, Mariposa Lily, the exquisite white-green-lavender lily of our aspen woods. Succeeds in the garden but plant twice as many bulbs as you hope to have flowers. Why? Do you know? I don't.

L. elegans are rather similar, croceum the taller: both are big, strident, noisy orange fellows valuable for planting in big perennial gardens.

L. umbellatum, a refined apricot-shaded edition of L. elegans.

L. tigrinum, the well known old tiger, useful since he comes later than most lilies.

L. Auratum, so lovely that it is worth growing even for one season. It seems to end there in our garden.

There's little to add about culture. If we remember that all lilies in their habits are found growing amongst other not too aggressive plants and

The curtailment of war materials has reduced the available supply of sprayers and dusters for the coming season. Many changes in materials have been introduced, the most notable being the substitution of plastic for parts which formerly consisted of metal.

Available for the small gardener are hand sprayers ranging from pint to quart sizes. There is also a very limited supply of pressure tank sprayers in sizes from 2½ to 4 gallons capacity.

In our opinion, the best sprayers for the small garden consist of the modern hose sprayers, which have proven very efficient and economical. These are equipped with a movable deflector which enables the spray to be directed up, down or sideways.

The water from the garden hose picks up the proper amount of insecticide from the container, mixes it thoroughly, and forces it out through the nozzle in a medium fine spray which is ideal for the small garden. All modern liquid spray materials which are free from soap may be used in them. A new plastic Victory sprayer consists of a transparent cartridge chamber, plastic spray cap and a removable leather washer-agitator. It has proven very satisfactory for the small garden.

It seems appropriate to mention at this time that it now appears that there will be an adequate supply of insecticides and fungicides available for this season.

SPRAYERS AND DUSTERS FOR 1945

By Earl Phipps, of the Simpson Seed Co.

The supply of dusters seems to be even more critical than that of sprayers. The stock is very limited, and will probably consist for the most part of small hand dusters of various sizes. However, most manufacturers are packing their various dusts in blower cans and sifter tops which eliminates the necessity of special dusters.

It seems appropriate to mention at this time that it now appears that there will be a adequate supply of insecticides and fungicides available for this season.

The Colorado Mountain Club invites our members to attend a lecture by Dr. H. G. Wilm, which they have arranged for in their regular winter series. Dr. Wilm is of the Rocky Mountain Forest and Range Experiment Station and well known to our members. He will talk on "The Forested Watershed and Your Water Supply." The date is May 22, and the place probably Dennison Memorial Hall at the Colorado General Hospital. Call the secretary of either organization a few days before for the definite location.
Phlox is our most valuable perennial. It is found in all well planned gardens and no other perennial will add as much color to your garden as will a good selection of phlox.

It is not difficult to grow but there are a few necessary requirements that must be supplied. It should have good soil, well filled with humus and the necessary minerals. It must be well watered as it is a shallow rooted plant and the foliage and flowers wilt quickly on hot drying days.

When making a selection of varieties, color is usually the primary consideration, but it takes more than color to make a good phlox. Ruggedness of growth and the ability to withstand heat and the attack of insects should be carefully studied. The size of the flower heads and the length of time they remain well filled with good flowers should be a major consideration.

As most gardeners admire the bright colors we will start our list with the reds.

LEO SCHLAGETER. Considered the finest of the reds. A brilliant scarlet with just a slight orange cast and a darker red eye. It grows to two and a half feet under good cultivation. Large flower heads, well filled with good sized flowers that do not fade quickly.

AFRICA. Another fine phlox with a Carmine-red flower and a blood-red eye. A darker red than Schlageter. Large flower heads on short, stiff stems. A good red that pays big dividends for a minimum of care.

H. H. HOEHL. I like this phlox because it is easy to grow, for its stout, short stems and its large flower heads of rosy-red flowers. A choice phlox that should be near the front of all good borders.

COLORADO. A rich salmon-red with a vivid red eye. It has short, stout stems and large flower heads. The color is unlike that of the other reds and when well grown it is truly a magnificent phlox.

B. COMTE. A rich, satiny, ox-blood red and the darkest of the reds. It comes into flower after most of the other phlox have passed their prime. It has good foliage and is free from disease and mildew. The wilted flowers remain on the plant but are not noticeable from a distance. No other phlox will make such a vivid splash of color over as long a time as will B. Comte.

CHARLES CURTIS. A new pink from Wayside Gardens that is claimed to be the most brilliant phlox in cultivation. The color is given as sunset-red. I have not seen this phlox in flower and am including it in this list because I have heard it very highly praised.

DAILY SKETCH. One of the new pinks that is really fine. Extra large flowers of salmon-pink that shade darker toward the center so that the flower has a crimson eye. Very large heads on good stems.

ELIZABETH CAMPBELL. Considered by many to be the finest of the light salmon-pinks. It is not a good grower. Enchantress is almost identical in color and makes a much better plant.

E. I. FARRINGTON. This striking new phlox has large heads of salmon-pink flowers that shade darker near the center. A fine phlox that seems to have about everything a good phlox needs.

JULIUS SANDEAU. (Border Gem). One of the older kinds that is still fine. A dwarf phlox that grows to around eighteen inches. The large flowers are a bright rose or watermelon pink. The color is the same throughout the flower. A robust grower and a choice dwarf phlox.

PAINTED LADY. A clear, delicate pink with large flowers and a large distinct red eye. Rather dwarf with good heads and an abundance of flowers.

