



GARDENING AS THERAPY



A Resource Manual for Development
of Horticultural Therapy Programs
for the Summer Season

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GARDENING AS THERAPY

by

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ACKNOWLEDGEMENTS

"GARDENING AS THERAPY for the Summer Season" is the second in a series of four manuals designed to assist in horticultural therapy programs. This manual represents the continuing collaboration of members of The University of British Columbia Botanical Garden staff and of the Hortitherapy Committee.

Co-authors of the twelve gardening topics are Margaret Coxon and David Tarrant of The Botanical Garden staff. The section on therapeutic considerations was contributed by Ginny Fearing, a professional occupational therapist and a member of the Friends of the Garden. Annette Lantzius, a participant in the Friends of the Garden Hortitherapy Committee, acted as copy editor. Lea Price illustrated with clarity and appeal some of the joyous benefits of gardening.

Many of the topics were based on the 1978 Spring and Summer program at the U.B.C. Botanical Garden. Participants in the program were patients and staff from the Dr. Harry Purdy Extended Care Unit and the Psychiatric Unit of The University of British Columbia Health Sciences Centre Hospital. Their reactions and enthusiasm for the program were invaluable.

We wish to acknowledge with gratitude the continuing impetus and support of this publication provided by Dr. Roy L. Taylor, Director of The Botanical Garden.

And finally, for her capable handling of production and typing, we wish to thank Pam Morgan Robin of The Botanical Garden staff.

The Authors

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PREFACE

This second resource manual represents the continuing enthusiasm of both our staff and many friends in hospitals who have helped make hortitherapy a success. I can think of no better way to express the significance of this program and these manuals other than to quote from a special project written by Ron Hall, a member of the 'Greeneries', a horticultural club established at Pearson Extended Care Hospital in Vancouver by the Friends of the Garden in 1976.

"Monday afternoons were usually quiet for me in the Activity Wing. This was until one such afternoon about three years ago when our friend Mrs. Ginny Fearing came over to me and said that there were going to be some slides and a talk on the Nitobe Garden out at U.B.C., up in the T.B. auditorium, and would I like to come.

Accepting the invitation I went up and watched the slides and listened. When the session was almost over the invitation was made for the gardening club to come out to visit the gardens in person some time. On hearing this, I exclaimed to an assistant, 'Gee, I hope I can come'.

Weeks passed, still I didn't join the group behind the curtains in the Activity Wing.

Later on one Monday afternoon I decided to wheel myself over and just see what was going on. When I got there, lo and behold if Ginny didn't make the announcement that the next week they were going out to Nitobe Gardens, and would everybody present like to come along. (Boy! did I feel small.)

However, I went on the trip and liked it very much.

From then on I have become a regular member of this gathering each week, doing whatever I can from mixing dirt with a spoon attached to my headstick, to digging out pumpkins by the same manner, or just watching and giving ideas."

We believe the programs presented in these manuals are of great use, not only to our own people in the province but also to school children and people throughout the gardening world who are interested in providing a stimulating new diversion for people concerned about the Green World.

Roy L. Taylor
Director
The Botanical Garden
The University of British Columbia

INTRODUCTION AND INSTRUCTIONS

This manual is designed to assist you in covering a wide range of garden activities during the summer season.

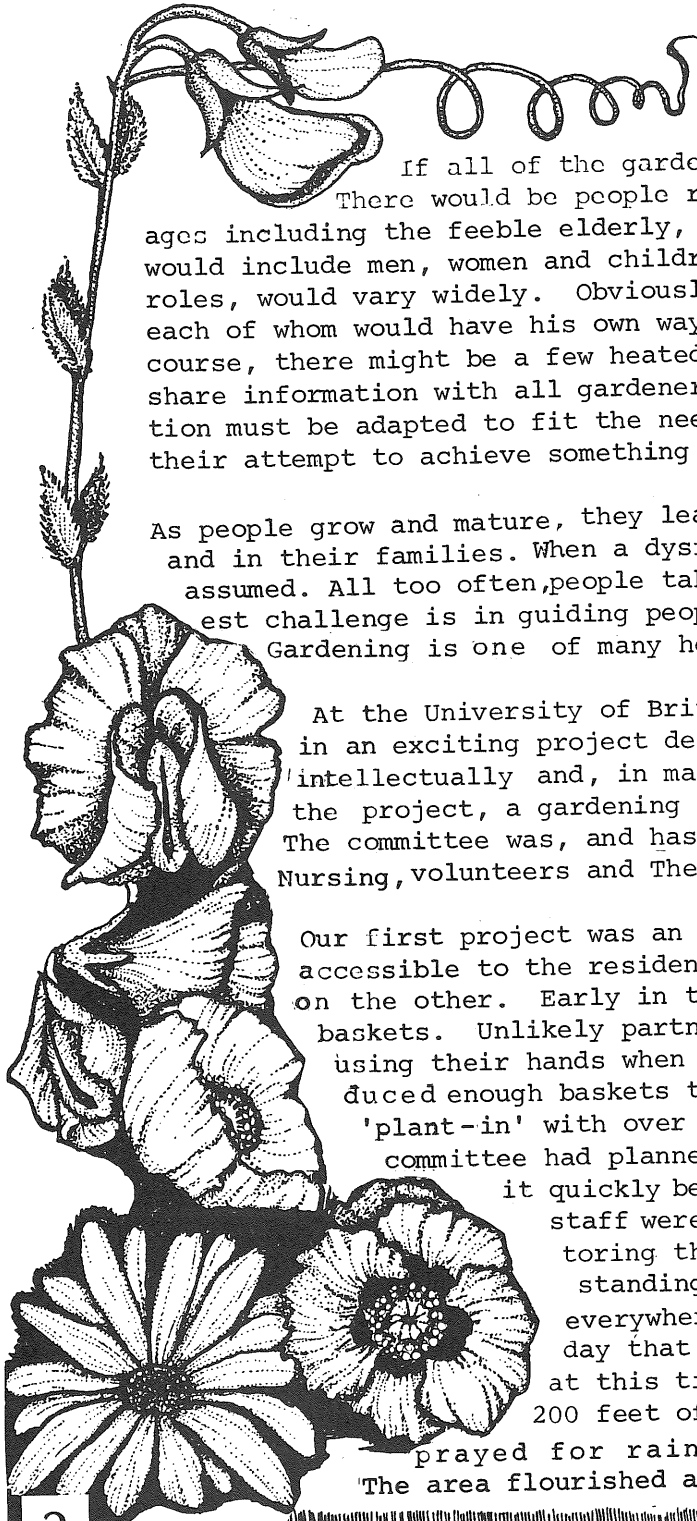
The topics follow a logical sequence and can be used independently or together with all other topics. There are some reference topics (4, 5 and 11) to be used in conjunction with all the practical activity topics.

For maximum use of the manual, the calendars on pages 4 and 5 should be followed. The planting dates listed in the calendars are for Southwest Canada and the Pacific Northwest of the United States and as such will differ from other areas of Canada and the U.S. Check with your local horticultural service to change dates where necessary. Space has been left in the calendars for these changes as well as the addition of other activities more pertinent to your planting area and growing climate.

Each activity topic may be expanded by the addition of planning sessions. Planting plans should be prepared well in advance to assist in the preparation of necessary materials. Planting designs, placements, decisions on what to plant, when to plant and how to solve maintenance problems should be left to the gardeners as much as possible. Great emphasis should be placed on personal choice and the individual interpretations of beauty throughout the plantings.

Follow-up sessions are valuable to discuss the effectiveness of the plantings and changes that should be made for the coming year.

Gardening is an exciting activity to photograph throughout the season. This can be used as a project record and as a way of revising activities for coming years. Also, as well as providing pleasant memories during the winter months, it allows participants to see themselves as gardeners.



THE THERAPEUTIC GARDEN

If all of the gardeners in the world gathered together, it would be an interesting group indeed. There would be people ranging in age from the toddler, clutching a pumpkin seed, on through all the ages including the feeble elderly, laboriously tending loved plants. This mythological gathering of gardeners would include men, women and children from all countries whose intellectual capacities, as well as job and family roles, would vary widely. Obviously, many would be gardening experts, about as many as the people gathered there, each of whom would have his own way of coming to terms with the environment and the plants that grow there. Of course, there might be a few heated discussions but much sharing of information. This manual is our attempt to share information with all gardeners, especially those among us who are handicapped. In many cases this information must be adapted to fit the needs of the individual or group, and then, of course, people themselves adapt in their attempt to achieve something they want to do.

As people grow and mature, they learn to relate to their environment by assuming various roles, socially, at work and in their families. When a dysfunction occurs, especially an abrupt one, new roles must often be quickly assumed. All too often, people take on the sick role for want of a better one. In fact, the therapist's greatest challenge is in guiding people toward healthy roles which allow room for growth, change and accomplishment. Gardening is one of many healthy roles.

At the University of British Columbia, the Extended Care Unit and The Botanical Garden have collaborated in an exciting project designed to extend the world of the institutionalized elderly, to stimulate them intellectually and, in many cases, help them reclaim their role as "gardener". At the very beginning of the project, a gardening committee was formed with representatives from each of the four 75-bed units. The committee was, and has continued to be, multidisciplinary with representation from Rehabilitation, Nursing, volunteers and The Botanical Garden staff.

Our first project was an obvious one. The patio behind the hospital, which is the only outdoor area easily accessible to the residents, was surrounded by an ugly, raised bare bank on one side and bare cement walls on the other. Early in the summer season residents from each floor gathered to learn how to plant hanging baskets. Unlikely partners joined forces to accomplish this task. A few people surprised themselves by using their hands when they had become convinced that this was not possible. One afternoon session produced enough baskets to hang along the cement wall overlooking the patio. In late May, we held a 'plant-in' with over 50 people in wheelchairs putting bedding plants into the bare raised area. The committee had planned to put tall plants at the back of the bed and short ones at the front. However, it quickly became evident that there were enough opinions without adding more. Besides, the staff were very busy keeping a steady supply of plants to the front lines as well as monitoring the safety of those who, in their eagerness to reach the far part of the garden were standing up and stretching beyond the limits of their wheelchairs. As with gardeners everywhere, there was much advice being offered to anyone who would listen. It was a happy day that set the tone for what has since been dubbed "The Back Garden". It was discovered at this time that watering the back garden involved pulling out, and then reeling in over 200 feet of hose. As a result, we probably became the only group in Vancouver that regularly prayed for rain all Summer long. Happily there is now a water faucet spout very near the garden. The area flourished and became a lush place where families often gathered to visit in the sun. Once a

very deaf fellow was taken outside to help weed the area allotted to his floor. He became so involved in this task that he weeded all four areas and simply did not 'hear' nor heed any attempt to divert him.

The second major project the committee tackled was to offer the E.C.U. residents adult classes in horticulture at the U.B.C. Botanical Garden Rehabilitation Greenhouse. Two floors teamed up to send eight people once a week for four weeks. Then the other two floors had a turn. On the ninth week both groups gathered for a picnic on the lawn and a formal presentation of certificates of completion.

"It's wonderful just being in a garden at 10:00 a.m. in the morning."

"I live for Wednesdays now. First thing in the morning I ask the nurse to pull the curtains so I can see if the sun is shining. Other days it doesn't matter."

"We planted the tubs behind the Botanical Garden. Nice, eh?"

"Listen to the birds."

The gardening committee discovered several things from this first set of classes. We had been perhaps too conservative in our choice of patients and decided to include confused and disoriented people. This worked well as the course was easily adapted to meet the needs of various groups. It provided a good opportunity for other accompanying floor staff to see the residents in a different milieu, to understand when to back off and to give people a chance to figure things out for themselves or ask for help if they needed it. We learned to relax and not overplan the visits. The feeling of well-being and of joy was easily observed.

The committee continued to meet once a month, at which time the program was re-evaluated and goals were set for the coming month. By the end of the season, many people with widely varying abilities had participated in the horticulture class. Usually the class consisted of two parts; a work time and a tour of the gardens. One week the class toured the University Rose Garden at its peak of bloom and a few avid rose gardeners greeted their favorite roses like long lost friends. Recently, nearly a year after the first gardening class, one of the first 'graduates' wheeled into the Rehabilitation office to reminisce about last year's class. Then she burst into tears and said "I wonder if I'll ever see a garden again". Obviously the project will continue, except that this year there will be a strong effort to involve others, including family members in the classes.

