THE GREEN THUMB
A Bulletin of the
COLORADO FORESTRY AND HORTICULTURE ASSN.
Organized in 1884
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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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PRESIDENT'S ANNUAL REPORT

OUR OBJECTIVES
It is well for each of us to keep constantly in mind the stated objectives of this Association.

"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."

To effectively promote and secure the accomplishment of these objectives your board and officers have felt it of primary importance to develop, in interest and circulation, its bi-monthly publication, "The Green Thumb." Its fourteenth consecutive issue is just off the press. These issues are replete with information of value to all those interested in our objectives. Considering that this has been done entirely upon a voluntary, contributory basis, it is indeed a remarkable achievement. The Association wishes to thank the editor and all those who have prepared and contributed the interesting and informative articles which have been published in the bulletin.

Except for a very modest expense in maintaining the office, membership files, etc., our receipts from membership dues are largely expended on printing and distributing "The Green Thumb." An even more outstanding publication would result with more frequent use of illustrations, line drawings and color prints. To publish six such issues and to maintain the central office calls for an increased annual budget. This presents a real challenge to the entire membership of the Association to whole-heartedly cooperate with the membership committee in its forthcoming effort to substantially increase our membership. If every member would actively undertake to, and actually secure, as many additional members as possible the budget problem would undoubtedly be solved, and the continuance and usefulness of the Association and its publication would be assured.

OUR NEW HEADQUARTERS
An interested member of the Association, believing in the worthwhileness of our objectives and the educational value of our work, has agreed to make available to the Association, rent free and without initial expense, a small, though well equipped headquarters near the Civic Center, close to the Public Library, the downtown activities of the University of Denver and the future Art Museum. This will provide offices for the editor of "The Green Thumb" and for our Treasurer and Assistant Secretary, and space for the development of a horticultural library and herbarium. These headquarters will afford a meeting place for the board and its working committees and for lectures and other educational work and services to the membership. Our rent free use of the property is envisioned for a term of years, but will be conditioned upon our progressive activity and increasing service.

COLORADO ARBORETUM
The Association will continue to work for the establishment of an Arboretum in Denver, also for the preservation of areas of natural beauty and special botanical interest throughout the state; for better forest practices on privately owned forest lands.

At reasonable intervals it plans to hold institutes such as this, devising programs of interest and educational value and assembling the ablest authorities upon the subjects assigned.

GLADYS C. EVANS
(Mrs. John C. Evans)
2. PRUNING

Evergreens are—or should be—pruned for one or more of four reasons: (1) To remove dead or diseased wood; (2) To achieve a desired form; (3) To bring about a denser foliage; (4) To keep trees in scale.

Removal of Dead or Diseased Wood

Most evergreens require this type of pruning at one time or another. A branch dies from blight, from dogs, or for no ascertainable reason. It is unsightly, and perhaps a menace to the healthy limbs besides. It should be cut off. How much? All that is dead or unhealthy, of course; and enough more to leave no stump. Any stump or projection is a favorable point of entry for bacteria. A stump doesn't form scar tissue, as does a smooth cut. On prostrate evergreens, go back far enough to be cutting living wood flush with a larger branch. (See Diagram A.)

The same principle applies with upright evergreens. With branches over 2½ inches in diameter, use the conventional “three cuts” to prevent tearing of the bark. (See Diagram B.)

Achieving A Desired Form

This type of pruning ranges from light pruning to achieve correct growth habits to the fantastic creations (called “Topiary Work”) that are occasionally encountered abroad. Pruning for form has three basic requirements: proper plant material to work with; an early start and patience. If a globe evergreen is desired, do not try to top off the top of a mature Ponderosa Pine. The coarse and open growth habit of the Ponderosa Pine is not adapted to globing. A young Black Hills White Spruce furnishes a splendid subject however. Keep a leader from forming, cut off most of the new growth of each branch during the summer, and in a few years a fine globe is obtained. So with formal column junipers. Select one with naturally slender growth habit. From the time it is a foot high, shape it as desired, and then keep it in this form by clipping off a part of the new growth each year. Two formal Rocky Mountain Junipers at the home of Mr. and Mrs. J. Churchill Owen are shown on the cover.

Formal evergreen hedges are a further example of topiary effect. The hedges of Colorado Spruce and Black Hills White Spruce that are pictured in the January 1946 Green Thumb illustrate skilled clipping practices. Junipers furnish good hedge material, particularly the One-seed Juniper of Southern Colorado, a fine specimen of which is shown on the next page. A lovely hedge of Rocky Mountain Juniper is also pictured in the January issue. Topiary effects can be achieved to a greater or lesser extent with the following evergreens: White Pine, Mugho Swiss Mountain Pine, (especially adapted to formal effects), Colorado Spruce, Common Douglas Fir, Black Hills White Spruce, Japanese Yew, and most Junipers.

Most of this type of trimming is done with hedge shears, once the young evergreen has been made to conform generally to the desired ultimate shape. Once again, the imperative requirement is repeated: restrict clipping to new growth of the CURRENT year, and do it as soon as substantial growth has been achieved. WHILE WOOD IS STILL GREEN.