COLUMBIA. This patented phlox was introduced by Wayside Gardens a number of years ago as the finest pink phlox in existence. With-in a short time it found its way into many gardens. With us it has been a poor grower. Perhaps in the east where there is more humidity it may be a good phlox.

ROCKMONT PINK. A number of years ago this phlox came up in the nursery here at Rockmont. We paid very little attention to it but let it remain. After several years we began to realize that it was proving to be a good pink and quite unlike the other pinks in color. We planted a number of plants in our perennial border along with some thirty-five other kinds and have come to the conclusion that it is one of our finest pinks. It is a tall, strong grower and able to care for itself with a minimum of fuss and care. The florets are a real pink without the salmon shade found in so many pink phlox. They do not fade early and make the heads look spotted. We are making no extravagant claims for this phlox but considering its many good points we think it a very worthwhile addition to any phlox collection.

CINDERELLA. I cannot pass up the pinks without saying something about this new pink introduced by Rockmont Nursery. It is a pale rose-pink with a faint eye. The color is lighter than Columbia. Flowers are good sized but not as large as some. When well grown it is a very lovely phlox. Most women admire it very much but it seems to lack sufficient snap and color to please the men.

SNOWCAP. We still think Snowcap is the finest white phlox. It has enormous, cone shaped heads and large pure white flowers. It is semi-dwarf with stout, stiff stems. It should be divided often as the flower heads are much larger on young plants.

MARY LOUISE. A fine new
white from Wayside. We think it not quite as good a grower as Snowcap but it is a choice new white that comes highly recommended.

TAPIS BLANC. A dwarf white with large heads and very good flowers. A strong grower about the same height as Jules Sandeau.

NIA RUYS. Even shorter than Tapis Blanc. When given good care it will produce fine heads of white flowers a foot or less from the ground.

COUNT ZEPPLIN. (Graf Zepplin). There are a number of these white phlox with deep red eyes. This is, perhaps, the best of the lot. A good phlox making nice heads that remain lovely a long time.

PHARAON. An old variety with rosy-lilac flowers and a white eye. It flowers early and remains fresh looking longer than most kinds. If you like the color there are few better phlox.

SILVERTON. A clear, pale lavender with the largest of florets. A strong grower of medium height. An outstanding lavender.

CAROLINE VANDENBERG. Listed as one of the near blues. There are no blue phlox. They are all bluish-lavender in the early morning but change to a redish-purple or magenta under bright sunlight. A good lavender but far from blue.

KING LEAR. In 1935 Mr. D. M. Andrews introduced this phlox as a true purple that did not fade or change color under different intensities of light. The available stock was soon sold out and it was withdrawn. Twice since we have offered this phlox only to have the stock quickly sold out. At present it is withdrawn. It is semi-dwarf, growing to around sixteen inches. Flower heads are large with plenty of fine flowers. If the proof of its value is shown in the demand for plants, it is a phlox that will be liked by many gardeners.

MISS LINGARD. One of the early or suffrutcosa phlox. It has narrow, glossy leaves that are free from mildew and red spider. The flowers are white with a slight trace of pink. We have not had much luck with this phlox but others report excellent success with it.

There remains many other choice varieties of phlox but for lack of space I will give only brief descriptions. They are all outstanding and mostly recent introductions. They should make valuable additions to any phlox collection.


PLANT BREEDING in Colorado was recognized by the Legislature to be of paramount importance. An Eighteen Thousand Dollar appropriation was set aside for new experimental work. It is one of the many lines of work that a Rocky Mountain Botanical Garden would have as its activity.

DENVER'S new County Agent comes here from Durango: MR. GORDON T. MICKLE. He has a fine reputation and all Denver gardeners will give him enthusiastic cooperation.

ROCKY MOUNTAIN JUNIPER
(Juniperus scopulorum)

This tree is a native of Colorado. Standardized Plant Names calls it "Rocky Mountain Juniper." It is also called "Colorado Silver Juniper," and sometimes "Red Cedar," after its eastern cousin, the Juniperus virginiana. Colorado nurserymen universally call this tree, "Scop," and that short name is the one I shall employ here.

Few people realize the value and popularity of this Colorado native. I believe this is used more in Colorado landscaping than any other evergreen. While the Colorado Blue Spruce is undoubtedly better known throughout the horticultural world, and is perhaps, in more demand in other places, yet insofar as our own state is concerned, the demand is greater for the Scop than any other evergreen.

It is possible today to make a complete foundation planting of evergreens, at least for the normal home, using nothing but Scops, and yet obtaining the desired effect that one would achieve from an assortment of evergreens of different kinds and species. Since the grafting of Junci pers became so popular, some six or eight years ago, we now have practically all possible types of Scops, to serve as plants for every and all purposes desired in a home planting. We have the silvers, the greens, and the blue casts, as well as other in-between colors for contrast effects: also the tall and slender (stovepipe effect) that resemble Italian Cypress; the short and fat types so to speak; and even the prostate or semi-prostrate types such as are found in the Pfitzers and Savins. In addition, by proper occasional trimming, the globes and pillar types can be obtained, where an extremely formal effect is desired. Any modern up to date Colorado nursery can now show a prospective customer practically all, if not every one of the above mentioned types and more too. It is also a known fact, at least commercially, that every nurseryman handling Scops, has his own favorite type of graft. Also every nurseryman, whether doing his own grafting or having it done for him, has a particular seedling of his own that he has had grafted, which in most instances he believes to be just a little better than any other in the trade channels. On account of this, there are now so many varieties of grafted Scops being grown today that space does not allow, nor do our records begin to show the countless number of varieties being propagated; and there still are plenty more yet to come.