One of the rehabilitation aides on the committee decided we ought to share the fun with everyone on the floor. She started what has since become an established winter program at the E.C.U. Every week the residents arrange fresh flowers purchased from a wholesaler for each of the dining tables. In the beginning, flowers were jammed into the bowls just any old way, but with experience and guidance the arrangements have become increasingly sophisticated. In season, plants from the back garden were used to supplement the cut flowers.

As Summer approaches again, we are organizing for a new program. The gardeners are full of ideas as to how their garden should look and will offer opinions to anyone who will listen. If all of the gardeners in the world gathered together, it would be an interesting and vocal group indeed.

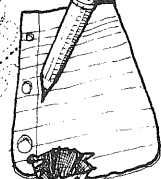
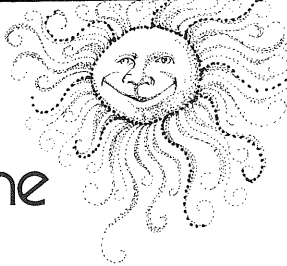
Ginny Fearing, Therapist
Extended Care Unit, UBC

SUMMER CALENDAR

april

may

week
one

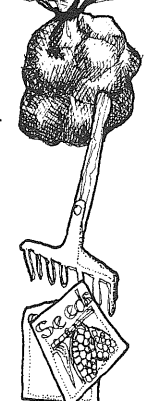


PLAN YOUR GARDEN
 WORK out planting plans and time schedules
 ORGANIZE tools, supplies and equipment
 SOW seed indoors (TOPIC 1)

PURCHASE bedding plants (T4)
 PLACE in cold frame (T2 & T5)
 MOVE transplants to cold frame (T2)



week
two

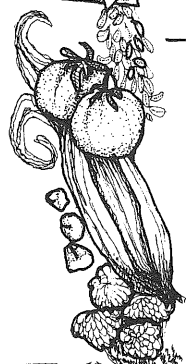


PREPARE planting beds (T6)
 CONSTRUCT cold frame (T2)
 CHECK seedlings for early transplanting (T1)

PLANT hanging baskets (T8)
 PLACE in cold frames
 DIRECT SOW flowers and warm vegs (T6)



week
three

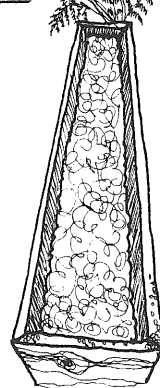


DIRECT SOW cool vegs (T6)
 TRANSPLANT seedlings (T1)

PLANT OUT BEGINS
 BEDS, planters and window boxes (T7 & T9)



week
four



PREPARE planters (T3)
 TRANSPLANT seedlings (T1)

PLACE hanging baskets
 PLANT out warm vegs:
 Tomato, Pepper, Cucumber, Squash (T7 & 9)



june

MAINTENANCE (T11)

CHECK watering and
pinching back
PLANT Dahlias and Gladioli

MAINTENANCE (T11)

CHECK watering and feeding

MAINTENANCE (T11)

CHECK staking and tying

FLOWERS (T12)

COLLECT for pressing
COLLECT Rose petals

july

FLOWERS & HERBS (T12)

CUT and dry

SOW seed for Fall
vegs (T6)

HARVEST early vegs

MAINTENANCE (T11)

CHECK deadheading

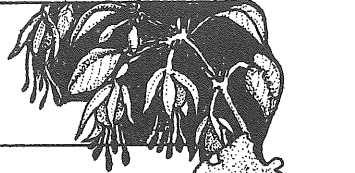
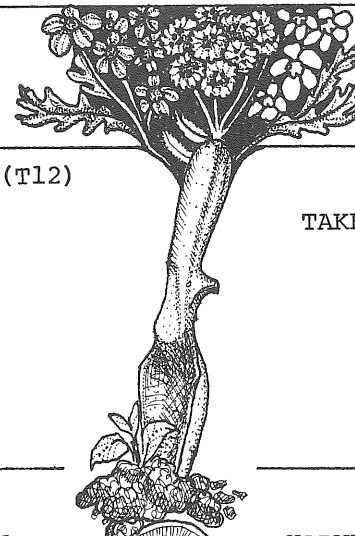
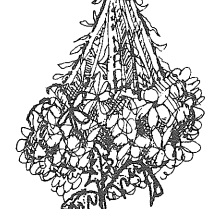
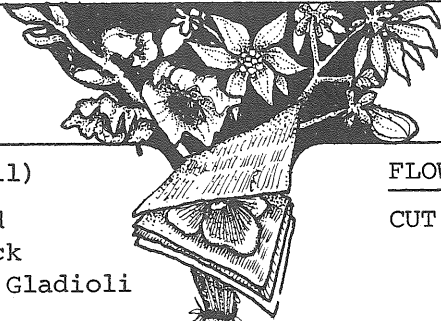
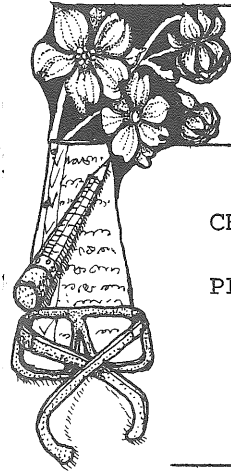
august

TAKE summer cuttings (T10)

HARVEST vegs

CUT foliage for glycerine
preservation (T12)

EVALUATE summer plantings for
reference next year



Sowing Seed Indoors

YOU NEED

1. PLANTING PLANS for the coming season.
2. CONTAINERS - seed flats or wide pots.
3. SEED MIX, plus peat or fine sand.
4. POTTING SOIL and pots for transplanting.
5. SEEDS and labels.
6. FERTILIZER - liquid.
7. SOIL sifter or wire mesh.
8. LINE MARKER such as ruler or tongue depressor.
9. WATERING and misting equipment.
10. POSSIBLY: Peat pellets or peat pots. Fluorescent light unit. Clear plastic covering.

SOWING SEED INDOORS

1. Because most seed catalogues appear right after Christmas, this topic can start to "germinate" in early January. As an antidote to winter doldrums, hold a planning session and decide what and how much seed to order or purchase. This can be a particularly pleasant task if the snow is flying outside!
2. Allowing for the fact that some kinds of seed take longer to germinate than others, work out a growing chart for starting seed indoors. In general seed should be started 4-6 weeks prior to the recommended planting out date. The big variable is always the weather, but if you have a cold frame, you can hold the seedlings until the ground has warmed up.

ADDED INFORMATION

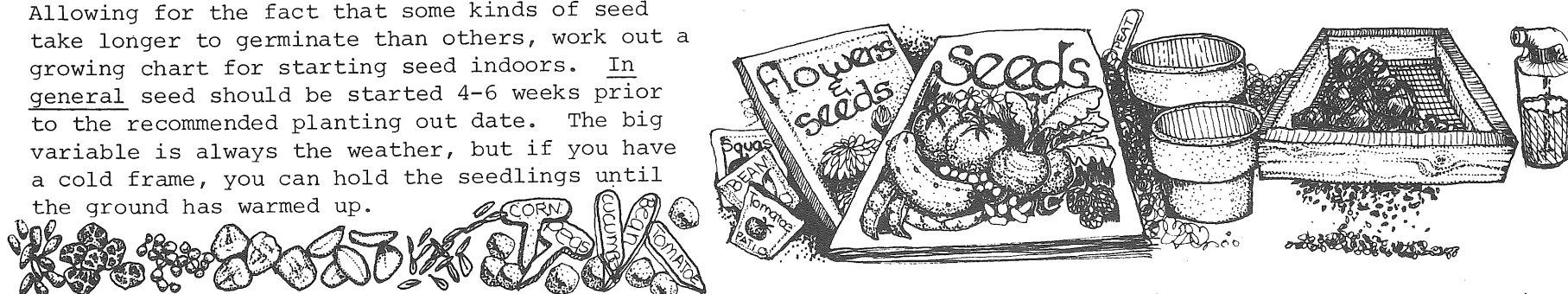
There are some definite advantages to raising your own plants from seed indoors. (1) In cooler climates tender plants, such as Tomatoes, Peppers and some Squash, can be given a much-needed headstart on the growing season, making early or successive plantings possible. Unusual varieties or exotic plants need to be grown from seed as they are not readily available.

Unfortunately seedlings are not easily raised under normal indoor conditions. Very often the climate is too hot, dim and dry causing overly rapid, weak growth. Also, starting seeds too early in the season will cause them to grow too large by planting out time.

Ideally, the seeds should be germinated and grown in a cool, bright spot to the true leaf stage, then moved out into a cold frame or greenhouse until planting out conditions are most favorable. This will insure compact, healthy plants able to adapt to the local climate. Seedlings planted indoors may be planted directly out if the weather is quite warm.

Check local seed suppliers for reliable and interesting varieties.

International seed catalogues contain exotic and different seed that can be fun and challenging to grow. Favorite flowers, vegetables and herbs from other countries can be grown in this way.



SOWING SEED INDOORS

With your seeding schedule clearly before you, proceed as follows.

1. Buy a prepared medium, or prepare one of the following mixes using 1 part of each ingredient.

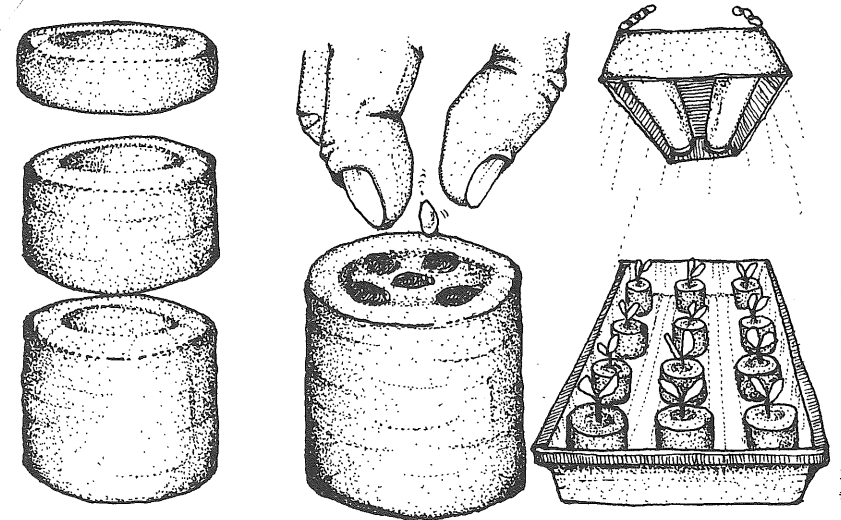
MIX A (Soil-less)	MIX B (Soil-less)	MIX C (Soil)
Moist Peat/Sand	Moist Peat Moist Perlite Vermiculite	Sterilized Soil Sand or Perlite Moist Peat

2. Moisten thoroughly and screen into flats or wide pots until 1cm ($\frac{1}{2}$ ") from the top.
3. Level and firm the surface with a wood block or your palm.
4. Mark rows 3cm (1") apart with a straight, fine-edged tool such as a tongue depressor or ruler.
5. Following package directions, sow seed at indicated depth and distance.
6. Sift a fine covering of sand or moist peat and firm over seeds.
7. Mist lightly or soak very gently from the bottom until surface is uniformly moist.
8. Label well with date, variety and company for future reference.
9. Cover with damp newspaper until germination occurs.
10. Uncover flats or pots and place in cool 14°C (60°F) bright area until the second set of leaves develops.
11. Lift, separate and transplant seedlings into flats or small pots filled with a good soil mix. Move to a cold frame or grow indoors until planting out time.

PEAT PELLETS

Peat pellets remove the need for transplanting and the chance of transplant shock. They can be a lot of fun to use for crops such as Tomatoes or Peppers.

Place pellets in a tray and soak in water until fully expanded. Poke 2 or 3 holes in the pellet, plant seeds and firm the peat surface. When the second leaf set forms, cut off all but the best plant in each pellet.



LIGHTING

Fluorescent lighting placed 5-15cm (2-6") above the seedlings will greatly improve the quality of growth indoors. Regular cool, white tubes are inexpensive and work very well for seedlings. A clear plastic tent or greenhouse will help counteract hot, dry air.

ON-GOING CARE

Water seedlings lightly and carefully when needed. After transplanting or the second leaf stage, feed mildly each week with a balanced liquid fertilizer.

