Herb Growing

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Ground was broken for the herb garden at Kimberton Farms in mid-April, 1941. It was a southern slope thickly grown in grass and weeds and neglected for some years. The team plowed contour strips eight or nine feet wide, leaving grass paths of two to three feet between. Its boundaries are a cornfield at the top, a small stream marking the low point, at the two sides a chicken yard and a mixed woods, the latter providing some shade and woodsy soil for such herbs as need these. In this space of nearly two acres we have fought weeds constantly for two summers and managed to grow about 100 kinds of herbs, 75 of which have been harvested either for sale or for our own use.

About half of these were medicinal herbs, some required in the fresh state. From Alpine wild strawberries we shipped fresh berries; from the passion vine, foxglove and nettle,—fresh leaves; from lovage, poke and plain-leaved parsley,—the fresh roots at a definite stage of growth; from deadly nightshade and Scotch thistle,—the freshly opened flowers; from rue and narrow-leaved plantain,—the whole plant, including the root when freshly dug; from moneywort, small nettle, St. Johnswort and boneset, the whole plant except the root during blossoming time. Other medicinal herbs, including belladonna, Jimson weed, calendula, celandine poppy, autumn crocus, white fringe tree, witch hazel, scouring rush or equisetum, sloe, elder, sedum, lemon balm, linden, valerian and wild pansy, have been grown for roots, leaves or flowers, all of which were dried. Sometimes, in addition to the harvesting and drying processes, there was an additional picking over to remove leaves from stems, etc., or a chopping to get the material into marketable condition. Thus, the medicinal herb business is too specialized and detailed to be profitable when done on a small scale. We have attempted work in this line in order to provide Bio-Dynamically grown products where these were especially needed. Now after two seasons of experimenting and under present labor conditions we are reducing the number of kinds to those which require least work or cannot be gotten elsewhere.

The herbs which are of most general interest, however, and of value when grown in any small garden, are those used chiefly for flavor and fragrance, and perhaps, in addition, because of the peculiar charm of their foliage textures and colors. Even a tiny herb garden has a delightful character of its own. Yet herbs are really too valuable members of plant society to isolate. Low-growing ones such as the thymes, winter savory, the santolinas, chives, marjoram or coriander in full sun; chervil, the mints or sweet woodruff, in partial shade, make good borders in a flower or vegetable garden, or varied ground cover under trees, between rocks, etc. A number are helpful in repelling insects (see in the next issue an article on "Companion and Protective Plants") and so of special value near other plants. The taller-growing, bushy herbs, including sweet basil, horehound, tansy, costmary, rue, sage, southernwood, wormwood, hyssop, lovage and angelica, add attractiveness to the shrubbery masses.

The propagation methods used with herbs are as varied as their growth habits and become more individualized the better one knows the growing plants. In general they can be divided into four groups—hardly perennials, biennials, annuals and tender perennials. All like a place to grow where the soil has been deeply loosened but only the surface turned. It should be crumbly and thoroughly mixed with compost. Beware of the use of manure. Most herbs will not tolerate it. Use well-decayed Bio-Dynamic compost, yet not too much of it. The essential oils of the plant will be lessened, and consequently the flavor, if too rich a soil is provided. Also, the use of too much 500 spray may reduce the oil content, yet this is necessary to spray on the soil just before planting or transplanting, also to mix with a spring compost dressing, both being well scratched into the soil about the plants. An ideal compost for herbs can be made from a mixture of leaves, grass sods, leguminous plants including lupines, stinging nettle, yarrow, chamomile and weeds. At every transplanting time a small amount of compost is mixed with the soil in the planting hole. Regarding the foliage spray 501, the rule is that it should never be used except following 500, also never when there is any danger of frost. So the best time for a general 501 spray of the whole herb garden would be late in the spring after shoots have gotten a good start. Never spray it within two weeks after transplanting, as the roots must take hold and begin to grow before the foliage is stimulated. Where herbs are grown in large quantities and for those that are harvested two or three times a season, it is beneficial to spray with 500 immediately after cutting. This is especially true in dry seasons. Then 501 can be used two weeks later. The spray 508 is useful in a wet season or during the early stages of growth in a flat or seed bed when any tendency towards fungus or mildew manifests itself. All these sprays are most effective if applied as a fine mist. They must be used in a clean spray machine that contains no poison residues. Also, to show their full effect, they must be used in conjunction with other Bio-Dynamic practices.