Now for the novice who does not understand what is meant by grafting; it is rather a simple process of selecting an outstanding type and propagating this type by cutting off a tip, called a scion, and getting the scion to grow on another tree called a rootstock. This is sometimes called budding. There are no blue phlox, They are all bluish-lavender in the early morning but change to a redish-purple or magenta under bright sunlight. A good lavender but far from blue.

If you like the color there are few better phlox.

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Few trees are as naturally symmetrical as the Rocky Mountain Juniper in its juvenile state. Often a tree in the foothills will look as though it had been regularly sheared. It was such a tree that Mr. Sutherland used for his famous grafted, a typical specimen of which is shown above. (Photo by James S. Holmes).

At maturity the crown of the Scop. becomes more open, and often assumes very picturesque forms, like the patriarch shown on the cover. This tree is in the Garden of the Gods and was photographed by Mr. H. L. Standley. The illustration is taken from COLORADO EVERGREENS.

ted in advance when dormant in the fall, and set aside in a cool place for grafting later. Scions are then taken from the plant from which one desires to propagate, and the scions are matched as nearly as possible in caliper to the understock on which it is to be grafted. There are several methods of grafting, but probably the most popular one is the "slit" graft: a clean cut in the stock, about one-half inch long, just above the collar, slanting from the bark in toward the center of the seedling, and another long slanting cut on the scion, which is then inserted in the seedling and tied firmly with raffia or rubber band, whichever is available. The grafted plant is then put under artificial heat in the greenhouse and forced as much as possible to get growth established on the scion. When the proper calluses and unions have been made on the plant, growth in the scion will soon start. When life is shown on the scion, the original top of the stock is cut off just immediately above the graft, thus throwing all the growth into the scion.

As one can readily see, this is a longer and more expensive process of propagation than is the sowing of seed and propagating in that manner. One might ask, therefore, "Why go to all this extra work and trouble for a grafted evergreen?" The answer is simple: this is the only way identical plants can be obtained for matched trees in formal plantings. As no two seedling Scops are identical in every respect, and since the contrast one gets from even the same lot of seed varies from blue to green, not to mention the various types of needle formations, as well as many other characteristics, we resort to grafting so that we may know in advance the color and form of tree we are propagating.

Junipers, unlike most evergreens, have the male or staminate flowers on different trees from those bearing the female or pistillate flowers. The former trees bear the pollen, the latter the berries. The graft resembles its parent in this respect too. Some people, including the writer, feel that the berries add greatly to the attractiveness of a tree. A scion taken from a female Juniper will be a berry tree just as its parent was. So there are many reasons for seeking the more expensive grafted Scop, rather than the common seedling.

I would like to impress upon all home owners the necessity of checking their Scops several times through the growing season for possible insect infestations. The most prevalent pests here in this area are aphids and red spiders. Both are easily controlled if one does not let the infestation get bad before spraying. The aphids are very often quite hard to locate and there are several varieties of them. However they usually line the under side of the branches and start near the bottom of the tree and work upward as the infestation gets greater. If ants are detected crawling around the branches of the tree, it is most probable that the aphids are already infesting the tree, especially if the ants are in any quantity or number. A contact spray of Black Leaf 40 or similar material properly applied usually does the trick. Red spiders (which are not actually spiders but are mites) work from the inside out. For the red spider we have been using the liquid lime sulphur, one part of same to twenty-five parts of water. In fact when it is necessary for us to spray, we always use the double spray, combining the Black Leaf 40 and the liquid lime sulphur, using both on the one application. As a too strong solution of lime sulphur, applied in direct sun on a hot day, sometimes burns the foliage, it is well to use this spray on cloudy days. Black Leaf 40 never burns. I cannot stress too strongly the necessity of checking your Junipers in all the various types, and continuing to do so, from May to October, especially for aphids. They are so prevalent.
in and around Denver, and they have been so neglected, not only by the private owner, but by the City of Denver as well, that it is absolutely necessary to get this pest eradicated if possible. Many of Denver’s most beautiful Scops have either been ruined or killed entirely by bad infestations of aphids alone. The prevalence of these pests constitutes no objection to the planting of Scops, however, since it takes only a minute’s time to check your trees occasionally for infestation, and a matter of another ten minutes to prepare and spray a normal sized tree where infestation is found. Be sure and look them over the first hot day, when they usually start working.

Scops are easily grown and just as easily drowned. It is a tree that does not require a great deal of water: in fact as they grow wild in their native state, they are usually found on the southern and open slopes, where nature gives them less water than in sheltered areas and northern slopes and ravines, where moisture is more prevalent. One should use care in placing Scops, to see that they are never set directly under a downspout, or even in a low place where water collects. If this is impossible, then arrangement should be made by banking or even underground drains, to run the water away from the tree.

Many beautiful types of evergreens are not hardy enough to be grown in Colorado, due to our trying climate—such as the Arborvitea for example. However I feel that Colorado is blessed with one of the finest of all evergreens, the Rocky Mountain Juniper, which, in the writer’s opinion, serves more landscape purposes in our beautiful city, than any other evergreen.

ADAM KOHANKIE

The things which count in life are what we have done for others in work and kindnesses. There are no other. I am thinking of the days when Adam Kohankie, as President of the Denver Society of Ornamental Horticulture opened our little meeting in the library auditorium and stirred us all to greater efforts for the annual chrysanthemum shows and for a more beautiful Denver. I am thinking of the many, many things which he did for the people of our city in his thirty-five years of building the Denver parks, nearly thirty of which he spent as superintendent of Washington park. Born in 1864 in Plainville, Ohio, the son of a family renowned in American horticulture, Adam was 80 years old at the time of his death on February 19, 1945. All his working years he spent in Denver and for Denver.