Making a Coldframe

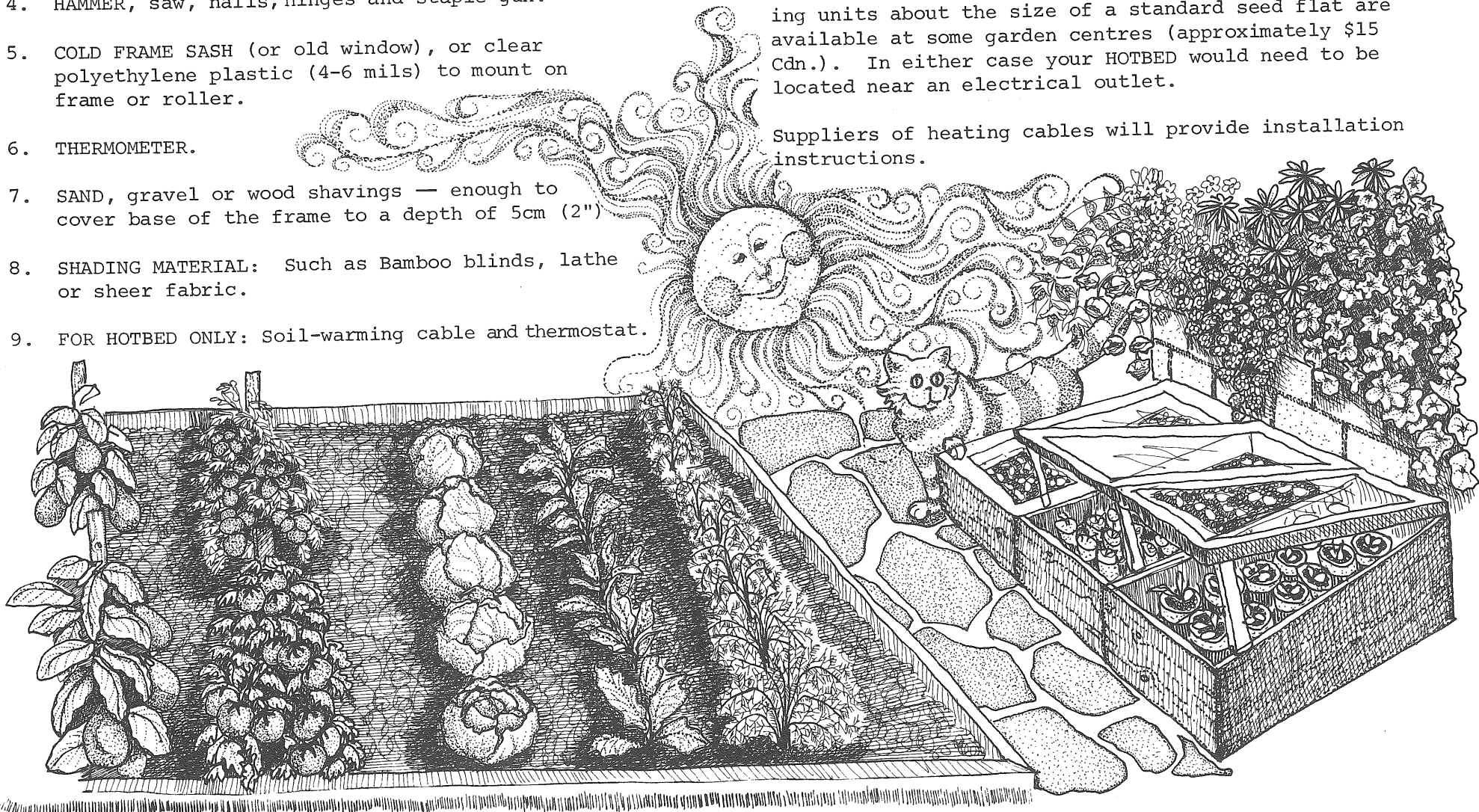
YOU NEED

1. A LEVEL, sheltered area, if possible with southern or western exposure.
2. 30 cm (12") BOARDS treated with preservative, plywood or cinder blocks.
3. 5cm x 5cm (2" x 2") WOOD for the corners.
4. HAMMER, saw, nails, hinges and staple gun.
5. COLD FRAME SASH (or old window), or clear polyethylene plastic (4-6 mils) to mount on frame or roller.
6. THERMOMETER.
7. SAND, gravel or wood shavings — enough to cover base of the frame to a depth of 5cm (2")
8. SHADING MATERIAL: Such as Bamboo blinds, lathe or sheer fabric.
9. FOR HOTBED ONLY: Soil-warming cable and thermostat.

ADDED INFORMATION

A COLD FRAME operates entirely by solar heating to provide a climate in which plants can be started or held despite cooler outside temperatures. In cold weather areas, where nighttime temperatures are frequently below freezing, you can convert your COLD FRAME to a HOTBED by the addition of a soil-warming cable. The installation of a heating cable and thermostat is relatively simple but the initial investment can be fairly costly. Small portable heating units about the size of a standard seed flat are available at some garden centres (approximately \$15 Cdn.). In either case your HOTBED would need to be located near an electrical outlet.

Suppliers of heating cables will provide installation instructions.



The cold frame is an old-fashioned gardening tool which is relatively easy to construct and offers a variety of seasonal uses. Its main purpose in Spring is: 1) to provide for early sowing of flower and vegetable seeds, and 2) to allow indoor or greenhouse plants to make the transition to cooler outdoor temperatures. (This latter process is called 'hardening off'. If you've never seen what happens when a plant moves directly outdoors from a greenhouse situation, try it as an experiment.)

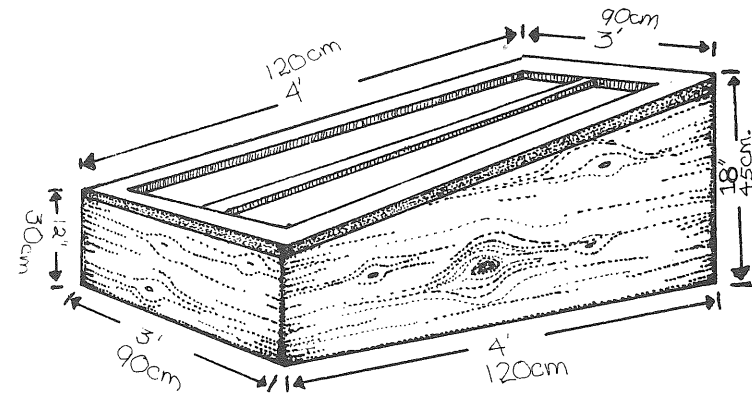
A cold frame is a boxlike structure, usually made of wood, with a transparent roof which is slanted to catch the maximum sunlight. The best location for a frame is facing South or West with a wall or fence at the back to provide additional protection and warmth. On days when the temperature inside the frame exceeds 21°C (75°F) it should be shaded and the sash raised to provide ventilation; be sure to close again 15 minutes before sunset to trap radiated heat for overnight. On nights when frost is forecast, a blanket or tarpaulin thrown over the frame will help retain the warmth inside.

Other seasonal uses for the cold frame include starting cuttings and seeding perennials in Summer, and growing crops of Lettuce and Radishes in Fall. In Winter it can be used to store pots of forcing bulbs as well as Geraniums and other non-hardy plants.

The conventional cover is a window sash attached to the top of the frame by hinges.

A semi-permanent type of cover can be made by stapling heavy gauge plastic to a wood frame or sash, but good results can be had from rolling a heavy sheet of plastic over the frame at night and back when temperatures are warm. A word of warning: make sure the plastic is well anchored during windy weather.

A conventional type of cold frame



HOW TO PROCEED

1. Precut lumber to required lengths and treat with preservative containing copper naphthenate. Do not use preservatives which are toxic to plants.
2. Level the area. If possible, excavate to a depth of 5cm (2") and fill with sand, gravel or shavings to provide good drainage. (If a warming cable is to be used, excavation will have to be deeper.)
3. Arrange and construct walls of frame.
4. If not using a window sash for cover, construct a lid and cover with plastic using the staple gun.
5. Hinge cover to the back of the frame.
6. Attach thermometer to back wall.
7. If using a warming cable, lay cable and thermostat according to manufacturer's directions.



Preparing Planters

YOU NEED

1. CONTAINERS of suitable size and shape, weather-proofed where necessary.
2. PLANTER MIX - see recipes opposite for components.
3. AMENDMENTS - peat moss, sand or perlite.
4. DRAINAGE MATERIAL - bark, shards or rocks.
5. DRILL for drainage holes (2cm [3/4"]) for wood, or concrete bit for asbestos.
6. FERTILIZER - dry or time-release.
7. TOOLS - shovels, spades, trowels, scoops and measuring equipment.
8. BLOCKS or tiles for elevation of containers.
9. SAUCERS or trays, if needed, to contain run-off.

ADDED INFORMATION

Treatment of planters to improve weathering and durability is sometimes necessary. Baskets and wooden planters can be treated when dry with an oil base stain. Cane-type baskets work very well for a few seasons if treated. To change the color and treat a wooden planter, an oil base topcoat paint over an oil base primer works well.

Concrete and asbestos containers need no weathering treatment but can be colored with an exterior latex paint or concrete latex paint.

Plastic containers can be colored by using an oil base paint over a special plastic primer.

Baskets should be lined with plastic to prevent soil seepage. Poke holes in the bottom to permit drainage.

Use only lightweight drainage material (bark) in elevated or hanging planters. Heavy drainage material (rocks or gravel) is good for anchoring lightweight planters.

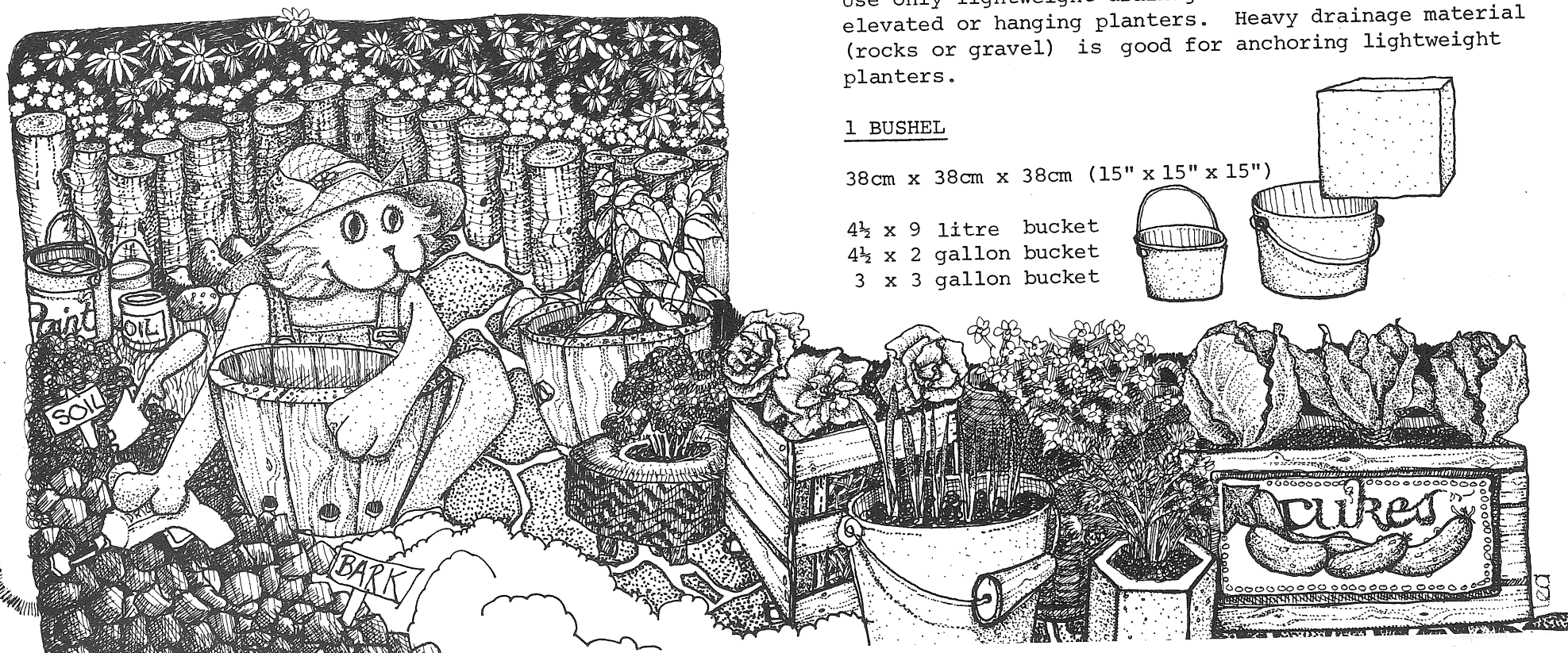
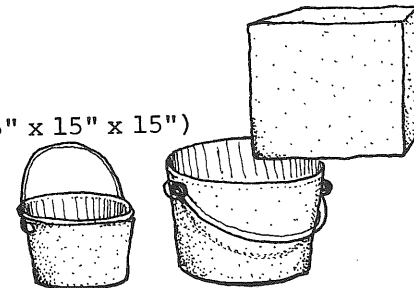
1 BUSHEL

38cm x 38cm x 38cm (15" x 15" x 15")

4½ x 9 litre bucket

4½ x 2 gallon bucket

3 x 3 gallon bucket



CHOICE OF CONTAINERS

Many different types of containers can be used for growing plants successfully. It is only important that they be able to withstand weathering factors, not be toxic to plants and that they contain enough soil to allow for good root growth and water retention. In general 25cm x 25cm x 25cm (10" x 10" x 10") is a minimal size.