Hardy perennials include sage, thyme, lemon balm, lavender, catnip, horehound, hyssop, lovage, winter savory, rue, wormwood, mugwort, burnet, sorrel, southernwood, santolinas, tansy, costmary, tarragon, chives, pot marjoram, sweet woodruff and the mints. These are often hard to start from seeds, especially as the seeds and seedlings are very small. The freshness of seeds, too, is more uncertain with plants that are grown less commonly and many are so slow to germinate that one may become discouraged. However, it can be done and plants raised from seed are usually more sturdy. Prepare a special seed bed from which the plants will later be moved. This will probably be a flat three to four inches deep which may be kept in a greenhouse, hot bed or even in a sunny window in the house, always provided it is kept moist but not too wet. If the soil once dries out during the germinating process your efforts are probably a complete loss. To keep the proper degree of moisture as well as a surface that does not easily become crusty is much easier with the right kind of soil. This should be a crumbly loam (sandy tendencies rather than too much clay preferred), not too rich but with a small admixture of well-decayed compost. Before planting have the soil damp throughout, but not too wet to roll or press firmly after the seeds are in. Plant the seeds in rows at least three inches apart. With the very

tiny seeds do not make a trench but scatter them thinly in a line on the surface. Then cover with a very thin layer of compost earth. This will help to keep the surface from caking. Also, a crust can be avoided by careful watering with a fine mist spray instead of allowing drops of water to fall directly on the soil. The flat may be covered at first to prevent evaporation, but remove the cover at the first sign of any mold formation or at the first appearance of leaves, since these must have light. All these precautions are especially necessary with herb seeds. An early spring start (probably in March) with these activities is preferable, for then the seedlings are large enough to survive better when hot weather comes. By the time four leaves have developed the seedlings are moved to allow for better growth of each plant. They are yet too small to set in permanent places, so they may be put in another flat, in a cold frame or in a special bed outdoors if the season is far enough advanced. Allow 3 or 4 inches to a plant in each direction. With some of the very small plants, like marjoram or thyme, one can move a bunch of 3 to 5 at once instead of a single plant. The first 14 perennials mentioned above can be grown well from seed.

Some of these and other perennials including tansy, costmary, lovage, lemon balm, catnip, sweet woodruff, pot majoram, chives, tarragon and the mints are more easily propagated by root division when the plants are dormant in late fall or early spring. Plants which produce many stems from a more or less spreading root usually lend themselves to this method; whereas, those like thyme, rosemary or winter savory, which grow a single miniature trunklike stem, cannot be divided. Southernwood and tarragon seldom or never produce seeds, so one of the other methods must be used for their propagation.

The same is true of mints for, although they do produce seed, there is so much cross pollenation that one cannot rely on seed to get a good strain. Therefore, peppermint is most often propagated by cuttings of the running roots taken in late summer and laid in continuous rows in shallow trenches dug 15 inches apart. After being covered with compost earth they are rolled. Runners are taken only from the best plants as peppermint degenerates easily.

Chives, although growing from a bulb root, are multiplied by dividing the clumps of bulbs every few years before they become overcrowded. For root division lift the whole plant carefully and shake off only as much soil as is necessary to see what you are doing. Break or cut with a sharp knife into two or more parts, according to the size of the mass, but make sure that each part of the root has a living stem or two from which new growth can come. Plant each part again as soon as possible without letting the fine roots become dry. Allow as much space for each part as for the original clump.

The third way of propagating perennials is by slips or cuttings of the strong-growing tips cut with a sharp knife to a length of about two inches. Remove carefully all but the upper 2 or 4 leaves and stick in a bed of pure sand with only the leafy end exposed. Water well at once so as to settle the sand closely around the stems and make sure the sand is never allowed to dry out. The use of 500 is a help in starting root development. Either dip the stems just before setting them in the sand or spray the sand, or both. Moderate temperatures and very little direct sunlight make the best growing conditions. Cuttings are usually taken in late spring or early fall. When roots have

developed move the plants into good soil where they can grow normally until they are large enough to set in permanent quarters. Or the rooted cuttings may be set in three-inch pots until they grow larger. Sage, thymes, lavender, hyssop, winter savory, southernwood, tarragon, lemon balm and the mints can all be increased by this method. It is the best way to perpetuate especially valuable characteristics from a single plant, whereas from seed one gets astonishing variations in manner of growth, in size of leaves and flowers, in strength of flavor and scent, etc.