This type of pruning takes a great deal of self restraint. Once the shears are in hand, the inclination to cut and cut—and cut—is almost irresistible. The shaping of trees to a symmetrical as distinguished from a formal shape properly comes under the next heading, where specific practices are described.

Stimulation of Dense Growth

Both disbudding and shearing, when properly done, stimulate denser growth and produce thicker foliage. Virtually every young Juniper is regularly sheared up to the time it leaves the nursery, for this very purpose. The same is true with many pines, particularly the dwarf forms of the Mugho Swiss Mountain Pine. Spruces and
Firs are frequently subjected to measures of this sort also. As different methods of pruning are employed with different kinds of evergreens, it will be well at this point to particularize.

Evergreens vary greatly in their growth habits. Pine buds elongate in the spring until the so-called “candles” are formed. These vary in length from a couple of inches to as much as ten. After the “candle” has attained its full growth, the “bundles” of needles break forth and themselves elongate. As the needles mature, the “candle” becomes woody and elongates further into next year’s branch, on which terminal and lateral buds are formed. If the “candles” are docked just before the needles start growth, a perfect branch results, nevertheless, but a shorter one. (See diagram C.) This results in a much fuller tree. The White Pine first pictured demonstrates the growth habit that results from regularly cutting off half of each “candle.” In addition, the height has been retarded by annual pruning. (This beautiful tree has just been moved to Denver University Campus by the Garden Club of Denver, as a memorial to Mrs. Mary Dean Reed).

The White Pine on the next page is the same height as the other, but the pruned tree is eight years older than the unpruned tree. For a Mugho Swiss Mountain Pine, simply use hedge shears as shown in the illustration. For upright pines like the White, Austrian, Limber, Ponderosa, etc., cut each separate “candle” with pruning shears.

Spruce, White Fir and Douglas fir can be either disbudded (plucking out the middle bud of each group at the end of each branch with thumb and forefinger, just before the buds “break”) or they can be pruned after the new growth has formed, as previously stated. Either of these practices will produce a tree with denser foliage.

Most Junipers are now grafted stock. The reasons for this will be stated in detail in a later article. Suffice it to state here that grafted Junipers furnish the most desirable trees as to color and form, and in addition, make perfect “matching” possible, where duplicates are desired. In the commercial nursery most upright Juniper grafts should be given the support of a wood or metal stake for the first few years. Regular shearing is a further “must.” Where only a few trees are to be cared for, hedge shears are all right. For nursery work a heavy knife is faster. Grind a file to a sharp edge with a slight crescent shape. Carry with you a carborundum stone and keep the edge eternally keen. With a brisk, upward motion, cut off a portion of the new growth in summer, or a portion of last year’s growth in early spring. Of course the nurseryman will carefully remove all double leaders.

Ordinarily, the homeowner purchases from the nursery a three to five foot Juniper that has been carefully staked and pruned to give it the best in the way of...
growth habit and form. If a strictly formal tree is desired (and these, in the writer's opinion, are much too numerous), start with your hedge shears the first summer—and keep it up. If the tree is to be allowed to assume something of its natural form (which is more beautiful in almost every case), then don't do any pruning the first year, after purchase from the nursery, but thereafter dock a portion of the new growth each year, using pruning shears on each individual branch. By using pruning shears instead of hedge shears, formal regularity is avoided, but a stimulation of growth achieved. The Canaert graft of the Eastern Redcedar, like all of the Virginiana group, gets quite open and sprawly if allowed to grow according to its own inclinations. By docking the tips of individual branches, however, a magnificent specimen like that shown below can be obtained.

Keeping Evergreens in Scale

It is best to secure a tree that will keep in scale naturally, and then prune only enough to stimulate thick growth, letting the tree assume its natural shape. But this is seldom possible for several reasons: (1) There are only a few evergreens that never get out of scale around the small home. (These will be listed in subsequent articles). (2) There are so many desirable trees that can be kept in scale by pruning for a good many years and still not be objectionably artificial. (3) It takes too long for the true dwarfs to give the desired effect.

For these and other reasons, most of us will have at least a few evergreens that must be retarded—and finally removed. The methods have already been stated, except as to prostrate and low Junipers. To retard growth of these, cut off the larger branches at the points indicated on Diagram A.

Diagram C—How to cut a Pine Tree "Candle"

Do not cut the tips unless formality is desired; the whole character of the shrub is lost by merely lopping off the branches. It is generally felt that Pfitzer, Savin, and Tamarix Junipers should never be pruned unless absolutely necessary. The great charm of the Tamarix and Savin Junipers is found in their natural symmetry. This is usually lost through pruning. In the case of the Savin, cutting away lower branches invariably makes it "leggy." Besides, The Pfitzer's great value lies in its picturesque irregularity and this is usually lost by pruning.

With Spruces and Firs, retarding sometimes makes the growth so dense that a few branches must be taken out to make the tree look normal. Such thinning should be done at the trunk, making a smooth cut without leaving a stump.

