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The Green Thumb

Vol. 8  MARCH, 1951  No. 3

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March Schedule

Mar. 15. This is to be another movie night at Horticulture House. This time the pictures will be presented by representatives of the Fish and Wildlife Service, and you can depend upon it that they will be most interesting. Program starts at 8 P.M.


Mar. 29. Planning Your Garden with Scissors. A brand new and different sort of garden planning spree will be going on at Horticulture House on Thursday evening, March 29th at 8 P.M., when Mrs. Kenyon Vail will bring her paper and scissors and show the garden enthusiasts how to plan their garden with scissors. Before the evening is over everyone should be able to see their own garden in all its glory and color. If you plan to attend this meeting be sure to bring a large piece of brown wrapping paper, at least a yard square, a pencil and a pair of scissors.

THANK YOU
Our advertising runs at about ten pages this issue. About a quarter page higher than at any other time. We appreciate this fine support from our friends and we hope that they find it profitable to continue. Surely no publication reaches the gardeners of the community like the Green Thumb.

We also appreciate the efforts of Mrs. Elsie Smith who was in charge of the advertising during January, and through whose efforts this nice amount was lined up.

"LOOK AND LEARN" GARDEN VISITS

The Horticulture Association is planning a series of visits to active gardeners' gardens where the planning and care are largely done by the owner.

There will be three tours on dates in June, July, and August.

Those who have gardens they would like to exhibit and explain to other garden lovers are asked to communicate with Mrs. Paul L. Hastings, DE. 9300.

This Look and Learn series is designed primarily to show what can be accomplished in gardens by personal skill and knowledge.

Tickets $2.00 for entire series. $0.75 single trip.
WHAT is the purpose of a garden?
It seems almost too obvious a question for an answer; yet it can be answered in many ways. Some need the garden as fitting complement to a large house, much used for entertaining. Often this is a display garden, formal and deliberately neat, cared for by the most part by hired help. Some need a garden as ground to grow specimen flowers or only vegetables. Some need a garden merely to furnish the space surrounding their house in a manner similar to the neighbours’ gardens, and so conform to the general type of street front garden.

And there are others, real gardeners, who need a garden as a necessity, and even they may be hard put to it to define something of their own creation which fills for them a definite need. To them the soil itself gives something back as they work it, and out of it they create a place of repose. Perhaps a real garden should have as its unfailing qualities beauty and usefulness. It should be beautiful to the eye and useful for at least some fresh garnishings for salads, for fruit and vegetables. Without simplicity it cannot be restful. And perhaps also it should have some small air of secrecy about it, since it cannot but contain some of the characteristics of its creator. There are not enough gardener’s gardens, not enough secret gardens.

I think that the garden Mrs. Persis following the path round to the east side of the house is an open patio, brick paved, a bush fruit tree growing in its square of soil here and there, and stretching beyond it a slope covered with shrubs and trees. And, continuing round the house you come full circle to where you started, the south side of the house with its almost formally shaped beds, divided by the brick path and bounded by a low white picket fence.

I can imagine what it must be like to sit on spring afternoons and evenings in the patio, and walk through woodland that shelters house and garden from the East. There would, I know, be countless spring bulbs there, and after them the lilies. Plum and crabapple bloom and the faint trickle of the wisp of water that goes to join the minute stream that meanders on its way to the open country beyond.

No one would deny the place its beauty and its use. The patio, easily accessible by a door from the living room and a window from the kitchen, through which no doubt good things are passed outside, is a perfect outdoor living room that grows into the garden almost imperceptibly.

M. Owen has created is one such secret garden. There is no hint, as you walk down the narrow path with high hedges on either side, that you will come on so individual a place. I saw it in late fall, with the round yellow windfall apples on the green grass, and the last few bunches of Niagara grapes, frost withered and wrinkled but still sweet, hanging where they had ripened in the western sun.

Following the path round to the east side of the house is an open patio, brick paved, a bush fruit tree growing in its square of soil here and there, and stretching beyond it a slope covered with shrubs and trees. And, continuing round the house you come full circle to where you started, the south side of the house with its almost formally shaped beds, divided by the brick path and bounded by a low white picket fence.

I think that the garden Mrs. Persis...
A SOUPCON OF METAL

Copied by permission from the
INDUSTRIAL BULLETIN OF ARTHUR D. LITTLE, LTD.

WITH more sensitive instruments and techniques, biochemists can now prove an area of nutrition previously neglected, that of the “trace” elements, which may be as important to health as the almost equally well-hidden hormones, vitamins and enzymes. Many plant and animal diseases have been ascribed to the inadequate concentrations of trace elements in the soil or lavage and cured by increasing them, but the role of these elements in human nutrition has been largely a subject for faddists and enthusiasts. Now that the adequate means of investigation are available for biochemical research, a program is under way at Massachusetts Institute of Technology, in collaboration with Peter Bent Brigham Hospital and the Harvard Medical School, to measure the minute amounts of these elements in the body, both healthy and diseased, and to explain their relation to deficiency diseases and other vital systems. There are many indications that such work may greatly change present concepts of proper nutrition and add to understanding of human disease.

The elements in question are present in the body in concentrations as low as thousandths and millionths of a gram—and a gram is only a twenty-eighth of an ounce. Detecting and measuring them requires such new approaches as quantitative emission spectrography, microchemistry, radioactive isotopes, ion exchange columns, and polarography, many of which are developed for fundamental investigations in chemistry and physics. Equipment in the MIT spectroscopy laboratory, for example, usually used only for advanced physics research, is now employed in this study.