Traditional clay, wooden, ceramic, asbestos, plastic, metal and concrete containers work well and last for many growing seasons. More creative, though sometimes less durable containers can be made by using wooden boxes, baskets, buckets, barrels and drainage tile.

Large areas can be made into raised planter beds by using wood, railway ties, paving slabs, brick, stone or concrete.

DRAINAGE

Good drainage holes are essential in all planters exposed to rainfall. Four or five 2cm (3/4") holes on the base and/or sides of a planter will allow for adequate drainage.

All flat-bottomed containers should be elevated on 2-3cm (1") blocks or tiles to permit run-off. Saucers or trays should be used if run-off is a problem.

To assist drainage and prevent soil seepage, fill the bottom of the planter with a layer of coarse materials such as bark, shards or rocks. For very deep planters use a lot of drainage material.

PLANTER MIXES

These can be soil or soil-less mixes. Sterilized soil is very good but can be expensive for large outdoor planters. As the mix does not remain sterilized, a good garden loam or compost can be used in any outdoor planter mix, in which case weeding will be increased.

A SIMPLE BASIC SOIL MIX

- 3 parts soil
- 2 parts peat moss
- 1 part coarse sand, perlite or pumice

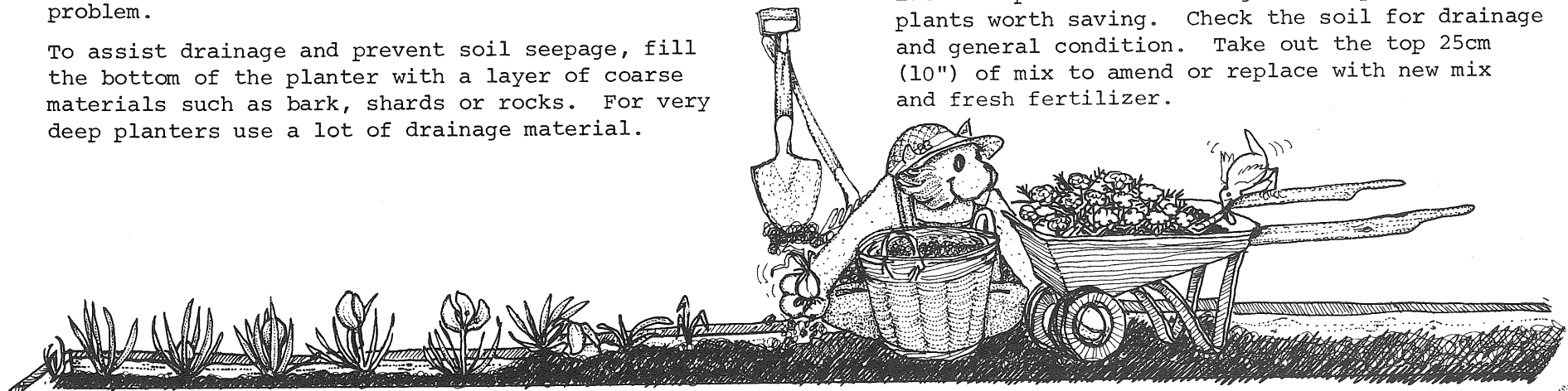
To each 9 litres (2 gallon bucket) of this mix, add 38 grams or 1 1/3 oz. of a balanced time-release fertilizer such as Osmocote 14-14-14 or a balanced dry fertilizer.

Prepared planter and soil-less mixes can be purchased ready for use. These can always be amended to produce a fast-draining, light planter mix. Moisten all mixes before filling the planters, especially those using a lot of peat moss.

Fill the planters to within 6cm (2") of the rim.

PREPARING USED PLANTERS

Lift and plant out in the garden any bulbs or plants worth saving. Check the soil for drainage and general condition. Take out the top 25cm (10") of mix to amend or replace with new mix and fresh fertilizer.



The information contained here and in Topic 5 do not necessarily constitute work sessions but act as a reference guide for most of the other topics in the manual. Using this guide, a group can hold a planning session to decide which plants to purchase or grow for use in a garden, raised bed, patio area, planter or hanging basket. While there are plants that can be grown in just about every location, the ideal spot for a summer flower garden is facing East with good morning sunlight followed by afternoon shade to prevent plants from drying out and to prolong the blooming period. Many of the plants listed will grow in more than one exposure depending on your local climate.



PLANTS FOR SHADE

PLANTS FOR FULL SUN

Annuals

- *Ageratum
- *Begonia
- *Browallia
- Calceolaria
- Coleus
- *Impatiens
- *Lobelia
- Mignonette
- Mimulus
- *Schizanthus
- *Tradescantia

Perennials

- Ajuga
- Aquilegia
- Dicentra
- Hosta
- *Fuchsia
- *Nepeta
- Pachysandra
- Vinca

Vegetables

- Broccoli
- Brussels Sprouts
- Bush Beans
- Celery
- Edible Pod Peas
- Green Onions
- Leaf Lettuce
- Potato
- Radish
- Spinach
- Vegetable Marrow

Annuals

- *Alyssum
- African Daisy
- Bachelor's Button
- Balsam
- Calendula
- California Poppy
- Candytuft
- Carnation
- *Dusty Miller
- *Gazania
- *Livingstone Daisy
- *Lobelia
- Marguerite
- *Marigold
- *Nasturtium
- *Pansy
- *Petunia
- *Portulaca
- Salvia
- Shirley Poppy
- Sweet Pea
- *Thunbergia
- Viola
- Zinnia

Perennials

- Achillea
- Anemone japonica
- Dahlia
- Delphinium
- Echinops
- Erigeron
- Gentiana lutea
- *Geranium
- Gladiolus
- Gypsophila
- Lamium
- Monarda
- Phlox
- Rodgersia
- Saxifrage
- Stachys
- Verbascum

Vegetables (Includes all other vegetables) Plus:

- Corn
- Cauliflower
- Carrot
- Cucumber
- Onion
- Peas
- Peppers
- Pumpkin
- Squash
- Sunflower
- Tomato
- Zucchini

PLANTS FOR SEMI-SHADE

Annuals

- *Ageratum
- Aster
- Browallia
- Celosia
- Clarkia
- Cornflower
- Cosmos
- Dianthus
- Lobelia
- Morning Glory
- Nemesia
- Nicotiana
- Snapdragon
- Virginia Stock

Perennials

- Ajuga
- Anchusa
- Aquilegia
- Bergenia
- Dicentra
- Digitalis
- Doronicum
- *Fuchsia
- Hemerocallis
- Meconopsis
- *Nepeta
- Pulmonaria
- Thalictrum
- Trillium

Vegetables

- Beets
- Broccoli
- Brussels Sprouts
- Bush Beans
- Cabbage
- Chard
- Kohlrabi
- Lettuce
- Parsnip
- Potato
- Radish
- Spinach
- Turnip
- Vegetable Marrow

Some popular plants for bedding and planter use can be quite difficult and time-consuming to grow from seed. It is simpler to buy plants unless you have a sophisticated growing area such as a greenhouse, heated cold frame or a well-ventilated light unit.

Purchase plants 1-2 weeks prior to recommended plant-out date to give them time to harden off. Choose a reliable grower offering the best varieties for your area. Ask to see new introductions to the grower's stock.

Whole flats of plants are the least expensive; 6 packs or small plastic flats are inexpensive. Individually potted plants require more handling by the grower and are usually too expensive to consider for all but special locations.

Look carefully at the plants you choose. They should be compact and leafy from soil to growing tip. The foliage should be deep green with no leaf burn or wilt damage. Resist the temptation to choose plants in full bloom; blossoming weakens the plants and interferes with the adaptation stage of plant development. To reduce this problem, buds and blossoms should be pinched off when plants are planted out.

Avoid tall plants that have become leggy from not being pinched early in the growing stage. Compact, branching plants have much greater resistance to wind and water damage.

The following plants are readily available in most garden centres and nurseries and can be quite difficult to grow yourself from seed. Of course, many other plants are readily available in season — consult Topic 4 to match suitable plants to growing areas.

SUGGESTED FLOWERING PLANTS

Ageratum	Carnation	Gazania	Lobelia	Pansy	Snapdragon
Alyssum	Dusty Miller	Geranium	Marguerite	Petunia	Thunbergia
Begonia	Fuchsia	Impatiens	Nepeta	Salvia	Viola

SUGGESTED VEGETABLE PLANTS

Broccoli	Cabbage	Celery	Eggplant	Strawberries
Brussels Sprouts	Cauliflower	Cucumber	Peppers	Tomatoes

SUGGESTED HERBS AND SEASONING PLANTS

Basil	Lovage	Parsley	Savory	Tarragon
Chives	Marjoram	Rosemary	Scented Geraniums	Thyme
Dill	Mint	Sage	Shallots	Verbena

Sowing Seed Outdoors

YOU NEED

1. PLANTING PLANS (see example).
2. SEEDS and labels.
3. FERTILIZER - dry or time-release.
4. TOOLS - a spade and fork for digging and turning soil. A flat-backed rake for levelling soil and for making seed-sowing drills.
5. BOARD for walking and kneeling on.
6. STRING and sticks for marking off seeded areas.
7. WATERING equipment.