Cutting the "Candles" on a Mugho Swiss Mountain Pine

In conclusion, remember that too little pruning is better than too much. Once harm is done, it can seldom, if ever, be repaired.

The technical names of trees mentioned above are as follows: (Technical names should always be used in ordering from nurseries, except in the case of the so-called "clones" which are propagated by grafts and cuttings only):

- Black Hills White Spruce (Picea glauca densata)
- Colorado Spruce (Picea pungens)
- Common Douglasfir (Pseudotsuga taxifolia)
- Japanese Yew (Taxus cuspidata)
- JUNIPERS—Canaert Eastern Redcedar (Clon of Juniperus virginiana), Oneseed Juniper (Juniperus monosperma), Pfitzer Juniper (Clon of Juniperus chinensis), Rocky Mountain Juniper (Juniperus scopulorum), Tamarix Juniper (Clon of Juniperus sabina).
- PINES—Austrian Pine (Pinus nigra), Limber Pine (Pinus flexilis), Mugho Swiss Mountain Pine (Pinus mugo mughus), Ponderosa Pine (Pinus ponderosa), White Pine (Pinus strobus), White Fir (Abies concolor).
WEED-FREE LAWNS A FACT

By Armin Barteldes

Through the miracle of organic chemistry, many weeds that infest lawns and fields can now be utterly destroyed by ordinary garden spraying methods. The secret of this new weed killer is the plant hormone known as 2, 4-D.

The advantages of 2, 4-D over old-time weed killers are that it is non-poisonous, does not injure most lawn grasses, does not burn skin, soil clothing or stain walls. It does not corrode spraying equipment, has no lasting bad effects on soil, creates no fire hazard, is easy to handle and very inexpensive.

HOW 2, 4-D WORKS

2, 4-D is taken into the leaves of the weed and permeates the plant to the very root tips. First symptoms of death are a rejuvenation of the weed, caused by abnormal over-stimulated growth of cells within the stems and roots. In 3 or 4 days the leaves and stems twist and bend; then in 4 or 5 days the leaves turn various colors until, in about 30 days, they dry up. While this goes on above ground, the roots are swelling, splitting, disintegrating. The result is an utterly destroyed weed.

We treated over 100 lawns in Denver in 1945 with perfect results using our own products which contain 70% 2, 4-D. We also tried out several other brands and found that any 2, 4-D formula does the work. Some products are lower than others in 2, 4-D and require more material and more water to cover a given area than others. We prefer the 2, 4-D in powder form as it is easier to measure and has no burning effect even on Bent Grass while some of the liquids did discolor Bent Grass if the weather was warm.

The time of application is very important. The weather should be warm and the weeds in an active growing state. Dandelions should not be sprayed until they are well in bloom.

Besides Dandelions, the other most troublesome weeds in lawns in Colorado are Plantain, Chickweed, Speedwell, Ground Ivy, Yellow Trefoil, Dock and Yarrow. These are all readily killed. Two bad weeds are Spotted Spurge and Crab Grass, which unfortunately are not readily controlled with 2, 4-D; especially Crab Grass.

TAKING EACH WEED SEPARATELY

Dandelions, which need no description, should not be sprayed before they come into bloom and can then be sprayed anytime during the summer and as late as October 15th, unless cold weather interferes.

Plantain—there are 2 or 3 varieties in this area. Broadleaf or black-seeded Plantain is the most common; it has a broad flat leaf with a round seed pod resembling a ratstail. The narrow-leaf Plantain has more of an appearance of the leaves of a dogtooth violet and is called Buckhorn. All types of Plantain are easily killed. They may be sprayed when they have fully-developed leaves—which in Denver is around the middle of April. They cannot be sprayed as late in the fall as Dandelions—not after October 1st.

Chickweed—two varieties are prevalent here. The mouse-eared has dark green foliage with small almost round leaves covered by small hairs and produces small white or pink flowers. It grows in round clumps or patches. The perennial type is lighter green with narrower leaves; patches are more irregular than the mouse-eared. It seldom flowers but when it does the flowers are white. Can be sprayed anytime during the growing season.

Speedwell is another very small plant of light green color and light blue flowers. Should be sprayed between April 1st and August 1st.

Ground Ivy—Healsall. All have round leaves and look like a patch of small plantain. Spray April 1st to October 1st.

Yellow Trefoil—has yellow flowers, looks like clover and is often called Jaspense Clover. Spreads by runners. May be sprayed anytime between April 15th and until frost.

Dock is not so common. Has a leaf something like a Dandelion but larger. Does not flower in a lawn. May be sprayed anytime when leaves are developed until frost.

Yarrow—forms a dense mat with fern-like leaves. Does not flower in a lawn. May be sprayed from April 15th until frost.

The dense-growing weeds—Chickweed, Ground Ivy and Yarrow—should be sprayed a second time, two weeks after the first application.

Dandelion, Plantain, Dock, Speedwell and Trefoil are usually killed with one application but if they are not dead within four weeks after the first spraying treat them again. Some weeds may be missed or weather conditions may not be just right.