There was only a little beginning of Washington Park in 1907 when Adam took charge of the work there. We had a park commission those days and with vision and courage they built this beautiful park. There was no South Denver in those days. It was built around the park. It became a beautiful residential section following the development of the park.

As Vice-President of the American Park Superintendents Society Adam brought to Denver the annual meeting of that group in 1913. The love and respect the Denver park men had for Adam carried through the American Society and from one of the national meetings came his nickname “The Duke of Washington Park”. We all lovingly called him that.

It was no easy matter to make a fine park in Denver where nature bequeathed only a treeless plain. It was pioneering. If Denver has become the most livable city of the nation as many now believe it is we may well say that it is due to men like Adam Kohankie, led by the indomitable spirit of Denver people who were going to make this a fine city.

S. R. DEBOER.
 Soon after the first road to the summit of Mt. Evans was completed, a number of persons and organizations called the attention of the Forest Service to the desirability of preserving and protecting the beautiful specimens of timber-line trees along the highway near Goliath Peak. It was observed that some persons driving along this highway and seeing fine chunks of pitch pine, and more interested in gathering wood for their fire places, would unthinkingly saw or break off pieces of these grotesque, wind-driven tree tops, unmindful that some of these specimens had been battling the elements for 1,000 years or more. On the other hand, these specimens are a source of inspiration and study and artistic effort to nature lovers, artists, and photographers. Undoubtedly, some of the specimen trees along the Mt. Evans highway have been photographed thousands of times.

At the request of Allen S. Peck, Regional Forester, Supervisor F. S. Keithley studied the situation and recommended that an area of approximately two hundred acres, near timber line, on the slopes of Goliath Peak, be closed to the building of camp fires and that wood cutting be prohibited. Accordingly, on August 19, 1932, the SW 1/4 Sec. 5 and NW 1/4 NW 1/4 Sec. 8, T. 5 S., R. 73 W., 6th P. M., in the Arapahoe National Forest, was set aside by the Forest Service as the Goliath Peak Nature Study Area. The building of camp fires without first having obtained a permit from a Forest officer was prohibited by this order for several reasons.

First, in extremely dry weather and with the high winds that often prevail at timber line, a camp fire might easily get out of control and burn over a considerable area within sight of Denver. Goliath Peak is 12,200 feet in elevation. In the next place, persons building camp fires would naturally knock off the dry, dead pitch pine branches and tops of the timber-line trees, thus spoiling the beauty that the nature study area is aimed to preserve.

The order further went on to state: “Regulation 1-3 (D) of the Secretary of Agriculture, prohibits, under penalties provided by law, mutilating, defacing, or destroying objects of natural beauty or of scenic value on the National Forests. Timber-line trees are classed as objects of natural interest and beauty and their mutilation or destruction is, therefore, prohibited. Please preserve these trees for others to see and study.”

Signs were posted along the highway, calling attention to the nature study area and warning against the building of camp fires and the mutilation of trees. A recent report from Edward F. Heaton, Supervisor of the Arapahoe National Forest, stated that the protection has been quite effective. Mr. Heaton stated that the Colorado State Highway Department had a camp in the area for several years, while the highway was being oiled. Upon completion of this job, the camp was moved and the site was cleaned up. Supervisor Heaton said that it is still necessary to warn people against the removal of dead bristle cone pine wood from this area.

There was considerable publicity about the nature study area when it was first set aside, but many persons have forgotten about it or have never heard of its establishment and purpose. It is appropriate to call this area to attention in connection with the proposed Colorado botanical garden and arboretum. The Goliath Peak Nature Study Area can well be the alpine section of the botanical garden.

Here may be found beautiful specimens of timber-line trees, including limber and bristle cone pine, Englemann spruce, and alpine fir. Then there are mountain willows, various species of shrubs, and all of the flowering plants, perennials, annuals, sedges, and grasses, such as may be seen in the very natural models of timber-line habitats displayed at the Colorado Museum of Natural History. Here on the slopes of Goliath Peak, with a little protection, a fine bit of timber-line country may be preserved. The general public may enjoy it aesthetically, while the scientist, the botanist, and the biologist can study its geology, vegetation, and animal life over the years, so that the changes that nature makes at this high, rugged elevation, where only the fittest survive, can be recorded.

"This Limber Pine at timber line, Mt. Evans, Colorado, is often times referred to as the tree with the 'Praying Mantis.'"
QUERCUS QUIPS

A NAME?

When the grateful membership of the Green Thumb gave George Kelly a copy of Standardized Plant Names, he said, "Thanks, I have always wanted it."

I wonder how many other nurserymen in Denver—or in the United States—have "wanted" S.P.N.? When I see a prominent wholesale house listing Douglas fir under "Abies" my irritation is only exceeded by that arising at the scholastic botanist who scorNS S.P.N. because, forsooth, there are certain "inaccuracies."

What is the reason for the nurseryman's apathy? It was the nurserymen and the ornamental growers who organized the American Joint Committee on Horticultural Nomenclature thirty years ago to "make buying easy by bringing about, so far as practicable, the consistent use of a single standardized scientific name and a single standardized common name for every tree, shrub and plant in American commerce." The first edition of S.P.N. was published twenty-two years ago, and the monumental second edition in 1942. Yet today ninety-nine nursery catalogues out of a hundred "make buying difficult" by failing to utilize the text which the nurserymen themselves made possible!