ADDED INFORMATION

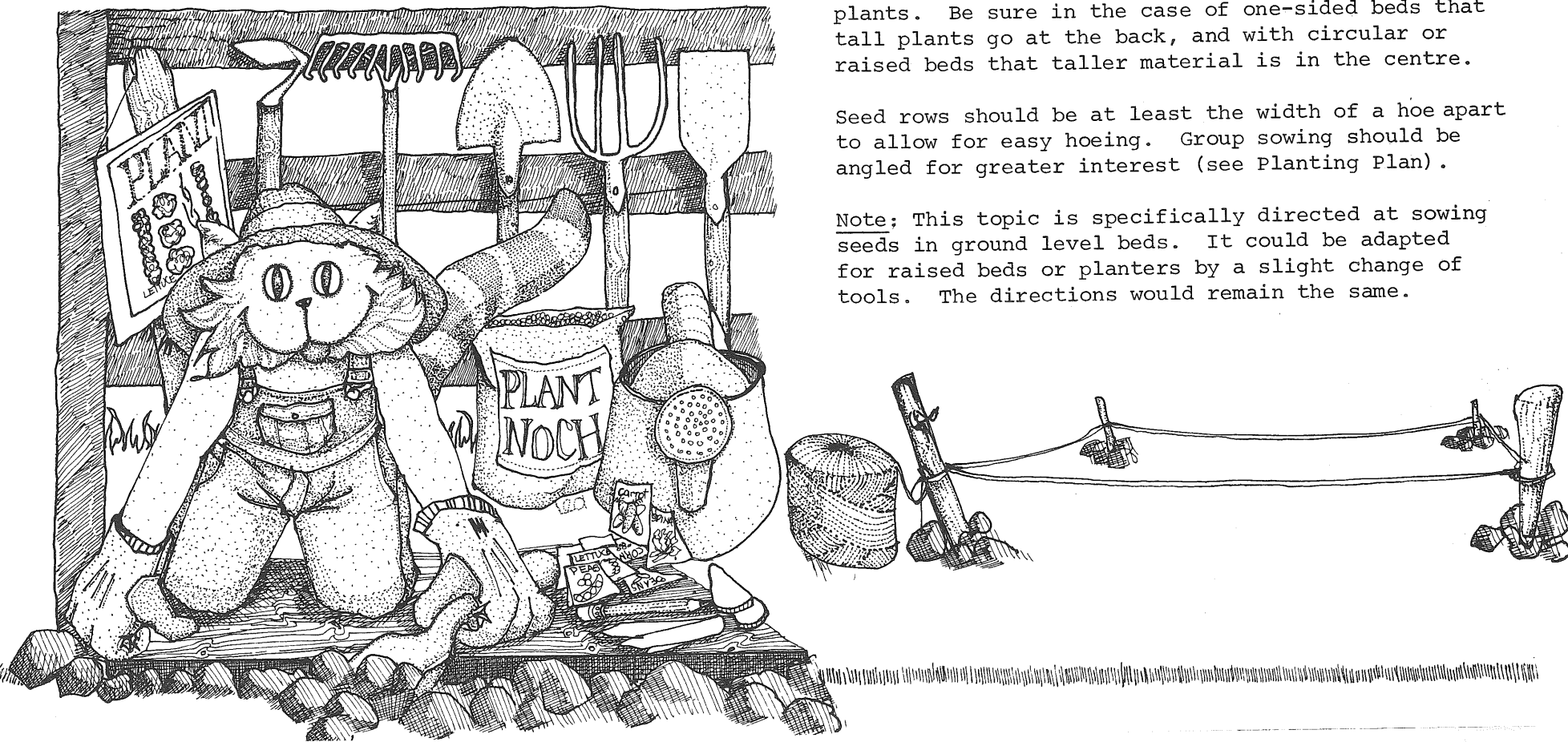
Direct seed sowing can be a very successful venture but timing is the key. The calendar on page 4 lists outside seeding for the second week in May, but in actual fact the kind of plants and weather conditions determine the right date for sowing. Whereas most annuals will only germinate when soil is warm, some vegetable seeds can be sown in early April when soil and weather are still definitely cool. Conditions are right when weed seeds start to germinate!

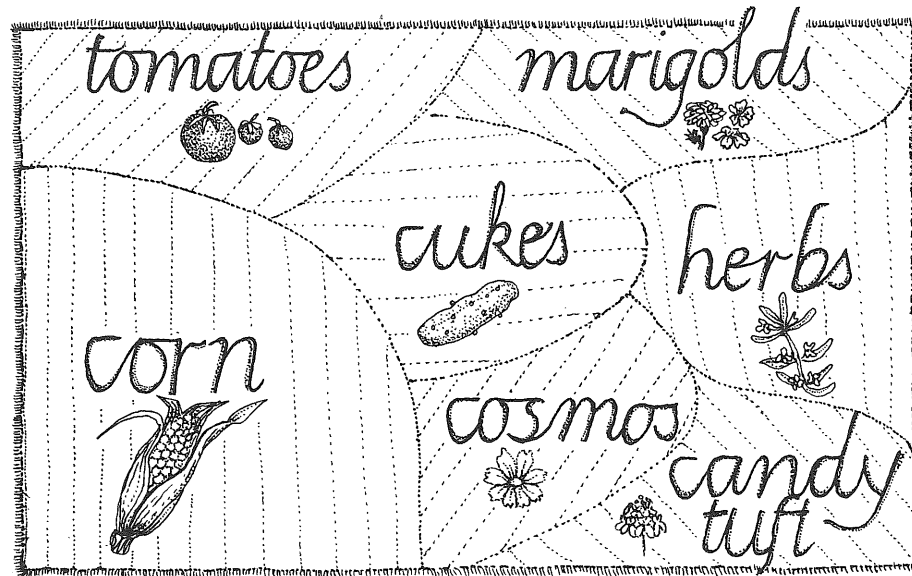
It is most important at the outset that the growing area be raked level. Hollows can become puddles which, in turn, cause uneven germination.

When making a planting plan consider eventual height, width, light requirements and blossoming time of the plants. Be sure in the case of one-sided beds that tall plants go at the back, and with circular or raised beds that taller material is in the centre.

Seed rows should be at least the width of a hoe apart to allow for easy hoeing. Group sowing should be angled for greater interest (see Planting Plan).

Note; This topic is specifically directed at sowing seeds in ground level beds. It could be adapted for raised beds or planters by a slight change of tools. The directions would remain the same.





When planning a vegetable garden pay special attention to maximum width and height of plants. Peas or Corn need 75-90cm (2½' - 3') between rows, whereas Beets, Carrots or Lettuce need only 20-30cm (8" - 12"). Tall vegetables, such as Corn or Runner Beans, should be placed where they will throw as little shade as possible on other plants. Squash, Cucumber and Marrow need a lot of space but can sometimes be trained to grow up a fence or trellis. Parsley and Chives are good for edging.

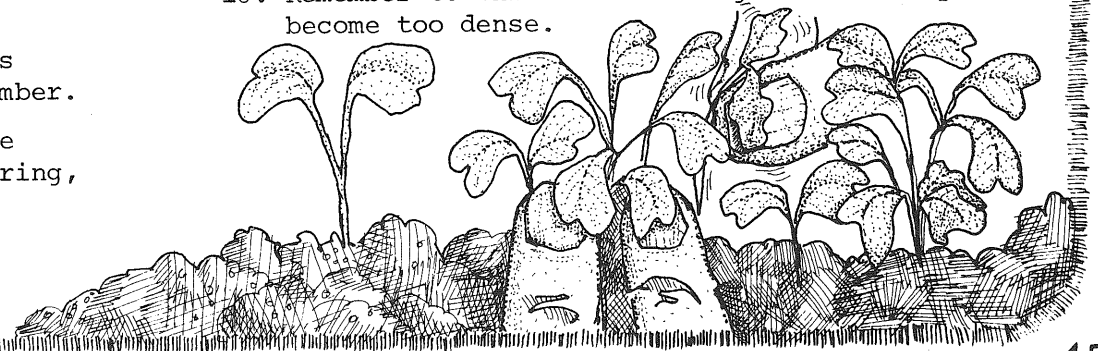
Radishes and Leaf Lettuce are an invaluable addition to a summer garden. Radishes may be sown monthly and harvested at about the same rate. Leaf Lettuce takes a little longer to mature — bi-monthly.

Spinach, Peas, Carrots, Swiss Chard and Bush Beans sown Mid-July will ensure crops of vegs in September.

It is important that container-grown vegetables be kept moist and constantly fed when crops are maturing, otherwise they will go to seed immediately.

HOW TO PROCEED

1. Mark off the area to be planted and, unless it has been recently dug, dig it all over to a depth of 23cm (9"). If the area is dug and planted the same day, lightly walk on freshly turned soil to settle it.
2. Level the area by raking, removing rocks and debris. Use board to check if soil is level.
3. Sprinkle a dry or time-release fertilizer at the rate of 115 grams (4 oz.) per 90cm x 90cm (square yard) and work in. Rake again.
4. Mark off the planting plan with sticks and string.
5. Beginning with the centre or back, as the case may be, mark out the seed drills (rows) by lightly depressing the soil with the flat back of the rake.
6. Remembering the potential size of each plant, thinly sow seeds so they are hardly visible and cover with about 1cm (½" - ½") of soil, and lightly tamp down with flat side of rake.
7. Label the rows with varieties and date of sowing.
8. If soil is dry, water with a fine mist nozzle. Do not puddle the ground by overwatering.
9. Annuals that are very easy to grow from seed are Calendulas, Marigolds, Nasturtiums and Poppies.
10. Remember to thin the seedlings before they become too dense.



Bedding Out

YOU NEED

1. PLANTING PLANS of bedding areas (in scale).
2. LIST and number of available seedlings.
3. PLANTS and labels.
4. FERTILIZER - dry or time-release.
5. TOOLS - for digging and planting.
6. SHADING MATERIAL - newspaper, lath, sheer fabric and stakes.

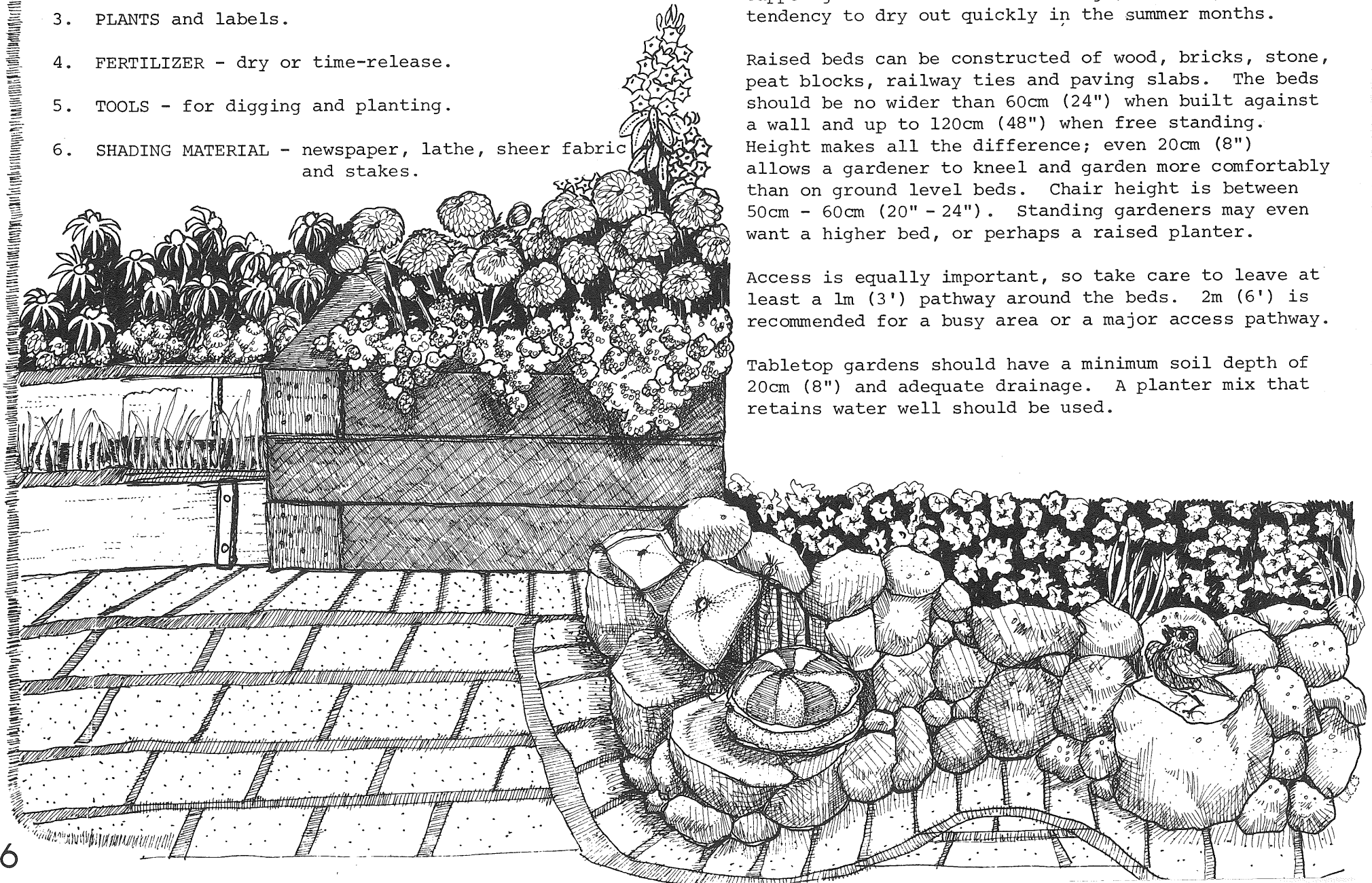
ADDED INFORMATION

Raised beds have some definite advantages over ground level beds. They warm up earlier in the growing season and are much more accessible to the hand-capped gardener. One disadvantage, however, is the tendency to dry out quickly in the summer months.