Spurge is a gray-green weed with two small red spots on the base of the leaves. It has a small single root. The plant has a tendency to spread out over the top of the grass and when crushed gives off a milky fluid. We were able to kill Spurge by spraying it while it was young and tender but did not kill it later in the season.

Crab Grass—also called August Grass. Sprouts in early June and grows quite rapidly crowding out other grasses, turning brown in the fall and producing an abundance of seed for the next year's crop. 2, 4-D sprays have little effect on Crab Grass when sprayed at 1/4 inch height.

Clover in lawns may be injured or killed when sprayed with 2, 4-D. Midsummer spraying has less effect than early or late spraying.

HOW TO APPLY

All 2, 4-D sprays must be mixed with water and sprayed on the weeds so that the leaves are well wetted. A tank sprayer is the most suitable. These are also called compressed air sprayers and have a capacity of from 2 to 4 gallons. A single-action hand sprayer can be used for spraying individual weeds but would be too tedious for an over-all coverage. Hayes Jr. and other types that attach to the garden hose have also proven satisfactory.

A WORD OF CAUTION

Most flowers, roses, other ornamentals and most vegetables are very susceptible to 2, 4-D and care should be taken not to spray them. Do not spray on a windy day as the material may be blown over on valuable plants as well as being lost in the air.

After using 2, 4-D and before spraying ornamentals or vegetables be sure to wash out the sprayer several times according to the manufacturer's directions.

Do not spray when the grass is wet (following a rain or heavy dew.) The ground should be moist (not bone-dry.) Do not sprinkle within an hour following the application.

Do not cut the grass within 3 days following the application.
NATURAL RECOVERY FROM CROPLAND

By G. E. KLIPPLE

Man has been a chief factor disturbing the natural forces which maintain the plant cover of the earth's surface. He has cut down or burned much of the virgin timber and broken the sod of prairies and plains in his struggle for food, clothing, and shelter. Early settlers of the front range of the Colorado Rockies turned to cultivated crops to increase the food supply. Many acres of foot-hill valley land were cleared and broken out for crop production. Cultivation proved unprofitable after a time and now many areas have been abandoned to the natural forces influencing the region. Nature has accepted the responsibility and is doing her very best to heal the man made scars and cover the old fields with a blanket of permanent vegetation.

We are interested now in the way nature works to get the job done. In the course of a study by the Rocky Mountain Forest and Range Experiment Station, (1) to determine means for the rehabilitation of abandoned crop lands in Manitou Park we had an opportunity to observe the changes taking place on land that had been out of cultivation for periods of 3 months to 62 years. This wide range in the time during which nature's reclaiming forces have been at work in different fields gave us a fine chance to study the early, medium, and late stages of recovery.

The plants which offer first aid to abandoned fields are lowly barnyard weeds such as pigweeds, lambquarters, knot-weeds, sunflowers and foxtails. Their sturdy, branched stems break the force of late summer's violent thunderstorms. They dry to a rather persistent stubble which holds winter's snows in place. Two or three seasons of this vigorous first aid treatment makes it possible for the more healing perennial weeds and some grasses to become established. One-sided penstemon, butter-and-eggs toadflax, and trailing fleabane usually are the first of the perennials to appear. They are conspicuous due to the flower garden appearance their almost pure colonies give the old fields for a year or two. Other perennial plants like milk-vetch, thistle, dandelion, hairy goldaster and tumblegrass add their bit by invading the colonies of early perennials thereby developing a typical mixed weed plant cover. Weedy plants are dominant for eight or ten years after cultivation has ceased.

Soil building grasses like wheatgrass, needlegrasses, blue grama, and mountain muhly appear as single plants soon after the perennial weeds take over from the annual weeds. They pass unnoticed for several years unless we look carefully for them. Their fibrous roots are working steadily to increase their hold on the land. Gradually they gain strength and become able to compete on an equal footing with the weedy plants. This medium stage of the recovery is characterized by a mixed grass-weed plant cover. Here and there young ponderosa pines and Douglas firs, survivors from seedlings established during the weed stage, push their tops above the surrounding vegetation. Shubby plants like fringed sagebrush and rose bushes usually have become established to some extent by the early grass-weed stage.

Changes in the plant cover become less abrupt as the time since cultivation increases. Nature does make slow but steady progress unless she is hampered by retarding factors such as erosion and heavy grazing use of the vegetation. The grasses become more prominent and the weeds less so. There are changes also in the dominant grasses. The wheatgrasses and stipas give way to the gramas and mountain muhly. As the humus content and water holding capacity of the soil improve other species such as Arizona fescue, sedges, western yarrow, geraniums and groundselss become established. These species together with mountain muhly and little bluestem are the most abundant species found on areas which never were plowed. On the other hand the first aid annuals have not entirely given up. Individual small and unthrifty pigweed, lambquarter, and sunflower plants still producing viable seeds can be found in bare spaces between grass clumps, 30 to 40 years after cultivation was stopped.