The new techniques have revealed such metals as barium, titanium, lithium, rubidium, which were not previously known to be present in man. They have also facilitated study of the previously recognized metals, including copper, manganese, zinc, silver, cobalt and strontium.

Deficiency Diseases

The importance of trace elements in agriculture and animal husbandry provides a basis for presuming their importance to human health. Many diseases are due to insufficiency of a metal; copper deficiency in lambs brings about serious disorders of the nervous system. Manganese deficiency causes lameness in chickens, pigeons, and pigs, and serious disorders in oats, peas and sugar beets. Lack of boron also causes “crown rot” in sugar beets. Zinc deficiency causes mottling of citrus, pecan and apple trees, which seriously damaged crops in Florida and the Southwest until it was controlled. Fortunately, deficiency diseases can be cured readily by the addition of the lacking element to the nutrient. Adding cobalt to the feed of cows corrects an otherwise fatal condition, one of the prominent symptoms of which is anemia. The importance of this element to human health has recently been emphasized by that Vitamin B12, important in the treatment of one type of anemia, contains four per cent cobalt.

Frequently, disease symptoms arise from intoxication by a metal, or from an imbalance of complimentary metals. For example, too much molybdenum causes diarrhea, deterioration of coat, and eventual death of cows, but the condition can be cured by feeding copper. Recent studies in Australia and England have shown that an imbalance of molybdenum and copper is responsible for some diseases of sheep.

Understanding the role of the trace elements may in time provide valuable information to agriculture, for there have long been suspicions that some soils and some agricultural methods produce crops which are subnormal, nutritionally, though the yield may be high. The problem is immensely complicated by the fact that a varied human diet comes from many soil sources.

The relationship of the trace metals to the vital enzymes is a particularly interesting phase of the MIT program, and there is reason to believe that the trace elements can justly be compared to the vitamins and their effects. The program is a long range one, and has concentrated thus far chiefly on finding which trace elements are present in the body and in which concentrations they occur normally. Together, they comprise less than 0.5 per cent of the mass of the human body. The work will go on to determine whether the concentrations change when disease is present, and if this change might be of diagnostic significance or potential therapeutic value. The role of hormones and vitamins in modern biochemistry is sufficient proof that what is quantitatively minute is not necessarily insignificant.

BEGINNING IN MARCH

Listen to the Green Thumb program on KOA every Saturday morning at 8. Write in your questions and suggestions for making this program the most helpful to gardeners in the Rocky Mountain Area.

March, 1951

THE GREEN THUMB

A SOUPCON OF METAL

March, 1951

THE GREEN THUMB

Benjamin Sweet Lecture Appreciated

The evening of Thursday, January 18th, found a large and enthusiastic audience at Horticulture House to hear Mr. Benjamin Sweet tell of his trip to Yugoslavia. Some thought that this subject might be a long way from horticulture but no one left without being impressed with the fact that conditions such as now exist in Yugoslavia could affect not only horticulture but our whole way of life.

Mr. Sweet gave a very vivid description of conditions as he saw them which kept everyone fascinated during the talk. Before he had talked very long everyone in the room was happy he was living in the United States. It seemed incredible that any people would submit to conditions such as exist in Tito’s country.

This lecture of Mr. Sweet's was greatly appreciated both for its timely information and the fact that Mr. Sweet donated his time which gave the association a nice little sum for the library fund.

All who attended owe a great debt of thanks to Mr. Sweet, to Mrs. Moras Shubert, Program Chairman, and to Mrs. Helen Fowler, Librarian, who contributed much time to promoting this meeting.

A Garden Club That Works

The Home Garden club of Denver has recently voted $25.00 to buy a needed folding table for the use of the Herbarium committee at Horticulture House. This in addition to furnishing a group of workers every week or so to help mount and classify the Herbarium material under the direction of Mrs. Kalmbach. We appreciate this kind of organization which practices what it preaches.
I guess that you can’t have everything, said Mrs. Roy Roll when I was listing the 40 or more plants in her little conservatory and discovered that there were no African Violets. It is possible to have a beautiful collection of house plants without African Violets after all, and Mrs. Roll certainly has a great variety of fine things.

The little conservatory, plant window or greenhouse just evolved, Mrs. Roll will tell you. It is about 8 feet wide, 3 feet deep and head high, with glass sides and top and linoleum floor with drain. Soil, light, and humidity are controllable, but as it is just off the living room, the heat is that of the house. Many plants like this heat, but a few find it too hot.

The prize bloom when I saw the plants was a double pink Chinese Hibiscus. This was a grand bloom. Other things in bloom at this time included several kinds of Begonias, Shrimp plant, Billbergia, Chinese evergreen, Euphorbia and Azaelas. The Stapelia, Gardenia, Cypripedium, Passion flower and Amaryllis were just ready to bloom. Other plants included: Calla lilies, Maranta, several kinds of Coleus, Crotons, several kinds of Nephthys, a Burma lily, several kinds of Ivy, several Orchids, Rhoen, or Moses plant, Marica, several Euphorbias, several kinds of Cactus, Cyclamen, Bird-of-Paradise, Cryptanthus, Clivia, several Aloes, Christmas Cactus, Maidenhair fern, Bougainvillea vine, Hoya, Bryophyllum, Kenilworth Ivy and Palm.