The antagonism of certain botanists to S.P.N. is most difficult to understand. It cannot be because of any lack of scholarly collaborators. Professor Rehder, Dr. Wyman and Dr. Dayton, to choose three of the eminent staff at random, are international authorities. Of course there are many plant names that many botanists disagree with. That is the very reason why the text is necessary. So we have this anomalous situation: The botanists agree that for over a hundred years chaos has existed in plant nomenclature; the botanists have never provided a registration mechanism, or even a standard work on nomenclature. Yet when the American Joint Committee, the Department of Agriculture, and a staff of the most eminent scholars in the country do the botanists' job—and do it well—they stubbornly refuse to accept it.

Nurserymen, come to life and use your own text! Botanists, either produce something better—or keep still! QUERCUS.

A CHILD'S GARDEN OF CHILDISH GARDEN VERSE

JOHN STOCKBRIEGE

The more I plant, the more I hoe, I realize now I'll never see
The more I spray the less I know. A poem lovely as a tree
Some people put their faith in praying. (I get my best results by spraying.)
I mostly try to be polite.
Some people put their faith in praying.
Roses ain't fragrant, hydrangeas ain't pink:
I mostly try to be polite.
And listen here, Quercus: my compost don't
Early to bed, early to rise, I like smilax,
Work like the devil—and fertilize!
Aconite We grow chard
I realize now I'll never see
As to warrant planting a fresh batch of seed each year.
A poet lovely as a tree
Some things don't grow so very well
The first leaves to push up are the cotyledons, which have been folded within the seed. Those are the true ones that display the true characteristics of the mature plant. As soon as the first true leaves appear, transplant to a well-prepared bed. Campanulas like a rich soil, and set about 10 inches to one foot apart. You will find the roots to be very fibrous, thin and hairy. Make a hole with a small round stick and drop the plant in, being careful not to curl the roots: work the soil well in around the plant, its full length from the bottom to the very top. See that the first watering is a good one and from this time on treat the plants as others, keeping the soil moist and loose on top. The plants will stand there, in seeming defiance but forming new roots, expanding to produce robust plants for later blooming. Soon great armfuls may be picked of lavender, purple, pink and rose, white and intermediate tones of cracking two-inch bells, so beautiful as to warrant planting a fresh batch of seed each year.

CANTERBURY BELLS

How to achieve gorgeous masses of 30-36 blooming stems within the year, out of doors.

A plant started from seed, requiring two seasons to come to maturity is a biennial; top-growth is made the first season and usually a fleshy root. The second year flowers and seed are produced. A few perennials are so short-lived they are really biennial and some biennials can be handled as annuals if seed is sown early enough.

To plant the seeds of Canterbury Bells with those of perennials at our usual time in early June is to place the plants in their true biennial class but in order to complete their life cycle—for bloom the following fall—seeds should be planted very early, as soon as the ground can be worked within the seed; the next are the true characteristics of the mature plant. As soon as the first true leaves appear, transplant to a well-prepared bed. Campanulas like a rich soil, and set about 10 inches to one foot apart. You will find the roots to be very fibrous, thin and hairy. Make a hole with a small round stick and drop the plant in, being careful not to curl the roots: work the soil well in around the plant, its full length from the bottom to the very top. See that the first watering is a good one and from this time on treat the plants as others, keeping the soil moist and loose on top. The plants will stand there, in seeming defiance but forming new roots, expanding to produce robust plants for later blooming. Soon great armfuls may be picked of lavender, purple, pink and rose, white and intermediate tones of cracking two-inch bells, so beautiful as to warrant planting a fresh batch of seed each year.

Campanula medium has three interesting forms,—single and the cup-shaped corolla. I am quite sure of this colorful calyx, like a saucer below the cup-shaped corolla. I am quite sure of the name Canterbury, here is from Campanula (kam-pa'n-yoo-lah) in Latin for little bell. H. K. F.

LINES INTENDED TO SOFTEN THE HEART OF QUERCUS, THE NOTORIOUS EARTHWORM HATER

An earthworm saw another worm
A-writhing on the ground.
Said he, "My Darling, marry me!
Oh, sweetest thing I've found!"
She said, "No, that can never be,
I'll have to be your friend;"
Because, you see, I'm just your other end!"
control is great, only a few of the most common will be discussed here. Among predacious insects, probably the first in importance are the lady beetles, also called ladybugs and lacebirds. next, larvae of syrphus flies, larvae of lacewing flies, and larvae of certain midge-like flies.

LADYBEETLES. The lady beetles are best known in the adult stage. The shape is elongated hemispherical. The size may vary from a quarter of an inch in the common forms, down to one-sixteenth of an inch in length, or the size of a pinhead in the forms more rarely noticed. The color is usually yellowish-red with or without black spots, but some species are black with red spots, and others, particularly some of the tiny varieties, may be plain black.

The eggs are laid on leaves and stems of plants in compact patches of 20 to 30, standing on end side by side. They are elongated in shape, orange-yellow in color, and from one-twenty-fifth to one-sixteenth of an inch in length. Incubation period is from 3 to 7 days. The young, called larvae, are at first only slightly larger than the eggs, but when full grown may attain the length of one-third of an inch. They are rather alligator-shaped and bluish-black with yellow or orange spots. After about 14 days, the larvae change into an inactive stage known as the pupal stage. At this time the larvae double up with its head placed against the surface of the plant, then sheds its skin and becomes hemispherical in shape. At this time it is pale brownish-yellow with black markings. Pupae are attached permanently to the plant by the rear end and remain quite motionless except for flopping up and down of the unattached head end when disturbed.