As the soil building progresses during the late stages of recovery the grasses take over more and more of the ground space. Plants of the numerous species compete with one another for the sunlight and moisture they need. Changes are gradual from season to season. Nature is striving for the best possible balance between the grasses, weeds, and shrubs as she weaves her protecting blanket of vegetation for the life giving soil.

A First Year Annual Weed Crop in the Foreground with an Early Medium Recovery Field in the Middle Background.

An Advanced Medium Recovery Field Abandoned About 15 Years but Protected from Grazing for the Past Ten Years.
DECIDUOUS TREES FOR COLORADO PLAINS

Our zones 7 and 9 cover the northern and central plains area of the state. Growing conditions here are generally very difficult, but protected valleys and irrigated districts may be able to grow almost any tree suitable for the Denver area as given in our list of several months ago.

Trees are here listed more or less in order of their hardiness or usefulness. About the first quarter of the lists shows trees suitable for the most difficult places. In the next half are those which usually thrive under more favorable conditions. The last quarter shows those which are only occasionally seen in the area.

In submitting these lists we recognize that many of the very best trees for this part of the state are among the evergreens, but these will be listed at another time.

A little care and thought given to planting, watering and cultivating will make it possible to raise many more trees in this area. The protection from wind and hot sun that trees give is especially appreciated on the plains. Their value as soil binders, as protectors of wild life and eventually as fuel makes them worth a great deal. More street trees and more shade trees around homes will help to make this part of the state more beautiful and a better place in which to live.

LARGE TREES FOR STREET OR YARD

Gleditsia triacanthus, HONEYLOCUST—One of the best for planting under difficult conditions. Slow growing and exceptionally resistant to drought and insect attack. Picturesque growth habit.

Celtis occidentalis, COMMON HACKBERRY—More difficult to transplant than Honeylocust, but equally attractive and drought resistant.

Fraxinus americana, WHITE ASH—Similar to Green Ash but not as popular a tree:

Acer saccharinum, SOFT MAPLE—A beautiful tree, but must have more moisture and better soil than most of the preceding.

Populus alba tatarica, RUSSIAN MULBERRY—Subject to more or less winterkill, but is much appreciated for its fruit where it can be given some protection from water.

Populus alba nigra, Cl. LOMBARDY POPLAR—Of cleaner appearance and more upright growth than the Broadleaf Cottonwood.

Prunus americana, AMERICAN PLUM—Hardy and adapted for thickets, windbreaks and backgrounds. Sometimes worth while for the fruit.

Prunus americana, AMERICAN OLIVE Very drought resistant and adaptable. Makes good hedge, tall shrub or shade tree. Beautiful silvery leaves, fragrant flowers and fruit for birds.

Salix babylonica, Cl. GOLDEN WEEPING WILLOW—The most beautiful of the willows. Very appropriate next to a stream or pond.

Betula papyrifera, Cl. CUTLEAF WEEPING BIRCH—One of the most beautiful trees grown, but must never be planted where its roots will ever dry out.

Acer saccharum, HARD MAPLE—Rarely found in this area. Slow growing and must have moist protected place.

Tilia americana, AMERICAN LINDEN—Beautiful tree, but must have protected location.

Gymnocladus dioicus, KENTUCKY COFFEE TREE—Slow growing habit like Black walnut. Very attractive.

SMALL TREES

Elaeagnus angustifolia, RUSSIAN OLIVE Very drought resistant and adaptable. Makes good hedge, tall shrub or shade tree. Beautiful silvery leaves, fragrant flowers and fruit for birds.

Robinia neomexicana, NEWMEX LOCUST—Once extensively planted, but much inferior to our native cottonwood.

Populus alba, Cl. BOLLEANA POPLAR—The most beautiful of the columnar type poplars. Must be kept growing vigorously to resist disease and insects, and when it grows vigorously it soon chokes out all adjacent vegetation.

Populus nigra, Cl. LOMBARDY POPLAR—Similar to Lombardy but possibly harder.

Populus alba, Cl. SILVER POPLAR—Will stand more drought than most other poplars. Large, spreading growth with silvery bark and leaves.

Populus nigra, Cl. LOMBARDY POPLAR—Once the most popular columnar tree. Subject to blight and insect attacks.

Salix alba vitellina, YELLOW STEM WILLOW—Easy grown in moist places.
Parks?

Need Malus baccata, and parks.

of shrub.

grown frequently QUAKING its loensis, 108,000 Dakota of spots acres.

be nearly Wisconsin for the best use many spots of interest in the state. The Committee recommended that there be a survey made to discover and list places of interest that should be established as state parks. They also recommended that the Association investigate what other states had done along this line and how these parks were managed and used. They felt that we might well work in co-operation with such organizations as the State Historical Society, the Colorado Mountain Club, Izaak Walton League, and Garden Clubs. They suggested that management of these parks be in the hands of a State Park Board appointed by the Legislature, and composed of experts in various appropriate lines.