An indoor garden, such as Mrs. Roll has, can be a great source of satisfaction, especially in winter or at times when it is impossible to do the strenuous outdoor gardening.


"Auxin and indoleacetic acid in minute quantities act as stimulants to plant growth. These materials are excreted through human skin. Some people excrete more than others. Therefore, thinks he, some people have "green thumbs". The amount of Auxin needed, he tells us, is so very tiny that a touch by the right person will get things off to a fine start." Well—could be H. F.

THE GREEN THUMB AGAIN

The new frontier—the new land—"is on your own farm."

"We are all just custodians of the land we are on. We must preserve it for the future generations."

"Greatness of this generation will be judged by how well we have planned for the future generations."

"We can plan for increasing the size of America by increasing its production."

"We must think construction not destruction."

Governor Dan Thornton

"The story of the soil is the story of civilization."

"Man has been raising the devil with the plow for thousands of years."

"Forty-five hundred years ago, we had extensive civilizations which are now extinct because of their abuses of the soil."

"A nation endures that thinks to preserve its soil."

"We have already lost fifty million acres of our own good land."

Richard W. Trefz

Here's a suggestion for a poster that might help to do away with the sins of some picnickers and campers:

Don't Be a Litterbug

B. E. F.
NATURE APPRECIATION THROUGH GARDENING

By Alex Klose

For the Milwaukee Equipment Mfg. Co.

EDITOR'S NOTE—We strongly recommend that every member read the following story in its entirety. Alex Klose is not only one of the country's best gardeners but he has a philosophy of life that we might well all learn more of. We appreciate the permission of the Milwaukee Equipment Mfg. Co., makers of rotary tillage machinery, to use this article.

A noted psychologist recently said that what America needs most is NOT more of the "new look"—but more of the old outlook on life. To this he added the suggestion that Stevenson's "A Child's Garden of Verses" be read, which speaks of "the world so full of a number of things—I'm sure we should all be as happy as kings." There is a bit of significance in these lines, in that they were written for children; children who live, or should live, in a beautiful world, undulled or cramped by modern, often unnatural, social customs and standards. Their's is an inquisitive, exciting world, full of interest and curiosity. Children should live in what might be called the slower contentment of an earlier America—a period in which no attempt was made to pour synthetic happiness into dull lives through machine-made entertainment in a day when the survival of life depended upon the power of perception.

It sometimes appears that children are the real philosophers in this world, while many adults have become sleep-walkers. A philosopher is often described as a seeker after knowledge, not the knowledge of a few things or a few classes of things, but of all things and all classes of things. Doesn't this definition fit a child, whose broad, eager outlook on life prompts such questions as "why, what for, where did it come from?" And isn't it because as children grow up they too frequently, perhaps unconsciously, lose the intimate contact with this "world so full of a number of things" that they become sleep-walkers—sleep-walkers whose patience is sometimes strained at the proverbial "why daddy" questions? Perhaps they become sleep-walkers because the cares of the world compel them to travel at too fast a pace; a pace, which in spite of its speed, forces them into a back-water where they crawl over the canvas of life much like a fly, who in moving across a masterful picture, stumbles over meaningless lumps of paint.

The philosophical outlook on life by all normal children suggests that some effort be made for its further development through an appreciation of Nature. A start in this direction was made some years ago after the writings of Seton, Muir, and Burroughs appeared. These naturalists were the starting force for a wave of enthusiastic study of Nature in the schools of the nation. Since then Nature Study as an appreciation has gained favor in somewhat of a periodic cycle, a cycle which too often has been short-lived, sometimes ending in disrepute.

Every now and then a pressure is asserted to drop the study of Nature from the school curriculum and substitute for it a broad, generalized science course. It has been declared that Nature Study is obsolete—that it is a relic or carry-over of the horse and buggy days. To some it is looked upon as a subject unrelated to the needs of modern life. Ofttimes it is suggested that more emphasis be placed on man-made things so that a fortune can be acquired before the age of forty in order that the remaining twenty-five or thirty years can be spent in wasteful idleness. This attitude of many people, including some educators, perhaps is assumed because the importance of natural phenomena is not seen or is taken for granted. Perhaps you too are thinking that the possibility of a child's becoming a professional naturalist is very small, so therefore, why should an interest in the soil, plants, birds, or animals be developed? Will a knowledge of these things ever be helpful, or just what is the value in a study of Nature? These are very definitely fair questions, questions which might be given more elaborate consideration by a Study Group than can be given at this time.

However, if in the past a keener appreciation of Nature had been developed among children, a great many destructive "isms" plaguing the world today would not exist in their present magnitude. The expression "an appreciation of Nature" is often used with a limited interpretation. To some it immediately brings to mind such related individual activities as hunting, fishing, hiking, swimming, or mountain climbing. Pictorial art which attempts to capture Nature's colorful moods on a photographic film or on a painter's canvas is an aesthetic appreciation of Nature. In fact, an appreciation of Nature can be portrayed through almost every human interest, from the purely physical to the religious. All of these Nature appreciation associations, either singly or combined, are of great value in the effect they have on the emotional and physical development of Man.

In spite of the various forms in which an appreciation of Nature can be associated, it is rather strange that Man limits his interpretation of the laws of Nature to the general concept expressed in the phrase "the survival of the fittest." Actually, the principles involved are of a far greater and different meaning. Despite his intelligence which elevates him above everything else found in the Divine creation, Man still remains a part of the universe Man's vain attempt to solve the periodic cycle, a cycle which too often has been short-lived, sometimes ending in disrepute.