After 4 to 7 days the adult beetle emerges. Ladybeetles are beneficial in both young and adult stages. They feed on soft-bodied insects, such as aphids and scale insects, and even their own young when food is scarce. Eggs of bean beetles, potato bugs, and other insects, and even their own egg, are included in their bill of fare. Both young and adults are killed by sucking the juices out of the victim or eggs until only the dead shriveled substance is left. A single larva may thus destroy from 30 to 100 medium-sized aphids in a single day, and an adult may destroy from 100 to 200.

SYRPHUS FLIES OR HOVER FLIES.—Sympus flies are often seen hovering in midair, hence the name of hover flies. The most common species are somewhat larger than houseflies and usually are banded with black and yellow on the abdomen. The eggs of this insect are placed on plants, especially among colonies of aphids, and are laid flat on a leaf. They are pearly white, elongated, and so small as to be barely visible to the naked eye. After a few days incubation the eggs hatch. The newly hatched, footless maggots are hardly larger than the egg, but when full-grown may reach half an inch in length. Their color is greenish or pinkish with more or less black markings. The larval stage lasts from 7 to 10 days, after which time pupation takes place. The larvae become inactive, shorten and thicken, and fastens itself to the plant or to debris nearby. A smooth shell-like covering forms over its body. This is the pupal stage which lasts for 8 or 9 days. At the end of this period the adult fly emerges and starts the cycle over again.

Adult syrphus flies feed on nectar of flowers; only the larvae attack other insects. The larvae are, however, very voracious, feeding by sucking juices from various soft-bodied insects. They are best known for their habit of feeding on, and thus controlling, aphids. These larvae eat as many aphids per day as the ladybeetle larvae, but since the larval stage is shorter and aphids are not fed upon by the adult stage or fly, syrphus are not as helpful as ladybeetles in plant louse control.

LACEWING FLIES OR APHIS LIONS.—Sometimes among aphid colonies and running about on plant leaves are found tiny pale pinkish or greenish alligator-shaped creatures with a pair of long forces-like jaws. These are the aphids lions, larvae of the lacewing flies. The adults are also called golden-eyes. The adults somewhat resemble miniature dragonflies, but are less than half an inch long. Their bodies and wings are pale green and their eyes are gold in color, whence the name golden-eyes. They lay their tiny pale green eggs singly on a hairlike stalk, very often in groups of six or eight. This stalk prevents the first larvae which hatch from hitting the ground and defenseless brothers. These insects, like the ladybeetles and syrphus larvae, are cannibalistic. The larval stage is followed by the pupal stage in a cottony ball-like cocoon about the size of a grain of tapioca. The cocoons are attached to a leaf. When the adult has emerged the cocoon has a little open lid.

These insects are helpful in that the larvae devour other small soft-bodied insects and are best known for control of aphids, whence the name aphis lions. In feeding, the larvae pierce the body of the aphid by means of their forceps-like jaws and completely suck out body juices.

MIDGE-LIKE FLIES.—Very small pinkish or yellowish-salmon colored maggots, about the size or even smaller, than the aphids themselves, are sometimes found scattered through a colony of aphids. The adults of these tiny maggots are pinkish midge-like flies somewhat resembling tiny mosquitoes. The tiny
elongated, pinkish eggs are laid singly or in groups among the aphids on the leaf surface of the plant. The larval maggot stage which follows, ends with the pupal stage. The pupae do not appear distinctly different from the larvae except by close inspection. Observed with a hand lens they show structures resembling pupae of moths. From these pupae emerge the midge-like flies which start the cycle over again.

The larvae of this fly feed on many soft-bodied insects, and even mites. Some species may even live as parasites within the bodies of aphids. They are most numerous and most easily found in aphid colonies. They feed very unobtrusively and, evidently, painlessly, by sucking the juices of the victim from a thin place on the underside of the body or between the joints of the legs. The aphid makes no attempt to escape, and is usually not drained entirely dry as in the case of the predators mentioned previously, but death results and its body soon turns brownish. The adult fly does not attack aphids. However, as this insect is very prolific it is a very valuable aid in the control of aphids.

PARASITES. — Often a colony of aphids may contain certain individuals which are colored differently from the normal ones and are rigidly fastened to the leaf. These aphids are parasitized. The parasites are Hymenoptera, which are minute wasp-like creatures. The adult female parasite pierces the body wall of the aphid with her ovipositor and inserts an egg just beneath the surface. This egg hatches into a maggot-like larva which lives on the juices or blood of the aphid. The parasitized host seems normal for a time though probably reproduction is halted. When the parasite has attained its growth it causes the death of the aphid. The maggot-like larva then makes an opening through the underside of the aphid through which it glues the plant louse to the leaf. The body covering of the aphid then hardens, forming a protecting shell for the parasite which remains within or underneath and pupates. The dead aphid bodies may appear: white, black, or tan in color. When the parasite has matured it cuts a round hole in the back of the dead aphid body and emerges as a winged wasp-like adult. Sometimes these parasites are very numerous and may completely rid an entire locality of a particular species of aphid infestation.

There are probably no insects which are not subject to attack by some particular kind of hymenopterous parasite. Caterpillars, cutworm larvae, grasshoppers, and many other insects are continually held more or less in check by parasites.

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LILAC ISSUE AVAILABLE — IF

The special Lilac Issue received favorable comment all over the Country. We still have some copies left. We want them to go to new subscribers — For $1.00 we will send (a) copy of Lilac Issue, (b) March and May 1945 numbers, (c) all subsequent numbers of Green Thumb up to January 1946 —

We want more people to know the Green Thumb.