The biennial group—angelica, parsley and caraway—all grow from seed. Angelica seed must be fresh to germinate well, so you may get a better start by buying a plant and gathering your own seed from it. As soon as the seed is ripe the second year plant it at once. The old plant will die after producing seed, whereas if you keep the flower stalks cut, angelica may be persuaded to live several years instead of two. To keep parsley on hand for use, grow new plants each year, as the flower stalk rises promptly the second spring and then the leafage is poor. Root parsley is a delicious vegetable to use in soups and to cook like carrots, while its tops are as good—some think better—than the curly leaved sorts ordinarily used. Sow parsley seed early as it is very slow to germinate. Weeding is easier if it is in rows at least four inches apart. Thin the plants as they grow larger to stand at least three inches apart in the row. Caraway should be given a little more space than this, while angelica, the largest of the herbs, eventually needs three feet to a plant. Caraway seed is especially difficult to get started and will usually do better if planted with peas or beans as a nurse crop. Allow these to produce their fruit and the caraway will probably not show itself until after they are cut down.

Among the annuals are dill, coriander, anise, borage, summer savory, sweet basil, chervil and chamomile (Matricaria chamomilla). The last two are hardy and will resow themselves and become naturalized if located in a spot that suits them—chamomile in full sun and chervil in partial shade. The time when they naturally sow their seed is in midsummer, so that is the best time to plant them. In seed beds cleared of weeds and with the soil loosened, scatter the fine chamomile seed on the surface, rake in the chervil seed a little and roll both. Planted in rows they are easier to keep weeded at first. Later they will broadcast themselves and cover the ground so well as to help keep down weeds. Do not worry if seedlings are slow in appearing. They will probably wait for a good rain. Each will form a green carpet over winter and in spring send up its flower stalk, produce its seeds and die. Loosen the soil but do not disturb it otherwise, except to keep out weeds and give the self-sown seed a chance to grow. Chervil will probably produce two or more crops a year, as it is a quick-growing, short-lived plant. This same is true of coriander and cress, but these being more tender will not live over winter. To have a continuous supply of cress sow small amounts every two or three weeks—during winter under glass, in summer out of doors. It can be broadcast rather thickly over a small area. With coriander, dill, chervil and anise space the plants three to four inches apart; summer savory needs seven inches; borage and chamomile about a foot; sweet basil 18 inches. Anise grows better if seeded with a few coriander seeds here and there in the row. Dill seed may be broadcast if only the leaves are

to be used, but for seed production row planting is preferable. It likes grass sod compost as a seed covering. Dill, borage, anise and coriander may be sown outdoors in midspring. Sweet basil, coming from India, is very tender and must never go out until all danger of frost is past. It and the summer savory both transplant well so can be started earlier in flats with the perennial seeds. The latter can go outside in midspring, but the sweet basil will need two transplantings, the first time about three inches between plants. When set in its final place the plant can be made to grow more bushy by pinching out the center-growing tip.

The last group of herbs is the tender perennials, including rosemary, sweet marjoram and lemon verbena. Rosemary grows well either from seeds or from cuttings, marjoram from seeds and root division, lemon verbena from cuttings. Rosemary will not survive winter in the northern two-thirds of the United States, although it can endure a little cold weather. The protection of a cold frame with shade during freezing weather may be enough in the central states. Being evergreen, it makes an attractive house plant and will usually do well over winter indoors if given plenty of sun and not too much water. Transplant it carefully, exposing the roots as little as possible. Marjoram too is easy and delightful to keep indoors. Lemon verbena, however, is difficult to bring through the winter and needs pruning back even more severely than the others when moved.

If one desires to grow herbs indoors for a winter supply of fresh green flavors, the best method is to plant all the kinds together in a window box. There they seem to benefit one another, possibly through root secretions, possibly because each takes somewhat different things from the soil. One must have a very sunny window to succeed indoors with herbs. Of course, the soil must be kept moist but not too wet. Mix with the soil some humus in the form of compost such as is used in the outdoor beds. Spray 500 may be used on the soil at transplanting time, 501 two weeks later on the foliage. Following this the sprays 508 and 507 can be used alternately, one each week throughout the winter. The latter has been found especially beneficial to overcome the bad effects of a glass-diluted light on foliage. It is one of the six preparations used in the compost pile and can be used as a spray in the same dilution. Most herbs will require pruning when set in the window box. Others that have done well indoors under these conditions are parsley, thyme, sage, burnet, sweet basil, chervil, mint, cress, dill and summer savory. The last two must be early fall seedlings and not the old plants that have grown outside all summer.