A philosopher is often described as a seeker after knowledge, rather than becoming a part of it, are visible in the desolate wastes, the dead cities, and the lost civilizations with which he, during his short inhabitance, has marred the good earth. An imaginary flight through the pages of world history shows how Man's deliberate disregard for the things which the word "Nature" suggests has brought about what might be called the world chaos. In every country the universe Man's vain attempt to solve his so-called social and economic problems, with little concern as to how these should fit into the natural order of things, is clearly evidenced by his misinterpretations of the expression "the survival of the fittest." We Americans are, of course, just as much
at fault in this respect as the nomadic herdsmen who contributed to the formation of the great deserts of North Africa.

The principles applied to the control of an important life-determining factor—water—serve as an example. In the United States almost sixty billion dollars have been spent in erecting huge structures of steel and concrete across our streams. This program has been carried to a point where we begin to wonder if we have gone dam-crazy. The advocates of these dam programs point out the benefits derived from such projects as—recreation, navigation, water supply, power, irrigation; not to omit the big sales point, flood control. These dam projects, because of the vast amounts of soil they remove, and the impressive structures which result, leave a feeling of great accomplishment— of having again conquered Nature.

The wonders of dam-building are glorified to a point that even the Post Office Department saw fit to memorialize them by placing their pictures on a postage stamp. Perhaps the stamps which today are being placed in the albums of young Americans will in the future serve as objective lessons—pointing out how, by a lack of appreciation of Nature, we have purposely delayed and postponed the development of a sensible land-use policy for the whole nation. These pretty, gummed pictures may some day bewail the admission that a whole series of mistakes were made upstream. This confession is already being made, perhaps indirectly, by the reports of the Department of Agriculture which indicate that many of these dam projects will have become useless in less than five generations, and that the value of some of the largest of them will be seriously impaired within the next fifty years.

If the failure of these billion dollar dam projects is only a part of the payment which will be made for the lack of Nature appreciation, perhaps the fair, glowing prophecy recently made as to what the last half of the twentieth century is to bring suggests that we change the title of a very inspiring song to—"God Help America"—for can this nation expect the blessings of a Creator when it wantonly closes its eyes to a Divine order of things?

Men who understand the close relationship existing between the soil, trees, and animals have pleaded, too often in vain, for—not more tons of steel and concrete, but a few grass seeds and trees with which to hold back the waters before they reach the flood stage. Such projects should make a direct contribution to a sensible conservation of our natural resources and therefore warrant the concern and support of every true American.

Proper land use, and this isn't a study just for the farmer, requires a knowledge of all biological laws, a knowledge of the interdependence of all forms of life—the plants, the birds, the insects, the animals, and all the rest. A more general understanding of Nature certainly should make our people more conservation conscious long before such a study becomes an absolute necessity. In addition, an appreciation of Nature by children, and it doesn't make any difference if they're your own, your relatives', or the neighbors', serves as a practical means of teaching civics. Surely a child who appreciates the wonders of living things will not maliciously destroy a bed of flowers, vegetables, a tree, or any other part of his neighbors' property. After all, good government is dependent upon the individual units or homes in the community, and the activity of the individuals who make up the home unit.

In the olden days the little quotation "Idleness is the Devil's Work-shop" was frequently used. Our modern, stream-lined world has changed that saying to "Inactivity is the First Step Toward Delinquency." Perhaps this saying should be changed to "Inactivity of the Mind is the First Step Toward Delinquency." Any youngster who walks through a woods or park is certainly active as far as bodily motion is concerned, but is not very active mentally when he willfully destroys or damages everything in his path.

In a discussion of this kind it is hardly possible to treat at length on the more tangible points of a Nature program. There is, however, an excellent way in which to introduce this thing called Nature to youngsters. That introduction can easily be made by you—through gardening. But don't make their gardening project the job of weeding Dad's prize winners, to carting away the weeds that keep popping up in Mother's favorite rose bed. Rather, give Johnny and Mary their own plot from which they can contribute directly to the family dinner table. Did you ever stop to realize that just as a child wants to bake when Mother is baking, to sew when Mother is mending, or to work along with Dad when he is acting the part of the home mechanic, so also does he want to garden if Mother and Dad are gardeners? The easiest way to avoid destructive activity in your home grounds is to provide a child with his own constructive occupation there. With a little encouragement children like the idea of having their own garden. But start them off on their gardening adventure on the right foot—namely with a garden plan.

Right now is a good time to start working on that plan. For this there is nothing better than a few rather large sheets of wrapping paper, a bottle of paste, some old seed catalogs, and colored crayons. With a little help the rows can be outlined approximately to scale and the proposed planting filled in with crayons or gay colored pictures from the seed catalogs. This will enable the little folks to visualize their plantings in advance.

In selecting varieties for the junior gardens, a few important considerations should be kept in mind. If it is at all possible, have the youngsters select vegetables or flowers that are not grown in the large family plot. This will prevent a feeling of unfair competition when the crop is harvested. For example, if Junior plants three or four hills of corn in comparison to Dad's large planting, at harvest time the yield from the large planting will so overshadow the half dozen ears that are picked from the small planting that the eager glowing thrill of gardening appreciation will be lost for the child. Where the same kinds of vegetables are planted in both gardens, the selection of varieties can be made for the junior garden; as, yellow beans in one, green in the other; green-leaved chard in one, and red in the other.