Put up a collar for a friend and take advantage of this offer. If you don’t want to give the Green Thumb to a friend at least tell him of this offer.

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HONEY SUCKLES FOR COLORADO

The returns from our recent survey of Honey suckles grown in the state emphasize more strongly than ever our need for scientific experimentation with plants in the Rocky Mountain area.

Bailey and Rehder each list 70 species of the genus Lonicera, with many varieties: yet some 40 of the 45 replies received from over the state mentioned not over 5 species. If we should be governed entirely by the number of times some species were mentioned we would have to recommend some inferior kinds; for people have mentioned only those that they were acquainted with, while many of the better sorts are not generally known. The nurseries of the state are not entirely to blame for this situation, as they must raise the plants that the public calls for or go broke. A few nurseriesmen have introduced some superior kinds, but we badly need more extensive and scientific experimentation. Of course a few of these 70 species mentioned are not hardy here, and are inferior kinds, yet it seems that a genus of this size which has supplied some of our most useful plants would have many more suitable for our use if we knew of them.

Of the kinds which were mentioned most of the bush form seemed to be hardy as high as 7,500 feet, and in some sections of the state they are included in the few things which will survive. For instance the "Tartarian" Honeysuckle has been the mainstay for hedges in the San Luis Valley, and has proved itself hardy in the impossible "contractor's soil" around many Denver homes. Some of the honeysuckles will survive in very poor soil and with little care.

To simplify this report we will divide the Honeysuckles which have been grown in the state into three groups: 1. Tall Bush; 2. Dwarf, and 3. Vining.

TALL BUSH HONEY SUCKLE

The Tartarian Bush Honeysuckle, Lonicera tatarica, leads all others in popularity in the state. It has filled a place in Colorado ornamental plantings which has been very valuable, yet there are others which are generally superior. It will stand much abuse but it soon grows to be very coarse and out of scale for residence plantings. The variety "rosea" was the most generally known, with "alba" and "rubra" close behind. These colors may be true to name in the East, but here are all a little lighter, the "rubra" being a medium pink. Of the true Tartarian the variety "Wheeling" has a darker flower and is "rubra" close behind. The variety "grandiflora" has larger white flowers and larger leaves, while "sibirica" has deep pink flowers. The Tartarian has hybridized so much with Morrows and others that probably few plants now in cultivation are of a pure species.

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The Morrow Bush Honeysuckle, L. morrowi, was the next best known species. This shrub is usually of more spreading habit than the Tartarian. The leaves are green above but gray beneath. The flowers are at first white, changing with age to a creamy yellow, and the fruit is usually red, but sometimes yellow.

The White Belle Bush Honeysuckle, L. bella albida, and the Pink Belle, L. bella rosea, are the result of a cross of the first two species mentioned. They have more of the character of the Tartarian and are usually quite showy in flower and fruit.

Lonicera chrysanth, demissa and ruprechtiana are all in this same class, and are very similar in appearance to the Tartarian. They are often hybridized among themselves until they have quite variable habits of growth, and color of flower and fruit.

Lonicera xylosteum, more nearly resembles the Morrow, but is usually not as attractive.

The Late Honeysuckle, L. maacki, variety, podocarpa, is somewhat like the Tartarian in general habit, but grows much faster, and blooms much later. The fruit are smaller, dark red, and hang on the plant most of the winter. It has proven very hardy in much of the East, but here it occasionally kills down to the ground over winter. This may be because of its rapid and late growth.

Of this tall class, the Blue-leaf Honeysuckle, L. korolkovi, has many qualities to make it superior to any of the above. The leaves are smoke gray and very attractive. When in bloom the masses of "appleblossom pink" flowers backed by the gray foliage are very attractive. The habit of growth is irregularly spreading. This is usually a better shrub than the Morrow. The variety "zabeli" of the above is more of the Tartarian habit of growth, but is smaller stemmed and more symmetrical. The flowers are of the darkest pink and much more profuse. It is easily the finest of all the tall honeysuckles. At the time that all honeysuckles are in bloom this kind stands out above them all.

The last two kinds mentioned could well take the place of all the others in this class.

DWARF HONEYSUCKLE

Only a few people in the state had ever had experience with the lower growing bush honeysuckles, yet this class includes some very useful shrubs.

Lonicera maximowiczii sachilenisis, in spite of its terrible name, is a nice little shrub, seldom growing over four feet high. The bloom are tiny dark red bells growing all through the plant. The leaves are at first purple and crinkly. Its chief fault is that in good soil it is liable to grow too fast and then fall down. This fault could be remedied by shearing or keeping rather dry. Its chief possibility seems to be in using it as one part to crosses with those kinds which grow too large. This should be one of the first jobs for our new arboreum.

The Lilac Honeysuckle, L. syringantha, and the variety, wolfi, are delightful shrubs. They will grow three or four feet high with a spread of six or eight feet. They must be planted in some place like the top of a bank or wall as they hug the ground closely. Their charm is in the small clusters of flowers of the color and fragrance of lilacs. A few blooms placed in a closed room or car will fill the whole place with their delightful fragrance. There is usually a mass of bloom in May and a few scattered heads all summer. The fruit are small bright red berries which the birds seldom leave on long. Here is another good subject for experimentation in hybridization.

Lonicera thibetica is in many ways similar to the above, but lacks the especial charm of that plant in bloom and fragrance.

Lonicera spinosa albertii is another of this class, more scrappy and low than the above, but a hardy little thing that should be used more.