Raised beds can be constructed of wood, bricks, stone, peat blocks, railway ties and paving slabs. The beds should be no wider than 60cm (24") when built against a wall and up to 120cm (48") when free standing. Height makes all the difference; even 20cm (8") allows a gardener to kneel and garden more comfortably than on ground level beds. Chair height is between 50cm - 60cm (20" - 24"). Standing gardeners may even want a higher bed, or perhaps a raised planter.

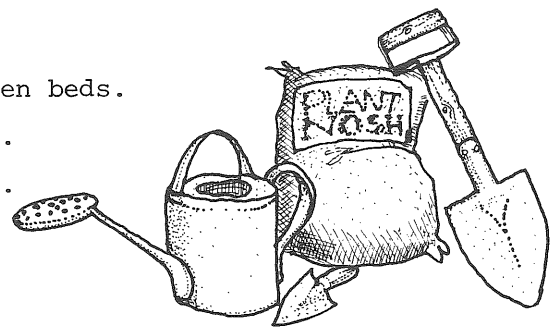
Access is equally important, so take care to leave at least a 1m (3') pathway around the beds. 2m (6') is recommended for a busy area or a major access pathway.

Tabletop gardens should have a minimum soil depth of 20cm (8") and adequate drainage. A planter mix that retains water well should be used.



TYPES OF BEDS

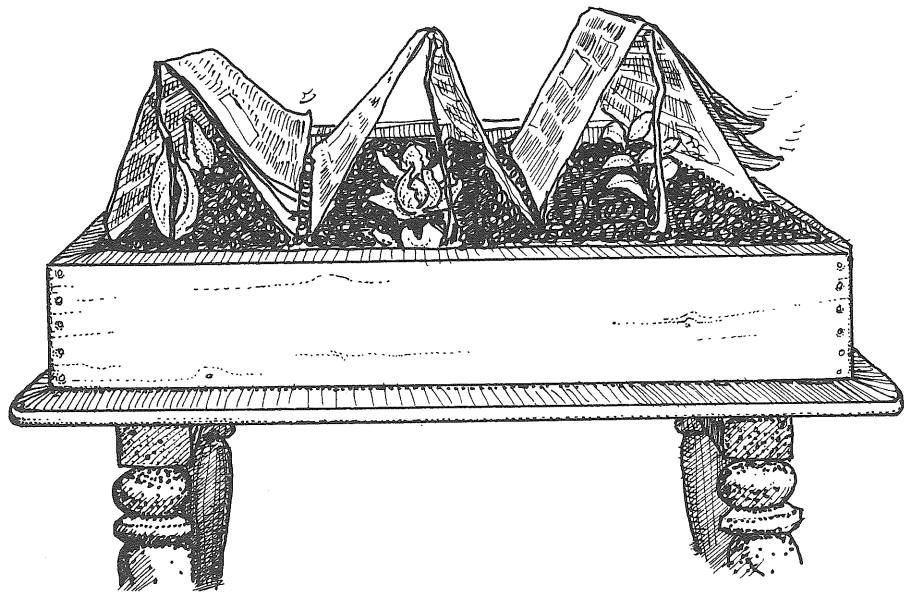
1. Regular ground level garden beds.
2. Simple raised garden beds.
3. Planters at seating level.
4. Tabletop beds.



PLANNING FOR PLANTING

For the most effective planting of available seedlings and plants a simple grid plan of the garden area is needed. You may want to leave some spaces for direct seeding. For flower and mixed beds a casual group planting is very effective. Try a group planting of vegetables rather than the usual line and furrow method for Radishes, Lettuce, Carrots, etc.

When making a plan, always consider the eventual height, width, light requirements and fruit or blossoming time of the plants.



PREPARING THE BEDS

1. Dig soil over to a depth of 24cm (9") at least twice.
2. Rake the area and remove rocks and debris.
3. Check the soil texture and amend with peat, sand or perlite if needed.
4. Apply a dry or time-release fertilizer at the rate of 115 grams (4 oz.) per 90cm x 90cm (square yard) and work in.
5. Rake surface level and water until moist and ready for planting.
6. Overly wet soil should be left until evenly moist before planting.

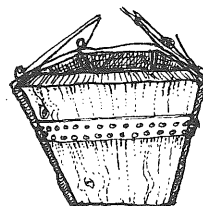
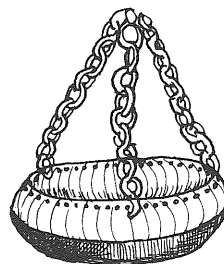
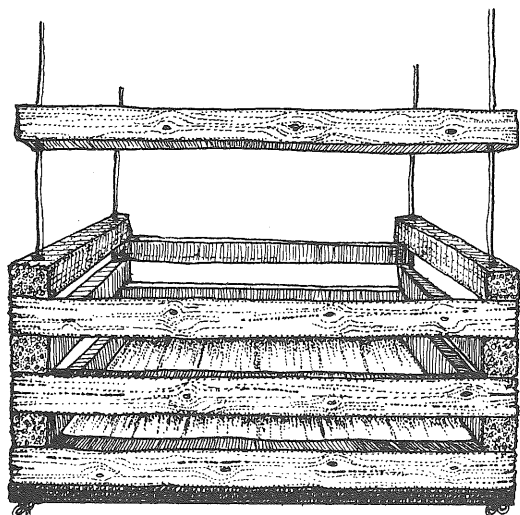
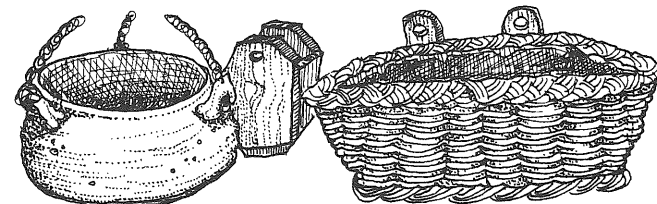
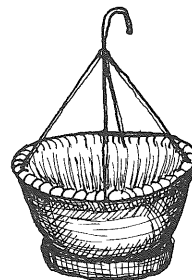
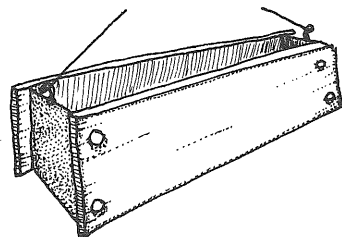
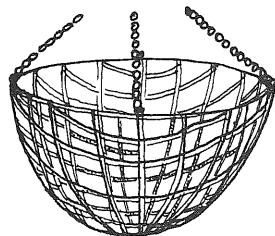
PLANTING

1. Mark out planting areas on soil surface.
2. Remove blossoms, fruit and damaged foliage from plants. Take care that roots remain intact and are not allowed to dry out.
3. Tap, press or separate plants out of pots and flats. A knife should be used on potted plants to divide root areas equally.
4. Arrange and space all plants in desired area.
5. Plant in level with the original soil line, firming the soil around the root ball leaving a slight depression for easy watering.
6. Water very gently with a sprinkler, a hose and water breaker or a fine mist watering can.
7. Sun-sensitive plants should be shaded for the first few days.
8. A surface mulch helps retain soil moisture in dry areas.

Hanging Baskets

YOU NEED

1. PLANTING PLAN (see Topic 4).
2. CONTAINERS - hanging basket(s) of plastic, wire or wood.
3. PLANTER MIX (see Topic 3).
4. PLANTS suitable for hanging baskets (See Topic 4).
5. GREEN plastic garbage bags for lining open baskets. Sphagnum moss for a finished appearance.
6. TOOLS for planting (trowels).
7. PULLEYS and enough strong rope for each basket.
8. WATERING equipment.



ADDED INFORMATION

Before undertaking hanging baskets you should take careful note of the fact that they require a lot of care in the form of watering and feeding during the summer months.

The most common types of hanging containers on the market are made of wire, plastic and wood. But you can construct your own container using rough pieces of 2cm x 2cm (1" x 1") cedar and a plywood base in the following manner:

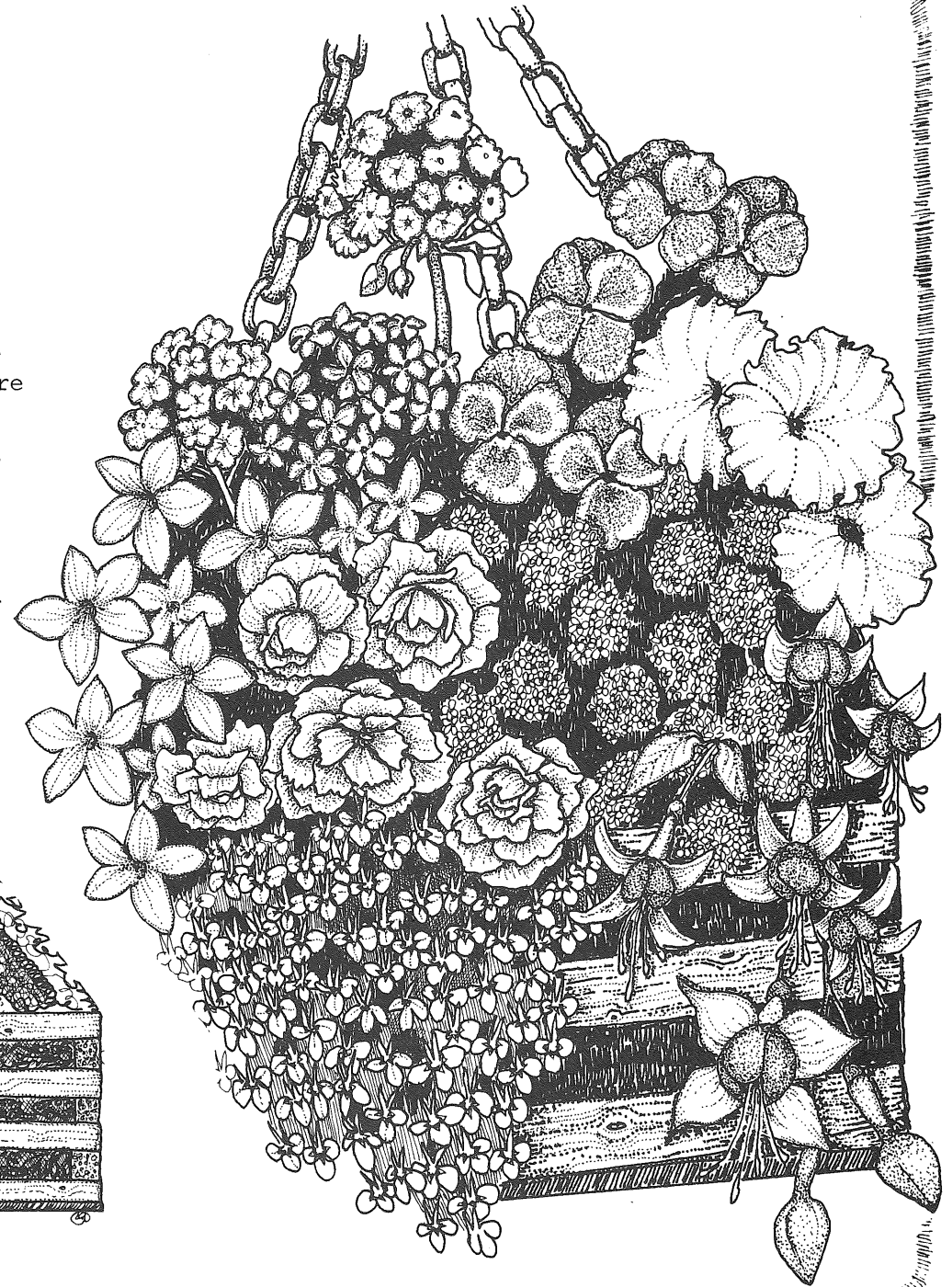
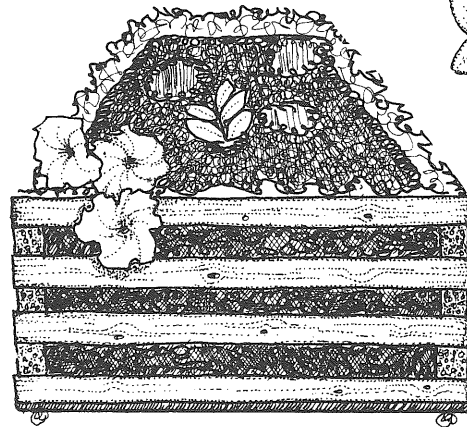
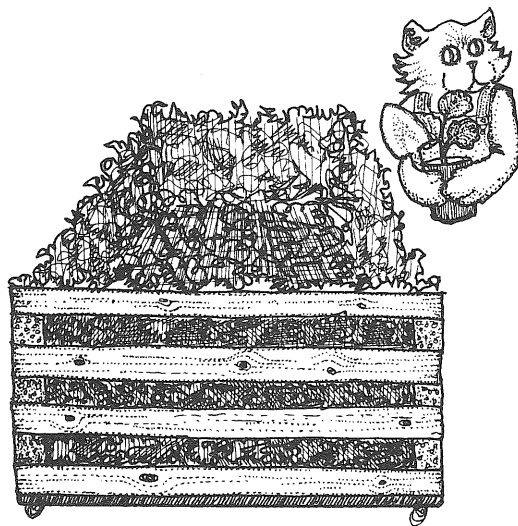
Cut out a 32cm x 32cm (13" x 13") square of plywood and 20 strips of 2cm x 2cm (1" x 1") cedar measuring 32cm (13"). Drill holes 1cm ($\frac{1}{2}$ ") in from the corners of the base and ends of each piece of cedar and treat all surfaces with preservative. Join the pieces together with wire as illustrated:

Suspending hanging baskets on a pulley with a string nylon rope allows gardeners to take charge of watering and feeding from a sitting position. An alternative method for watering is to use a hose with an extended water breaker, but be sure the extension has an ON/OFF valve.