Now a word about the garden itself. Children's gardens will not be successful, nor will they be maintained if a leftover corner of the lot, the space under the lilac bush, or the area in the shade of the garage is assigned to them. Give the kids half a chance with a favorable piece of ground out in the open, the kind you would select for growing your own prize winners.

It is usually a good plan to let the youngster spend a few days alone in the soil preparation work. This will give him an opportunity to do a little exploring and also get acquainted with a few worms, bugs, and other animals that live in the soil. This exploring work usually results in a head of hair and a pair of shoes that have
NEW IN THE LIBRARY

Growing plants without soil, a laboratory dream of several years, might today still be a threat to change our whole flower production industry. This important art is growing plants in nutrient solutions without soil. The scientist will want this book, and the commercial horticulturist, and as a hobby so will the interested amateur.

Carleton Ellis began producing cuttings by placing easy plants like Coleus, Geraniums, and the like in moist sand, allowing these to form roots. At that time the character of the soil used for potting was the important question. A heavy black earth was considered necessary. "Imagine my surprise," the author writes in the foreword, "when I saw similar plants growing vigorously in cinders, taken from old furnaces".

The authors are two of the leading scientists in influencing this rather new art. Purdue University, an institution preeminent in agricultural and horticultural research, is Dr. Swaney's Alma Mater. Carleton Ellis, since his earliest youth, has been interested in scientific horticulture and is the founder of the Ellis Laboratory at Montclair, N.J.

The authors claim that growing plants in chemical plant food dissolved in water possesses many advantages over soil methods of producing plants. Diseases should not occur in this new method, drought does affect the plants, and establishments can operate in places where soil is unfit for growing plants. It might be a real promise for the commercial grower for much of the drudgery is cut down in the preparation and replacement of soils. This method also keeps experiments under exact control.

We do not look for this kind of gardening to take the place of the outdoor cultivation of home gardens; as a common dirt gardener the writer would be very sorry if it ever did.

The fact of raising plants with no soil should not be too stirring, since the roots of plants which we ourselves grow are capable of absorbing and assimilating only food that is in solution; that is, dissolved in water; so it should not matter whether the soil or the gardener furnishes the food.

QUESTIONS AND ANSWERS

I do not seem to know much about vines. When spring came last year my Virginia Creeper was about gone. I have no gutters, would that mean anything? Omaha.

Virginia Creeper is one of our hardiest climbers, but no vine should be planted where water drips on it. One writer says, "this is bad for the foliage but worse still for the plant in winter. Much winter killing is caused by the drip of water on warm days which coasts the plant with ice at sundown." The ice-coated vine swaying in the wind suffers many cracks and wounds which provide means for the entry of pests and the loss of stem juices in the spring.

In planting seeds this spring should I broadcast or plant in rows? Longmont.

Plant the seeds in rows rather than broadcast, as it makes them easier to identify when weeding.
GROUND COVERS NEED NOT ALWAYS BE LAWN OR EVEN PLANTS

The accompanying pictures taken from many places show that good design does not necessarily have to call for all ground areas to be covered with green growing plants. One of the great glories of Denver in her parks and private places is her green lawns, yet many satisfactory effects can be had by the appropriate use of inanimate materials.

The round pool shown surrounded with broken flagstones adds a bit of interest in the garden of Mrs. George Berger, at 124 Lafayette St., Denver.

The two views on the left and the picture on the front cover are from the home grounds of Mr. and Mrs. John Evans at 2001 E. Alameda. Here also are large expanses of lawn, but these three views show the very effective use of gravel, flagstone and brick as substitutes for lawn in appropriate places.

The three pictures on the right show the use of iris on terraces at the Henry Swan home; rocks and pool at the Harry Huffman place and a commercial place in Alamosa which has the front "lawn" area of red crushed or burnt clay.

Many years ago the Spanish developed the type of Landscape Architecture which used more pavement and water and less grass. Our climate is in many ways very similar to the Spanish and we are now beginning to use more of the inanimate ground covers. When well designed and carefully constructed these features add much to the general effect and they may save considerable water and time.
COMPOST FOR BETTER LAWNS

BY MARTIN R. KEUL

As given at the panel discussion conducted at the Fourth Rocky Mountain Horticultural Conference, Jan. 2, 1951.

Our objective is to be successful gardeners and add successful in home ground beautification. The making and using of compost is one of the means—one of the keys—to successful gardening and home ground beautification.

Denver is growing by leaps and bounds, which means more new gardens and lawns. This, in turn, means that good organic fertilizer from farm and dairy, at a reasonable price, for our gardens and lawns, will be hard to get. To maintain the desired level of organic matter in our garden soil and lawns, compels us to resort to the making of compost.

Compost is a term applied to a mixture of rich house, friable, decomposed plant material; soil and other ingredients, which supplies the garden soil and lawn with humus and plant food elements in safe convenient form.

Compost piles are best started in autumn, at which time much discarded plant material is available. The pile should be built in a handy, secluded spot, in by vines or shrubs. The size of the pile depends on the available space and material. The material for the pile should consist of healthy discarded plant material from the vegetable and flower garden; also vegetable residue from the kitchen; leaves from trees, shrubs and bushes; lawn clippings, free from crabgrass seed; remnants of sod; manure, if available; and some commercial fertilizer.