Special attention to individuals is sometimes as helpful to plants as to human beings. For example, lemon balm, sage and peppermint will profit by somewhat more fertilizing than others. Peppermint, of all herbs, makes the highest demands from the soil as to humus and moisture. For this reason three years is long enough to leave it growing in one place. With too little fertilizer it is more likely to suffer from rust. In a moist climate it does better on raised beds, and this is true also of thyme. With both sage and peppermint one can use a small amount of chicken manure which has been well decayed along with compost. Sage likes to have a chamomile plant growing near it. Peppermint will nearly double its oil content if stinging nettle is grown nearby. Thyme does

best on a humus-enriched, sandy soil. All of these herbs like a well-drained location, but tarragon is very particular in this regard, refusing to grow otherwise, although it stands partial shade, as do also the mints, lovage, balm, angelica, sorrel, parsley, sweet woodruff and chervil. The last two, in fact, will only establish themselves naturally if given a place in filtered sunshine. Otherwise all the herbs mentioned require full sun. Certain individuals do not like being transplanted and, if they must be seeded in a place where they cannot stay, they should be moved while still young, with as little disturbance of the roots as possible, with some shade from the sun for a day or two after setting out and plenty of water at first to settle the roots. Borage is one of these, burnet another. It is also more or less true of chamomile and of all those which are members of the Umbelliferae or Parsley Family—dill, lovage, angelica, coriander, anise, caraway, fennel, chervil and parsley. Many of these have long, fleshy and easily broken roots more or less like their relative the carrot, so plan to move them only once if at all. Fennel, balm and hyssop are more certain to come through the winter if given a little protection, either by drawing up the earth around them in late fall or by covering with a dressing of half-rotten compost or a few evergreen boughs. With seeds that are sown outdoors it is helpful for cultivation purposes to sow a radish seed here and there in the row. They germinate so quickly that they mark the rows better than stakes until the slower herb seedlings appear.

In the final transplanting of perennials allow about 18 inches between most of the plants. Thyme, winter savory, burnet and sorrel may do with about a foot. Some may need more space after several years of growth.

The harvesting of herbs presents different problems according to the part of the plant which is used. With leaves the fresh condition is always preferable, but since we cannot always have plants at hand from which to cut, it is fortunate that so many varieties dry well. Cress and chives, and to some extent burnet, chervil and the leaves of dill and fennel, are good only when fresh. Leaves from thyme, lemon balm, the mints, sweet basil, sweet marjoram, summer and winter savory, tarragon, parsley, wormwood, sage, catnip, rosemary, southernwood and lemon verbena can all be harvested and dried. With the first seven mentioned the budding tips as well as the leaves are included. The moment of growth when aromatic oils are strongest in the plant, is just as the flower buds begin to open, so this is the natural time to harvest. Cutting should be done on a clear, sunny morning as early as the dew is off of the leaves. With most of these one can cut two or three times a season. Spread out thinly or hang the fresh foliage in a place where the sun will not reach it, but where there is good air circulation. For herbs to be eaten it will be necessary to remove the leaves from the stems. This can be done just after harvesting or when the material is crisp after drying. Those to be marketed will need in addition to be cut into small pieces, the sizes varying according to the demands of the trade. For home use it is better to crush them finely only as they are used, for the less they are broken the better the flavor seems to be preserved.

The herbs from which seed is harvested—fennel, anise, caraway, dill, coriander—are cut just before the seed is fully ripe so that it will not shatter off during the handling. (Seed wanted for replanting, of course, must be allowed

to ripen.) The whole plant is dried and then the seed can be threshed on canvas, and cleaned either by blowing away or sifting out the impurities.

From chamomile the flowers are picked the first morning they open; from lavender the buds are cut just before they open. Both are spread thinly to dry in the shade.

Be sure not to store any of this material until it is dry to the point of crispness. Then it may be put away in cardboard boxes, glass jars (away from strong light), paper-lined tins or even wooden containers such as the smooth, round boxes our grandmothers used. All of these should be tightly closed if the crispness and full flavor are to be well preserved. Lemon verbena is the only herb which seems to lose its scent and flavor if shut away from air.

Every herb gardener has favorites among the plants. These discussed are but a few of the interesting acquaintances one may develop, but they are more than enough for the beginner. It is best if for the first year one can select ten or a dozen and learn to make them really comfortable in the garden. Then a few new friends can be added with each season and in addition one will have time to gain experience in their use, for to persuade the cook to try experiments may be still another matter.

Density of Population

The relationship of climate to the density of population is given in the following statistics. It shows how many people per square mile could live from the products of the land under certain climatic conditions.

Type of climate	*Number of people per square mile*
Tropical primeval forests	500
Plains with periodic drought	235
Steppe climate (sage brush)	12
Desert	2-3
Warm and dry winter climate	275
Warm and dry summer	235
Moderate moist climate (most favored agricultural belt)	250
Cool and moist winter climate	90
Cool and dry winter climate	90
Tundra	0.02