In Mr. McCrary’s report he makes the following statements:

quote: “In considering the opportunities for outdoor recreation in Colorado, one is struck with a curious fact—that this is one of the very few states in the Union which has made almost no attempt to establish a system of state parks. It is true that a large portion of our most spectacular mountain areas is under public control, and is ably managed by the National Park Service and Forest Service. But the same is true of other western states which have found it also to their advantage to create state parks. California leads the nation with about 316,000 acres in its state parks. South Dakota has 108,000 acres, and Minnesota nearly 83,000 acres. Until recently at least, Colorado had but one state park, comprising 120 acres, the site of Pike’s Stockade in the San Luis Valley, and the existence of this park is unknown to most of our citizens.

It is the opinion of this Committee that we have many areas with distinctive scenic, scientific or historic interest which belong in a system of state parks. No agency other than the state government can be expected to acquire these areas which should be open to public use and enjoyment. As an example of commercial exploitation, certain members of the Incongruous Board fence at the top of the Royal Gorge, so placed as to conceal the view until the visitor has paid his entrance fee. Another case in point, it is said that unless steps are taken soon to preserve a portion of the pinyon grove northwest of Fort Collins, an unique growth in the locality, the grove is likely to be wholly destroyed.

While we are all acquainted with the scenery of the mountains, few people are aware of the fact that there are on the plains areas of unusual interest such as ‘The Breaks’ at the headquarters of the Union Pacific in Limon, and the wilderness of the Purgatoire Canyon country south of La Junta, replete with Indian pictographs, dinosaur tracks and beautiful red rock formations.

This plan would provide for preservation of many of the spots of horticultural interest as recommended by the Botanical Garden Committee, and would work in well with their plans for ‘Altitude sub-stations’ of the proposed Colorado Botanical Garden.

MY GARDEN

A glad, sincere, and thankful song of praise, Unto the gods of fruitfulness and earth,
Each hour of every summer day, I raise.
For all green things which grow upon the earth.

Green things, which spring to life anew each year,
Are symbols of some great eternal plan;
And, one and all, as freshly as they appear,
Revive the hope and calm the fears of man.

Much happiness and sweet content they bring.
In pleasant, sunny hours outdoors, to me;
In loveliness of leaves and flowers which spring
From living, growing plant and shrub and tree.

Therefor it seems, to compensate for toil,
My garden yields green things for which I yearn,
While I, in turn, pay homage to the soil
From whence they came—to which I shall return.

—Len Shoemaker.
COLORADO BOTANIC GARDENS

At the annual meeting one of the most stimulating reports was that of the Botanic Garden Committee. It is to be regretted that space is lacking to print the entire report.

The Committee first reviewed the various locations that have been considered, and abandoned—at least temporarily. Overland Park lacked accessibility and attractiveness, the Clay Pits North of Denver University had poor soil, and City Park is dependent upon an already inadequate mill levy.

The Committee then suggested that a Series of Gardens through Conservation offered limitless possibilities.

"The plan would include the protection of small areas, by fencing, or guarding them otherwise. There would be a garden of mature, big and beautiful Colorado Spruces a collection of mature Yellows Pine; a collection of White Fir; a garden of Colorado Yuccas; of Tree Cactus; of Native Larkspur, etc. "Such a series of Botanic Gardens would therefore be spread over the whole state and perhaps even beyond. It would need the cooperation of many of the cities, counties, and institutions of the state. Each one of the communities which has such a nature asset near it, would be encouraged to submit its site as the official location, or one of the official locations for the Botanic Garden for the variety of plants growing there. Selection should be made by a plant expert in the employ of the Forestry and Horticulture Society. The area should be fenced and policed by the community, or in some cases by the State Institutions nearby."

"The spots set aside for this purpose must be well marked in order that visitors may find their way to them easily. They must also be such that they become tourist attractions for the summer guests of the State. Trees and plants must be labeled, access roads built. All places should be marked on a Botanic Tour Map of the State of Colorado, and copies of this map must be available at nominal cost."

Here is a simple, workable, inexpensive way of making a start upon a State Botanic Garden, which will, as a by-product, expand the sphere of the Colorado Forestry and Horticulture Association greatly. If you have any suggestions, along these or other lines, will you not mail them to the Botanic Garden Committee of the Colorado Forestry and Horticulture Association, 1608 Broadway, Denver 2.

REPORT OF FOREST MANAGEMENT

By ALLEN S. PECK, Chairman

Your Forest Management Committee concerns itself with the activities of the Association in the fields of commercial forestry, windbreak and shelterbelt planting, management of wild lands and related matters. The over-all purpose of the Association in these fields as approved by the Board of Directors on November 8, 1944, "will be to plan and work for the best ultimate disposition and subsequent management of all wild lands in the State, regardless of ownership, with the object of assuring their highest permanent use. (The term 'wild lands' is here used to include lands bearing forest cover, oak and other brush cover, and also rangelands, whether interspersed with forested areas or lying above timberline or on the plains.) A first step will be the encouraging and supporting of an inventory of the natural resources of these wild lands."

Such an inventory of forest resources was made during the past year by J. Lee Deen, Dean of the Forest School at Colorado A. & M. College and one of your Directors, under the sponsorship of the American Forestry Association.