In a trench about a foot deep, four to five feet wide, and as long as necessary to accommodate available mate-

rial, spread a six inch layer of waste vegetable matter. On this layer spread a little manure and soil. Then the layer is thoroughly soaked. In this manner the pile is built up with succeeding layers, until the pile, with its upper sides leaning slightly inward, is about four feet high, with a slight depression on top to catch rain and snow. To hasten the decomposing of the pile and also to reinforce and increase its plant food value, sprinkle each layer, as you build the pile, with a complete balanced commercial fertilizer. For every hundred pounds of material this might be 3 pounds sulphate of ammonia and 1/2 pounds super phosphate. Potash is not usually necessary in this area.

Keep the pile moist at all times. Spading over or vertical slicing and repiling the heap by working the exposed material to the center of the pile will also hasten uniform decomposition. The time required for a complete decomposing of the pile may be 6 to 12 months, depending on the attention the breakdown of the pile is given.

Besides being a plant food, compost adds humus to the soil, helps retain moisture in sandy soil and makes heavy soil more pliable. It may also be used as a mulch around shrubs and in summer gardens to retain moisture and to prevent baking of the soil. In the spring, screened compost mixed with an additional 2 pounds of commercial fertilizer for each hundred square feet of lawn may be used for lawn feeding by either broadcasting by hand or using a cart spreader. In fall the screened compost may be mixed with grass seed for reseeding the lawn and thus avoid the wasting of seed.

HOW WE MAKE COMPOST

By JOHN W. NEWMAN

In my garden I use compost in a ratio of about five or six tons per acre. That is not a large amount, but it is about all I can collect material for. I believe a well made compost, if properly used will solve most of the garden problems which confront us during the season. If the soil contains plenty of well decayed organic matter, it will grow most of the plants adapted to this region, provided, of course, the weeds are taken care of and water is supplied as needed.

In the spring, before the soil is prepared for planting, the compost is placed on the ground in a line where the immediate row is to be

COMPOST IN THREE MONTHS

BY CLIFFORD L. DUNLAP

There are many methods of making compost. The time involved varies from a few weeks to a year or more, depending upon the material used and the work involved. The work will heat to a temperature of 150 to 160 degrees. After a few days steam will be noted coming from the air holes.

At the end of five weeks the heap should be turned, taking care to work the sides of the old heap to the middle of the new heap, providing the same sort of air holes and sprinkling as necessary to keep it moist. The heap will heat again.

After three weeks repeat the turning of the heap. No air holes are needed this time. The pen of concrete blocks is now torn down and rebuilt with the blocks setting close together. Keep the heap moist, cover with two inches of earth and at the end of four weeks the heap will be compost.

In lieu of manure, any one of several organic activators; B.C.A. AC- CO, Activo, to mention a few, may be used, provided some green material is used in building the heap. The lime or organic activators will keep rats and mice from the heap.

Ed. note. We do not believe that the addition of lime is necessary or desirable in this Rocky Mountain area.
planted. Then using a rotary tiller, I till the compost into the top four inches of soil making a bed four inches deep by sixteen inches wide for planting. And believe me, things grow!

It may be of interest to some gardeners if I state how I build my compost bins. The size of the bin to be used is 8’x12’ (inside measure) and is 5’ high. It is constructed of cement blocks 8”x8”x16” loosely laid with mortar so that they may be moved to other locations as needed.

Material is placed in the bin in layers following the Indor method as nearly as conditions permit. Within my garden it takes most of the season to fill the bin. Material for two or three layers is all that can be collected at one time. Where possible I sow winter rye in the fall and till it into the soil the next spring as soon as the ground can be worked.

WHAT DOES PEATMOSS DO TO GARDEN SOIL

By George W. Kelly

IN the list of soil conditioners, including manure, leafmold, compost and the chemical fertilizers, we are hearing more and more about the value of using peat, or peatmoss, as it is also called.

Peat is an accumulation of organic matter usually found in old lake beds or swamps. This material has been “pickled” in its own juices much like sauerkraut. It has a great ability to absorb and hold water but it does not decay in the same way that leafmold or manure might. It is the first stage of what might, with ages of time and weight of overlying stratas, become coal. It is definitely organic material, yet has little chemical value as it does not break down and decay as does other organic material. Its chief value lies in its ability to loosen up heavy soil and make a sandy soil more retentative of water. It makes a soil “friable” or easy to work when it is thoroughly mixed with the soil.

Manure, compost or leafmold will also loosen up a heavy soil and increase the humus content and these materials will also supply some chemical value. The chief objection to their use is the fact that it is seldom possible to govern their quality and they may be too rich to use around newly planted things, they may be full of weed seed or they may be so adulterated with sand, sawdust or soil that they are of little value.

Peat used “as is” is safe to use mixed with the soil up to 30% and as a mulch on the surface can be used in almost any quantity with no danger of burning roots or stems. Frequently it is mixed with manure to add to its chemical value. When this is done it is less safe to use in quantity, gives some risk of weed infestation, but does give more fertilizing value.

Producers of peat for horticultural use make various claims for the usefulness of their brand of peat. Some may be more water absorbent than that from other sources, some may contain a larger proportion of soil and there may be a slight difference in the acidity or chemical value, but in this country of little soil moisture and little average humus in the soil, any kind of peat is beneficial.