Lonicera villosa is reported by the North Dakota Experiment Station to be a dwarf honeysuckle of much promise.

Among the lower honeysuckles we should mention the "Fly" types. Our own native, Lonicera involu-crata, is one of these. Its chief attraction is the pair of large black "berries" surrounded by the large red involucr. In the mountains it is very beautiful, but often under cultivation it grows too fast and falls flat.

The species "ledebouri", from California, is similar to the above but more handsome in habit of growth and more tender.

Lonicera fragantissima is a favorite in the East and South, where it is half-evergreen. It has tiny flowers very early in the spring which are very fragrant. All report it as killing to the ground every winter in Colorado. Lonicera standishii and L. nitida are similar to the above and have not proven hardy here.

VINES

Of the vining types of honeysuckle, three were very generally known over the state, but were reported as not hardy at higher altitudes.

The Halls Japanese Honeysuckle, L. japonica halliana, was a general favorite. Over much of the state it is partly evergreen, but several reported it as winterkilling part way back. It is a rugged grower and the creamy white flowers are very fragrant. It is useful to climb over a trellis or scramble over a bank and rocks. The word "honeysuckle" to many people means this vine. The variety "purpurea" has purplish tinted leaves, otherwise much the same.

The variety aurea-reticulata is a dwarf growing kind with mottled vari-colored leaves, usually grown as a greenhouse plant.

The Scarlet Trumpet Honeysuckle, Lonicera sempervirens, is well known, and rightly so. While it lacks the fragrance of Halls it makes up for it in its brilliant red flowers. It is often not quite as vigorous in growth or as nearly evergreen as Halls.

Lonicera sempervirens sulphurea is a yellow form of the above which is little known in Colorado as yet.

Lonicera heckrottii, while a newcomer, is becoming well known. It bears red and gold trumpets over a nice little shrub, seldom growing over four feet high. The bloom are unusual for the above. The leaves are gray and very attractive. When in bloom the masses of "appleblossom pink" flowers backed by the gray foliage are very attractive. The habit of growth, and color of flower and fruit.
Seasonal Suggestions

May and June

Usually there are about two weeks early in May when the horticultural world looks like our conception of the Garden of Eden. New leaves are breaking out everywhere, the soil is loose and mellow, weeds are inconspicuous and the air is comfortably cool. Buds are opening into fragrant beautiful flowers and the whole world looks fresh and perfect. Better enjoy these days for we know that soon after the plants come to life insects also start their feeding, the soil will dry out and harden, weeds will start to choke out valuable little plants and hot winds will wilt the tender plants. If you will carefully watch your plants and get the jump on the insects, weeds and drouth, you can avoid a great deal of damage. Learn to recognize the damage of different kinds of insects and combat them with the appropriate kind of spray or dust. Early cultivation will get the weeds with a small amount of effort compared to the work required later if they are neglected. Early cultivation will also help to conserve moisture and keep the soil in a workable condition.

PLANTING

The planting of shrubs and trees should be pretty well over by now, but if they are handled carefully and promptly some can still be moved for a while. Perennials can usually be transplanted all summer long if moved with some soil attached. Better wait until settled weather to set out plants of tender annuals. This time is usually after the middle of May. Do not let newly transplanted plants get too dry, but of equal importance is not to overwater. It is much better to water thoroughly every two weeks or so than sprinkle the surface every other day. Colorado cedar and elm trees are especially averse to having the ground kept soggy around their roots after they have been transplanted. Some newly transplanted trees and shrubs will be benefited by a spray of water over the tops occasionally. Especially difficult things will appreciate a partial shade or wrapping until they get established. Many newly transplanted things are killed by kindness. This is usually overwatering and putting fertilizer near the roots. Good soil is essential for the growth of good plants but to attempt to make up for poor soil by putting lots of fertilizer around the roots is liable to be fatal.

SPRAYING

Check your Colorado Cedars carefully every few days all summer for the presence of aphids. They are gray insects about an eighth of an inch in diameter and are found closely massed on the small twigs usually near the bottom of the tree. Any contact spray or a hard pressure of water will get them. Elm scale loosens up as the new leaves come out and can be easily washed off with a strong stream of water. They are thickest on the under side of the lower limbs where they are easy to reach. The galls on spruce tree limb tips should be picked off as soon as they can be detected. After they dry up and become conspicuous is too late to do more than improve the looks of the tree. If we would all watch our Douglas Fir trees in June and spray with a contact spray when the spruce gall aphids have migrated to them, we could help greatly to control the damage to the spruce.

CULTIVATING

If the Downey Brome Grass has become established in your garden you must get after it early. It is easily eradicated early in the season, but becomes a bad problem later. Avoid two of the bad examples of some of the city parks men: that of raking off ALL the leaves around trees and shrubs and then spading deeply. Better work in the duff around the plants by shallow cultivation. As soon as the new leaves start, is time to begin to trim out dead or damaged limbs caused by hail, winterkill or other things. Most of the extensive trimming of shrubs should wait until AFTER they bloom. Maple trees may be trimmed after they come in leaf. Start this spring the habit of making notes about improvements possible in your garden, and new plants which you have seen or heard of that you would like to try. There are many borderline plants that are fun to experiment with, but there are many seen in eastern catalogs which are a waste of time and money to attempt to raise here. One of the purposes of our organization is to acquaint you with these various plants. Again we warn you not to cut off the leaves of tulips until they have dried up. These leaves are necessary to manufacture food for the new bulbs being formed. Plant annuals around the tulips and let them hide the withering leaves.