The best time of year to plant up hanging baskets is during Mid-May. Keeping them inside the cold frame for an extra 2 weeks will insure they are well established and hardened off. If you don't have a cold frame, hang the baskets in a sheltered area for the first 2 weeks.

PLANTING A HANGING BASKET

1. If the basket surface has openings (i.e. latticed wood or wire mesh), line the whole thing with sphagnum moss then a plastic garbage bag. Don't worry about trimming the plastic until the planting process is finished.
2. Fill the basket with planter mix to within 3cm (1") of the rim.
3. Arrange plants so that taller ones are near the centre and trailing ones are near the edge, allowing approximately 6-10 plants to a 30cm (12") square container, and firm in place.
4. Trim off excess plastic and jab two or three holes near the bottom for drainage.
5. Water everything thoroughly.
6. Spectacular hanging baskets are only attained by regular fertilizing and watering. Work out a fertilizing schedule and be conscientious!! (See Topic 11 - Summer Maintenance).



Planters and Window Boxes

YOU NEED

1. PLANS for placement and planting of containers.
2. PLANTERS and planter mix (see Topic 3).
3. PLANTS of annuals, vegetables and herbs.
4. FERTILIZER (see Topic 11).
5. TOOLS - trowel and knife.
6. SHADING MATERIAL - newspapers, lathe or sheer fabric and stakes.

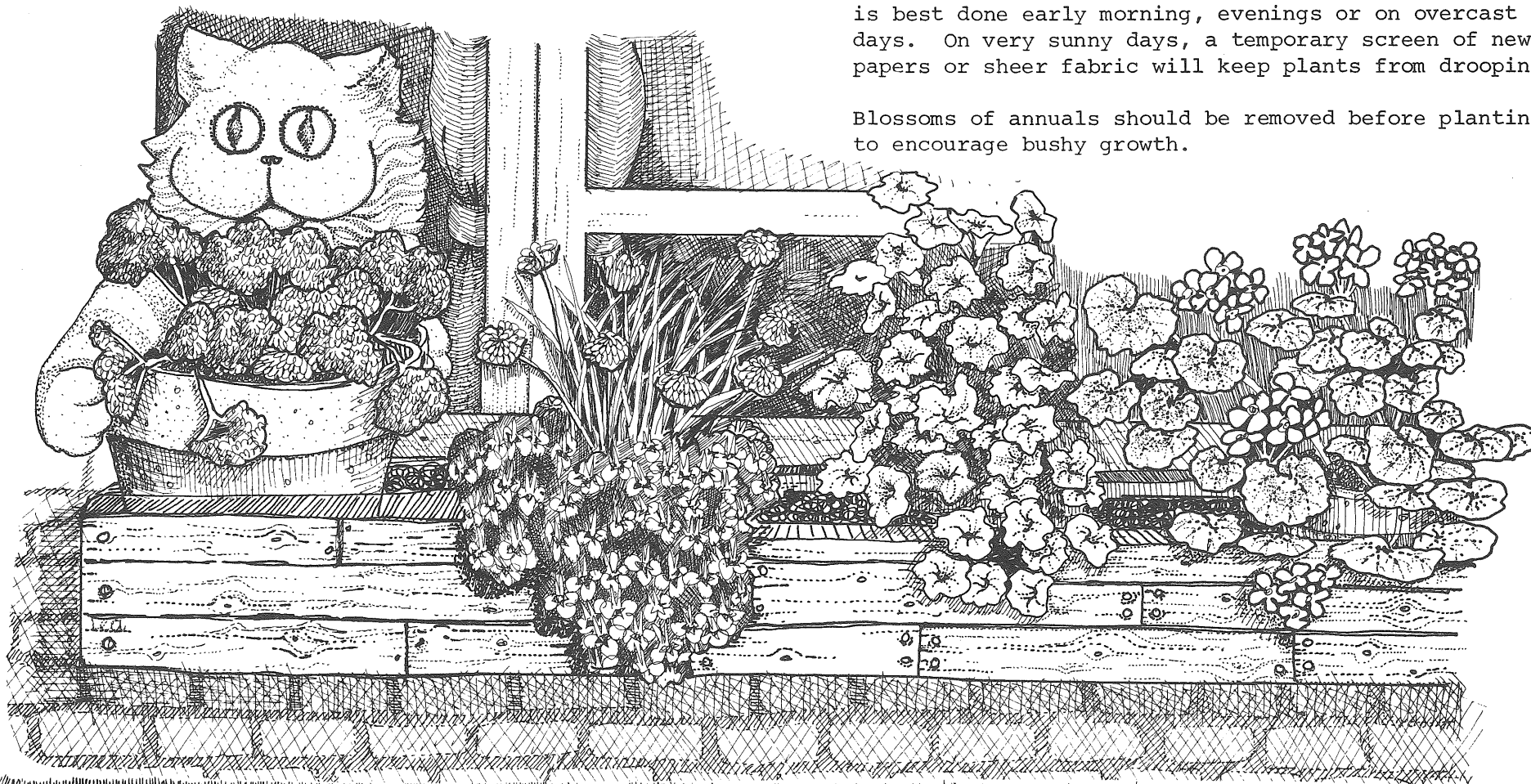
ADDED INFORMATION

If this is your first experience with container gardening, concentrate your efforts on a few well planted containers for effect rather than a large number sparsely planted. Also, for ease of maintenance concentrate on one main area.

Arranging the containers and working out planting plans can be a lot of fun and a good opportunity for creative expression. Few gardeners will plant the same space in exactly the same way.

To prevent plants from wilting or drying out, planting is best done early morning, evenings or on overcast days. On very sunny days, a temporary screen of newspapers or sheer fabric will keep plants from drooping.

Blossoms of annuals should be removed before planting to encourage bushy growth.



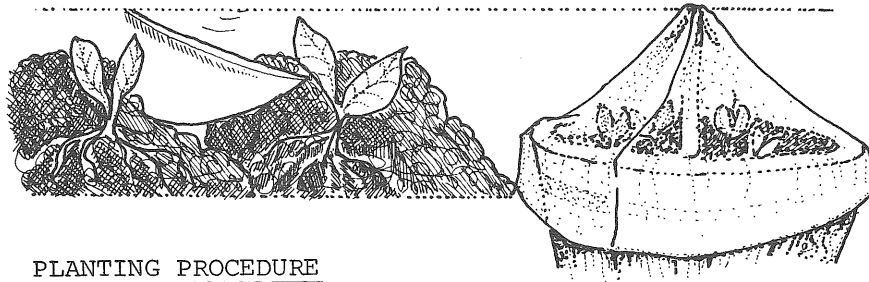
SIZE OF CONTAINER

To prevent constant watering maintenance, consider using a container at least 25cm x 25cm x 25cm (10" x 10" x 10").

Larger planters are more stable and less likely to be stolen.

For seasonal color change in window boxes or planters, plants can be left in pots and plunged into moist peat.

See Topic 3 for planter choice and preparation.



PLANTING PROCEDURE

1. ENSURE all plants are fully hardened off before planting (see Topic 2).
2. IT is most important that all plants and planter soil be thoroughly watered before planting.
3. USING a knife divide plants in flats so that each plant has equal root area.
4. SLIP plants out of pots by tapping the rim of the pot on a hard surface.
5. KEEP roots intact as much as possible and plant immediately to prevent root damage through drying.
6. PLANTS grown in Jiffy or Peat pots can be planted as is but remember to thoroughly moisten peat so that roots can penetrate. Peel off any part of the pot sticking above soil level.
7. PLANT according to original soil level on the stem, firm in place and leave slight indentation for watering.
8. WATER all plants thoroughly and provide temporary shade if necessary. (See Topic 11 - On-Going Care).



ARRANGEMENT & DESIGN

Groups of planters are more effective if placed close together and at varying heights.

Uniform color plantings are stunning if a theme is set, e.g. one planter each: orange Zinnias; yellow Marigolds; orange and yellow Nasturtiums.

Endless color combinations can be created with summer annuals, but remember to check light requirements of all plants before purchasing or planting (see Topic 4).

Combining flowers and edible plants is attractive and practical. A planter of Geraniums, Petunias, Chives, Lobelia and Parsley will be colorful and useful well into Fall.

For a massed effect, flower plants and herbs can be spaced as close as 12cm (5"). To produce properly, vegetables should be given the recommended spacing or planted in individual containers.

LOCATION

The ideal location for container gardening is an East-facing wall with full morning sun and afternoon shade.

Select your plants with care to make for a colorful display in any location.

Topic 4 lists plants suitable for full sun, shade and semi-shade.

Summer Cuttings

YOU NEED

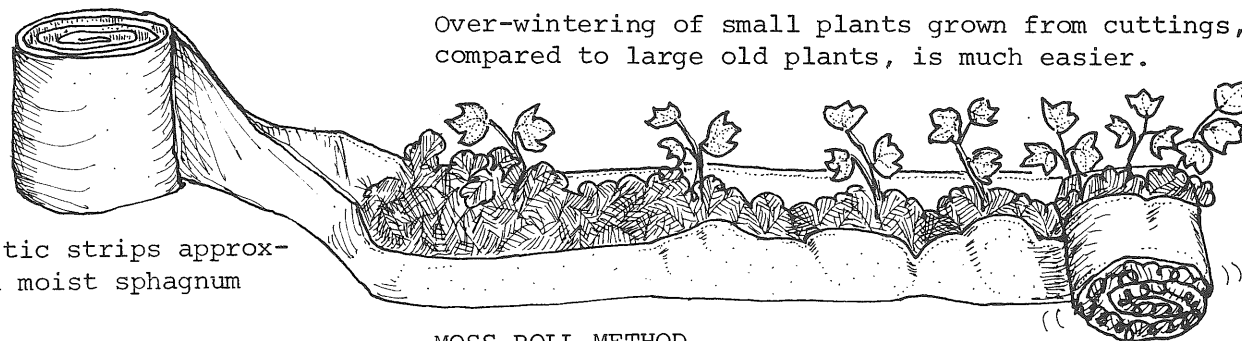
1. CONTAINERS for propagation depending on method.
2. PROPAGATION mix components - moist peat, moist perlite or sharp sand.
3. PLANTS for cuttings.
4. ROOTING hormone.
5. PRUNING shears, scissors or blade.
6. STAKES or chopsticks.
7. CLEAR plastic.
8. WATERING and misting equipment.
9. MOSS ROLL METHOD:
Same as above but substitute plastic strips approximately 50cm x 12cm (24" x 5") and moist sphagnum moss for the containers and mix.

ADDED INFORMATION

Summer (August) is an excellent time of year to take cuttings of your favorite plants. Stem tip cuttings of plants such as Geraniums and Fuchsias are much easier to root if taken when the plant is actively growing. Though traditionally taken in Fall, cuttings root much better in Summer. Other cuttings to consider are Impatiens, Begonias and most house plants.