Use peat for improving the texture of soil and use it as a mulch to hold in moisture and retard weed growth. No other material is so useful, valuable and safe for horticultural use.
New Books Received at the Library During February

Economic Plants by Ernest Elwood Stanford
New Riches from the Soil by Wheeler McMillen.
Garden Clinic by Laurence Blair.
Complete Guide to Soilless Gardening by Wm. F. Gericke.
Country Life in America as Lived by Ten Presidents of the United States by Edward Townsend Booth.
Poet and His Time by Ernst Wiechert.
Memoirs of a Rose Man by J. Horace McFarland.
My Camera in the National Parks by Ansel Adams.
How To See Plants by Eric Fitch Daglish.
Surgery with a Spade by A. Z. Godunov.
Wood Study Kit and Manual by Research Laboratory, Timber Engineering Co.
Art of Wrapping Gifts by Druella Lowrie.

Questions and Answers

How is hardy flax increased and what soil does it prefer? Silverton, Colo.

Hardy flax (Linum) is increased by division in the spring, by cuttings of the young shoots or by sowing seed from March to May. It likes a rich soil but is not particular, provided it is not stiff nor damp. It must have a hot, dry place.

I have a pond on my new place but do not know what plants I should use near it. Let me know what to plant. Casper, Wyoming.

A few plants to grow are Anchusa myosotidiflora, Trollius, Ornamental grasses tall and dwarf, Hemerocallis, white Physostegia, Oenothera missouriensis, Iris, especially I. xerica, I. ochroleuca, Chrysanthemum uliginosum, Achillea, Eupatorium purpureum, Epimedium macranthum and Agrostemma.
ASSOCIATION DIRECTOR DIES SUDDENLY

COLONEL Allen Steele Peck, 644 Josephine St., Rocky Mountain regional forester, U. S. Forest Service from 1920-43, died the evening of Feb. 4 while attending a lecture with his wife at the Denver University Student Union Building. Stricken with a heart attack, he was pronounced dead upon arrival of the police surgeon.

Colonel Peck was born at West Barre, New York, April 17, 1880. A graduate of Union College, Schenectady, New York, and the School of Forestry of the University of Michigan, he started his forestry career as a student assistant on a survey party in the state of Maine in 1902. He had twenty-two months of service overseas in World War I, first as a Major with the 20th Forestry Engineers and later as Lieutenant Colonel. He was awarded the Distinguished Service Medal, and also was presented with the Legion of Honor Cross by the French Government.

Colonel Peck had been a director and chairman of the Forest Management Committee of this Association for several years and had recently been quite active in arranging bills to be presented to the legislature to better control the cutting of Christmas trees on private land, in reorganizing the state’s agricultural department, and in controlling spraying operations in the state.

The directors and officers of this association who worked with him will all miss his help and his cheerful, friendly presence, and will fill the vacancy he left on the board with regret.

Our advertisements benefit in several ways; they help pay the cost of publishing this magazine, they help the advertisers interest prospective customers and they help all gardeners select the better firms to supply their gardening needs.
School for the Home Horticulturists

Do you have plant management problems in your lawn, garden, or even in your window garden? If so, you will be interested in a course being offered by the University of Denver on its Civic Center Campus during April and May. Dr. Moras L. Shubert, who will instruct, says that this class in General Horticulture will be a condensation of his highly popular day class which is offered at the University Park Campus.

This course will deal with the important principles of plant propagation, planting, soil care, pruning and training, pest control, etc. Emphasis will be placed upon solving the plant problems that perplex the homeowner in order that he will know what to do or where to get technical assistance.

Classes will meet for two hours each Wednesday evening and they may be taken either for college credit (two quarter hours) or for non-credit. Registration for those who want credit is on March 28 and 29. Those who do not want credit may register at the first class meeting on April 4 at 8:00 in the evening. If further information is desired, telephone the Adult Education office, Alpine 3441, or Horticulture House.

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HOUSECLEANING IN MARCH?

You can lighten this otherwise grim task by knowing that there is a place for your unwanted china, bric-a-brac, furniture, kitchen utensils, etc. Remember to set aside your "Antiques and Horribles" for the Horticulture House auction on May 19th. Let us know what you have and if you cannot bring it yourself we will arrange to collect it.

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Denver, Colo.
DR. John Long of Denver tells of an aster regarded as perhaps the best hardy plant produced in the last quarter century. A reader asks to tell him something about this group of plants. It would help if the inquirer were more specific as there is so much to be told of this fine perennial. In many gardens it is poorly regarded, thought of as simply a weed and supplemented by plants not nearly its equal; the Chrysanthemum does not take its place nor does any other late-blooming tall plant. None has the special style of the fall aster. It does best in a deeply-cultivated soil in a damp position. Michaelmas Daisies are really swamp plants so it might be guessed that a heavy loam or clay is the best of all soils for these plants. If only a light dry soil is available, heavy manuring will help to hold that moisture we talk about and to keep the roots from becoming dry in summer. Nothing, done later, can save Michaelmas Daisies for fall beauty if plants are not kept reasonably wet all summer, right up to blooming time.