In implementing the objectives of your Association the Committee hopes to help promote good conservation practices on both publicly and privately owned forest and range land; encourage forest planting including shelterbelts; promote public assistance to land owners by means of technical advice and protection against fire, disease and insects; promote co-operation between land owners and public land managing and technical agencies; encourage legislation which will give the state a "forestry code" requiring that forest and range land be so managed as to be kept reasonably productive; encourage instruction in colleges and schools on the importance of conservative handling as opposed to exploitation of natural resources.

Your Committee proposes to cooperate with, support and offer constructive criticism to, when warranted, Federal land managing and agencies which to cooperate with the State Board of Forestry, Land Board, Department of Game and Fish, and College of A. & M. A., in securing adequate appropriations and best possible personnel for research and for exercising leadership in the practice and training for good wild land management.

MAIDENHAIR FERN

Some time ago you published in the Green Thumb a request that members report any plants growing away from their natural habitat. I wonder if you would not be interested to know that we have a beautiful growth of maidenhair fern, the southern maidenhair, Venus-Hair Fern, Adiantum capillus-veneris, on the damp cliff over hanging Cliff Palace Spring in the Dolores River Canyon, between Gateway, Colorado and Uray, Colorado. Mr. Wherry, I believe of the American Fern Society, has mentioned this fern as growing in this spot. Not knowing exactly what it was, I took my mother, Mrs. W. C. Ferril, of Denver, to this rather remote spot, and she identified it, a year or two before Mr. Wherry made mention of it. I am not trying to be a "first" in the finding, but the day that my mother first saw it she received the thrill of her life. Other picnickers at the spot that day thought they were columbin and we did not inform them differently because we thought it gave the ferns some measure of protection. Mr. Wherry said in his report that there used to be a growth of this fern on the damp cliffs in Box Canyon, Ouray, Colorado but it disappeared after a cloudburst. I have searched those cliffs for further signs of it but believe none is there. It has been reported somewhere in Utah, but I do not know where. Isn't it strange that the spores of this moisture loving Southern maidenhair should have become established in such a dry western canyon and where the winters are cold?

LUCY F. ELA

Grand Junction, Colo.
XANTHOCERAS SORBITFOLIA

The July-August issue of “The Green Thumb” just came to me as a sample copy. I was very glad to see the list of deciduous trees for plant zone IV, particularly the list of small trees, for this information will help me in making selections for my future plantings. Xanthoceras sorbifolia is seldom mentioned in catalogs or planting lists, so I was glad to see the favorable comment on it.

Xanthoceras has been growing in my yard for about 15 years, and, so far, could be classed only as a tall shrub. For hardiness and dependability it equals Lonicera tatarica, the “iron-clad” shrub, in my garden. It went through the great drought of 1934 to 1936, and seemingly was not damaged, while many others of my shrubs died. Then that devastating freeze of November 11, 1940, which killed whole groves and orchards, did not even kill the blossom buds on the Xanthoceras. In bloom the first week of May here, it is a veritable snow-bank. I know of no other plantings of this shrub except one in Lincoln, Nebraska, and the one in central Nebraska where my plant originated. That original tree was more than 30 years old. It had been purchased for $3.00 from a “horse-and-buggy” salesman who sold it under the name of “Mexican Buckeye.”

It is said that the Chinese roast and eat the seed. I have distributed all the seed of mine for propagation, so have not tried eating them.

In the Smithsonian publication, “Plants Collected by R. C. Ching in Southern Mongolia and Kansu Province, China” is this statement: “A single stately specimen of Xanthoceras sorbifolia was seen, its profusion of white panicled flowers making it unsurpassed in beauty by any other species.”

Mrs. Paul Murdock, Nebraska.

Most victory garden plots have been worked overtime the past three seasons, and the soil therefore has become somewhat depleted. We recommend a large application, under the circumstances, of barnyard fertilizers, sludge or chemical fertilizers, which ever one is the most available. Secure your barnyard fertilizers from reliable sources, who have not adulterated the product.