The true Michaelmas Daisy is Aster tradescanti from North America. We were not smart enough to hybridize our own plants but England was, using our own American stock to give us what we have today. The garden varieties include several species with many colors and sizes—Mrs. Wright, Mrs. Raynor, Harrington's pink with a silver sheen blooming from late August to frost. There is nothing finer than Climax blue and C. white, which, like few asters, do well in shade. For spring planting you might think over Beechwood Challenger, Violetta, probably the deepest and the richest of the blues, with a habit all its own. A good white has not yet been found for the sun but for a white effect Pyrethrum Uliginosum might be planted or a white Boltonia. The Aster which has been in the Dr. Long garden for several years is Aster frikarti, WONDER of STAFF, a lavender-blue with large blooms, flowering over a longer period perhaps than any other hardy plant. From June 1st way into November, with no frosts, it is in constant display. It was perfection itself in the Dr. Long garden two years ago. Various plants are offered from time to time as yellow asters: No true Aster is ever yellow as far as known.

Helen Fowler.

HELP ESTABLISH KODACHROME LIBRARY

Will all those who take kodachrome pictures look over their collection and see if they have duplicates or other good pictures of horticultural subjects which they might like to contribute to our kodachrome collection at Horticulture House. Pictures of trees, shrubs, perennials, wild flowers, good landscape design, attractive gardens and construction details will be useful. We are having more and more calls for collections of slides to illustrate garden talks. Contact Earl Sinnamon or bring in the Horticulture House. Thank you.

"Makers of Beautiful Gardens"

Roy E. Woodman and Bros.
Landscape Gardeners and Nurseriesmen
Denver, Colo. SPRuca 5509
As you ride or walk along roads in the mountains or plains in the winter there will often be seen the last year's stems of this very common weed (Verbascum thapsus). Sometimes they are head-tall and may be branched to look much like a miniature Saguaro Cactus. Unless one is familiar with their habits the rosettes of green flannel-like leaves found in the same vicinity may not be recognized as the small plants of this same weed which are ready to develop the tall seed stalk next summer. This is a biennial plant and so starts these small seedlings in the fall which winter over, produce seed in fall, and die. The plant is a native of Asia and was introduced to the United States many years ago from Europe. It is now well distributed over much of this country. As it is a biennial it is not a serious pest of cultivated fields but establishes itself along roadways and deserted pastures where there is not too much competition from other plants.

It has been called by a long list of common names, "Flannel-leaf" and "Jacob's staff" being the favorites. Others include such as Velvet-leaf, Torches, Hedge-taper, Colt's ear, Candelwicks, Cow's lungwort, Hare's beard, Shepherd's club, Peter's staff, Old man's Flannel and many variations of these.

Some of the older folks can remember when it was considered as a valuable medicinal plant and many children earned a little extra money collecting and drying the flowers for their medicinal use. Its supposed benefits were the cure of dandruff, heart trouble, asthma, rheumatism and to preserve hair color. Farm boys felt grown up when they smoked it like tobacco.

This is a foreigner which we welcome, even though it is much of a vagabond, for it asks nothing of us but to occupy space not used by other plants, and it contributes to the interest and beauty of the landscape for those who are on the lookout for beauty.

DO YOU KNOW that the humble cattail was used in Virginia to stuff bedticks, making them soft as feathers.
MARCH GARDENING

By now all your gardening plans for the season should be made, your seeds and nursery stock ordered and, as the weather permits, some of the woody plants can be transplanted. Any nursery stock can be moved as the soil is suitable to work, with the exception of some of the more particular and slow growing things like Birch, Hawthorn, Honeylocust, Hackberry and Hard Maple. These things will usually "take" better when moved just before they break into leaf. Then there is less chance of their roots drying out before they start new growth.

Watering should be no problem now as usually there is plenty moisture coming as natural rain. Cultivation, mulching and weed control has hardly started yet so all attention can be given to planting. When those warm days hit that give all good gardeners the urge to get out and dig there can usually be a lot of cleaning up done. The rubbish and trash that has blown in over winter can be removed, some trimming of broken limbs can be done and dead perennial tops removed. Do not assume that spring is here when the first warm days come. Leave the protection and covering on tender things until the new growth really starts. There will be spells of winter yet.

Dormant sprays are becoming more and more important. Miscible oil sprays for oystershell scale on Ash, Lilac, Dogwood, Cotoneaster and Aspen; for European Elm scale on Elm; for Cottony maple scale on Maple, Elm, Honeylocust, Linden and many other things. Lime-sulphur sprays for all evergreens, to control Spruce-gall aphid red spider and other insects. These should be applied when the temperature is well above 40 and there is not too much wind. Dormant sprays means that they are to be applied before new growth.

You may want to bring out the tuberous begonias now and start them in flats or pots so that they will have a head start when the weather is really settled. Many gardeners like to start some of their annual plants even though they can buy them cheaper. It is a little early to start such things as Zinnias and Tomatoes, but the beds or flats can be made now and filled with good soil ready to go when the time is suitable. Hardy things can often be put out the first of May and tender things the first of June. Figure about 6 weeks before this to seed the fast growing things indoors.

Check the stored bulbs carefully now, especially the dahlias. If they are shrivelled add a little moisture but keep them as cool as possible to avoid premature sprouting. Glads should be treated with DDT for thrips before planting out.

Look around now for the first flowers in the mountains and gardens; Spring Beauty, Oregongrape, Whiskbroom Parsley and Storksbill may be found on warm south slopes following a week of warm weather. The early bulbs around town will give a little color. The early trailing phlox may be in bloom. Note these early things and arrange to get some for your garden next year. These first spots of color and new life mean so much to us in the promise of the new year of growth to come.