M. Walter Pesman and George Beach have called our attention to an excellent book published in 1941 by the Oxford Press entitled “Maintenance of Shade and Ornamental Trees” written by P. P. Peroni. This gives the latest information on tree care by a leading expert, and may be adapted to fit Colorado conditions.
DO YOU HAVE A GREEN THUMB?
If so you will be doing these things in May and June
You will attend at once to planting any new trees or shrubs needed before they are too far out in leaf.
You will carefully cover the roots of any plants, which must be moved, with wet burlap or some similar material.
You will move perennials with a large shovel of soil adhering.
You will not leave small annual plants lying around in the sun and wind.
You will carefully examine the soil that you put a plant in to see that it is in good physical condition and not full of objectional foreign material.
You will carefully water in any plant that you have moved, settling the soil by putting the hose down to the bottom of the hole.
You will not put rich fertilizer near the roots of a newly transplanted plant.
You will not burn leaves and weeds which might be made into compost.
You will carefully cut back newly moved trees and shrubs, removing about one fourth of the existing growth.
You will be everlastingly on the watch for the first signs of damage by insects.
You will learn to distinguish between the damage done by sucking and chewing insects and spray accordingly.
You will first learn what sprays are proper, and when, and then spray whenever necessary.
You will not entirely uncover roses and other tender plants until settled weather has come.
You will not be fooled into thinking that spring is here after we have had a few warm days.
You will learn the peculiarities of Colorado climate and handle your plants accordingly.
You will not water your lawn too early so that it is induced to expect shallow moisture.
You will water your lawn and all plants thoroughly when you do water, but not too often.
You will cultivate in all the leaves and vegetable matter possible when you cultivate.
You will do most of your trimming of flowering shrubs just after they bloom.
You will not trim off ALL the small branches and sprouts from shrubs so that they are left leggy and naked below.
You will learn to renew your old shrubs by taking out a fourth or so of the old stems each year.
You will start after the weeds as soon as they show up while they are easy to destroy.
You will not spade so deeply around shrubs and trees that you cut off many valuable roots.
You will be heartless about cutting back or removing rampant shrubs or trees which are crowding and disfiguring nicer plants.
You will thoroughly prepare the seed bed for new lawns, working under a good amount of fertilizer.
You will not attempt to plant a new lawn in "contractor's soil," that mixture of subsoil, bricks, plaster and rubbish so often found around a new house.
You will not blame the seed or fertilizer entirely for weeds found in your lawn. Usually they are in the soil.
You will look for scale insects on elm, dogwood, lilac, ash, cotton, easter, willow and aspen; and spray with a miscible oil if they are still dormant.
You will brush off small infestations of oystershell scale and knock off elm scale with a hard force of water from the hose just before the eggs hatch.
You will examine your dogwood, snowball and euonymus as soon as the leaves start to unfold, for signs of the aphis which winter over on these plants.
You will not plant tender annuals or seeds of tender plants until the ground is warm and the season settled.
You will thicken up weak spots on your old lawn so that weeds have no bare soil to start their seeds in. You will leave the catcher off the lawn mower as often as possible so that a good mulch of dead grass may accumulate. (But cut often enough so that the grass cuttings do not lie on top, making your lawn look like a hayfield).
You will shade newly transplanted plants for a while if they are inclined to wilt.
You will check up on spring bulbs needed, now, while it is fresh in mind.
You will trim hedges which were not taken care of last fall.
You will learn the peculiarities of Colorado climate and handle your plants accordingly.
You will not judge the value of your tree trim job by the quantity of brush cut off.
You will tell your neighbors of the work that the Forestry and Horticulture Association is doing to make Colorado a better and more beautiful state.
You will consult local authorities when horticultural problems come up which seem to be peculiar to Colorado.
You will pass on to your neighbor valuable horticultural hints that you have learned.
You will read good horticultural books and magazines and learn to discard those things which do not apply to Colorado.
You will occasionally try some "impossible" plant and report your success (or failure).
You will check over your trees for broken branches, rubbing limbs and duplicate limbs which should be removed.
You will not take as gospel ALL the things that eastern writers tell you about your garden work.
You will start after the weeds as soon as they show up while they are easy to destroy.
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You will tell your neighbors of the work that the Forestry and Horticulture Association is doing to make Colorado a better and more beautiful state.
When you have done (or not done) all of these things you can rightfully expect at least a faint tinge of green on your thumb.
As with most organizations, a small group of people do the majority of the necessary work. Many of our members, especially the new ones, do not have clear in their minds just what we are doing, and what our objectives really are.

It seems to me, that we have two general objectives. First, to supply detailed information to gardeners and those interested in horticulture on horticultural practices and plants adapted to our peculiar Colorado climate. This should be of direct benefit to every resident of the state who attempts to grow flowers, lawns, vegetables or trees.

Second, we should be a source of inspiration for those who are interested in making our state more beautiful and livable.

We should boost for more, better and more appropriate trees; for the preservation of our many natural beauty spots; for the planting of barren places and the development of horticulture in all its phases.

To give the membership a better idea of what the directors, officers and committees are doing we give in this issue condensed reports of some of the committees which were read at the annual meeting, February 15-16, 1946.

As an organization we will not attempt to do everything that should be done, but encourage and point the way for individuals and organizations all over the state to do the things needed which are nearest them; to plant more trees, to preserve beauty spots, to better landscape their homes, and to encourage research to develop new and better plants and practices.

The organization needs the support of every lover of their state and every lover of growing things, wild or cultivated. Tell your friends and neighbors of the work we are doing and help improve the status of horticulture in Colorado. No one is making a profit from the organization, but many are donating much valuable time and money to help the work. The dollar membership does not even cover the cost of publishing the Green Thumb.

Each member can also help by sending in pictures and descriptions of good plantings, unusual plants, especially beautiful spots and places needing beautification.

Some of our most enthusiastic members have stated that if we can line up a sufficient number of the people in the state who should be interested, that this organization can be one of the greatest factors for the improvement of Colorado that has ever existed.

GEORGE W. KELLY