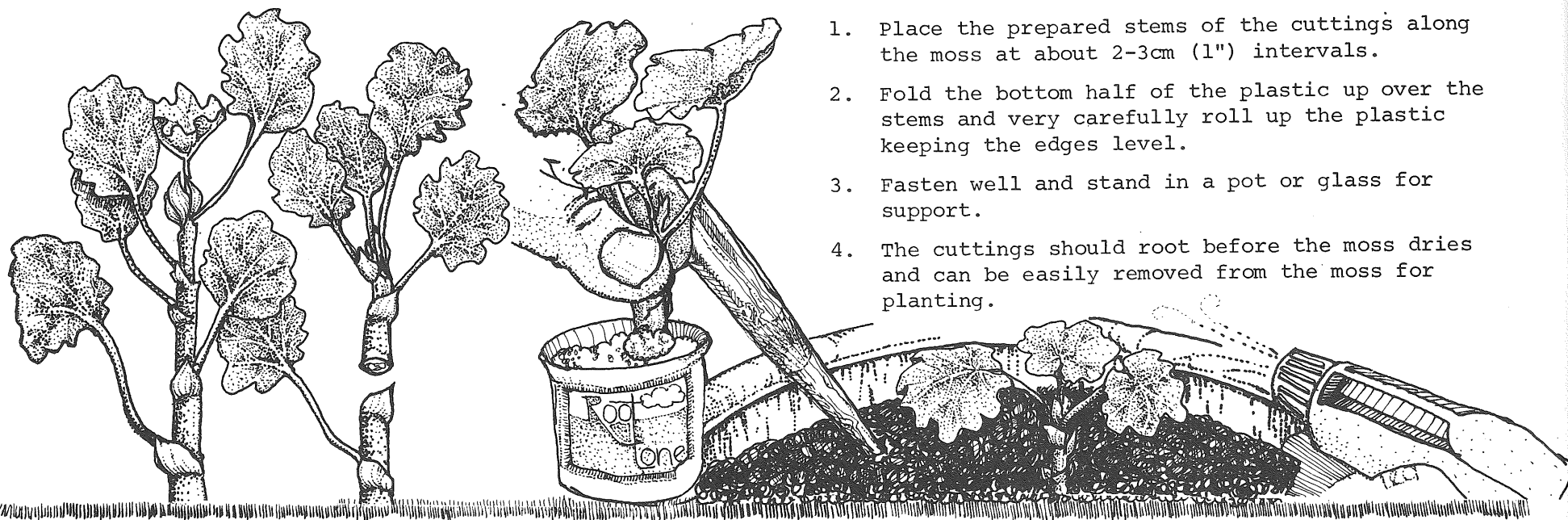
Geranium cuttings work best if allowed to dry for 1-2 days before placing in the propagating mix.

Over-wintering of small plants grown from cuttings, compared to large old plants, is much easier.



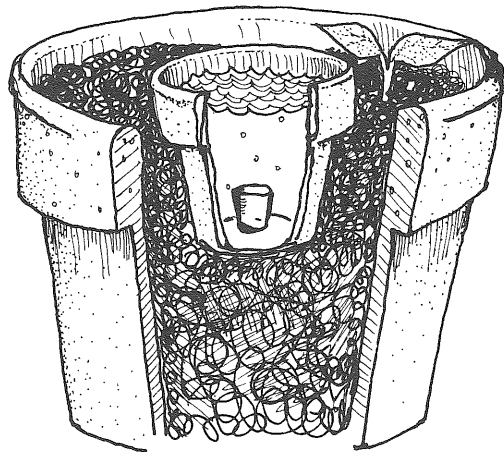
MOSS ROLL METHOD

1. Place the prepared stems of the cuttings along the moss at about 2-3cm (1") intervals.
2. Fold the bottom half of the plastic up over the stems and very carefully roll up the plastic keeping the edges level.
3. Fasten well and stand in a pot or glass for support.
4. The cuttings should root before the moss dries and can be easily removed from the moss for planting.



PREPARING THE MIX

1. Mix 1 part moist peat moss with 1 part moist perlite or coarse sand, or 1 part peat and 2 parts of the aerators.
2. Choose a wide container with adequate drainage holes. The double pot method described below is particularly effective for a small number of cuttings.
3. Soak 2 clay pots 20cm (8") or larger and one 5-8cm (2-3") pot.
4. Place crock over drainage hole of the large pot and fill with mix.
5. Place the small pot in the centre of the mix so that the top is level with the edge of the large pot (the drainage of the small pot should be corked).
6. Firm the mix level about 1cm ($\frac{1}{2}$ ") down from the rim of both pots.



7. Place water in the small pot to seep into the mix as needed.
8. The advantages of the double pot method are:
 - a) the cuttings are very gently watered
 - b) the roots develop better near the edge of pot due to increased aeration

PROCEDURE FOR CUTTINGS

1. Cut about 10cm (4") of growing stem tip from the parent plant.
2. Remove all blossoms and trim lower leaves from at least 2 nodes.
3. Using a razor blade or sharp knife, make a straight clean cut below the bottom node.
4. Dip cut end into rooting hormone and carefully tap off excess powder.
5. Using the flat end of a pencil or chopstick, make a hole in the propagation mix, insert cutting and ensure the stem is firmly touching the bottom.
6. Firm the mix around cuttings. A cutting that can rock will never root properly.
7. Mist thoroughly.
8. Cover tender cuttings with plastic making sure it does not touch the leaves.*

ON-GOING CARE

Cuttings need to be placed in an area of bright light but no sun.

Steady misting of cuttings or the use of a clear plastic cover will provide the necessary humidity throughout the rooting process.

Keep the mix moist but well aerated and do not feed it.

Cuttings are ready to be planted in potting soil when roots cover the area of a quarter coin.

*Geranium cuttings do not take too kindly to too much moisture. If covered with plastic and allowed to become too wet, they will rot. Good aeration and lots of misting is preferable.

Summer Maintenance

WATERING

A good watering system is a time and labor-saving luxury throughout the summer months. A trickle watering system (spaghetti system) is very effective as each plant can be watered directly to the roots with no run-off or spray problem. Black poly tubing 1-2cm ($\frac{1}{2}$ " - $\frac{3}{4}$ "), brass inserts, small trickle tubing and fittings are available commercially and are simple to assemble. Take care not to exceed the pressure tolerance of the pipe.

A manual watering system for a large area would include an efficient sprinkler, adequate hoses and a water breaker for spot watering. A shut-off valve for a wand and water breaker is recommended for hanging baskets. Soak hoses with controlled seepage can be advantageous for consistently dry areas.

Water when soil starts drying below surface level. Always water thoroughly and deeply. This can take time; check progress toward the bottom of the root system.

Problems

1. Too much water will rot root systems and cause disease.
2. Overhead watering will sometimes damage blooms and foliage and assist disease spread.
3. Not enough water will wilt plants causing stunted and burnt growth.

FERTILIZER

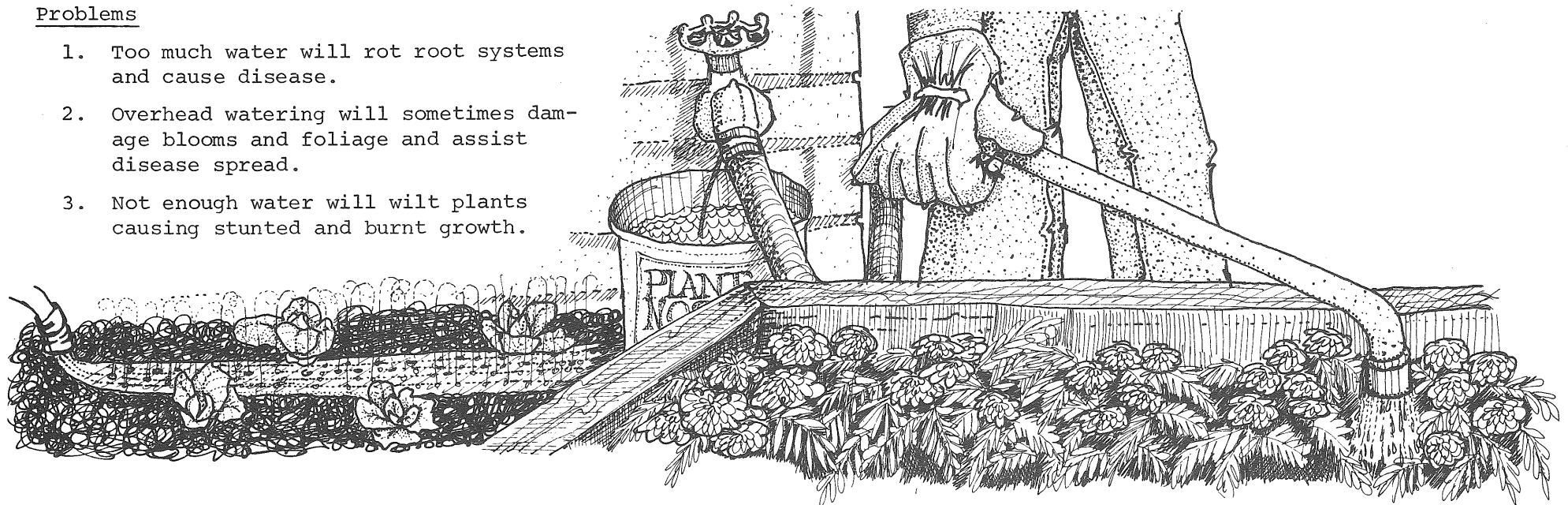
A dry or time-release plant food should always be incorporated into the soil or soil-less mixes before planting.

Liquid fertilizer can be used at certain stages of plant growth: a high nitrogen food when foliage is first developing and a high phosphorus - potassium fertilizer to stimulate blooms.

Hanging baskets, plants in containers or soil-less mix need feeding about 3 times a week with a high-balance food such as 20-20-20.

A SYPHONEX syphon feed system is very simple to use and allows use of a water-soluble fertilizer while hose watering. Take care to remove the syphon from fertilizer when finished with feeding.

For best effect, annuals need to be kept in full foliage and bloom. This entails feeding often. Follow directions meticulously. Too much fertilizer will burn plants quite badly.



WEEDING

If weeds have time to set seeds, problems compound very quickly. Sterilized planter mixes are weed free for some time.

Dense planting and mulching reduces weed intrusion. Constant hoeing eliminates weeds.

Weeds are a constant problem in newly acquired beds and exposed planters.

PINCHING BACK

On certain annuals pinching back growing tips is important to promote bushy growth. Most annuals should be pinched back after approximately 2-3 weeks growth.

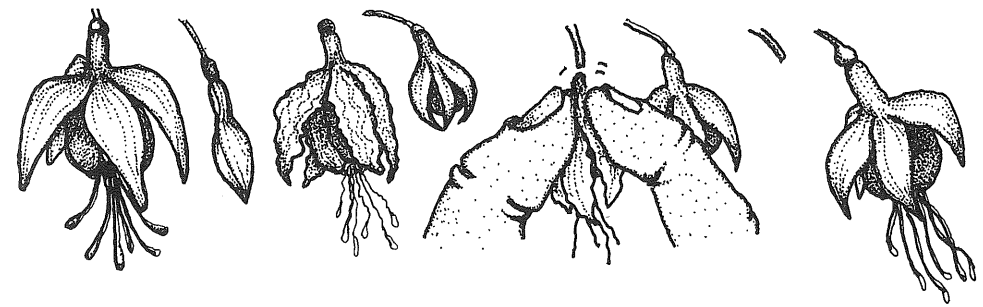


TRIMMING

Large rangy plants, such as Fuchsias, may need to be trimmed back during the summer months. Consistent cutting of flowers promotes even more blooms to enjoy.

DEADHEADING

Deadheading is the removal of dead blooms to prevent wasted energy going into seed production. This is especially important with Azaleas, Rhododendrons, Fuchsias and Petunias. Leave a few Impatiens seed pods to ripen as they have a unique method of seed dispersal.



STAKING AND TYING

This is most important for large rangy plants and for containerized plants growing in windy areas. In the case of some plants, such as Tomatoes, Peas, Scarlet Runner Beans, Sweet Peas and Carnations, stakes should be put in at the same time as the plant.

Some interesting stakes can be found from prunings of branches, bamboo canes, lathe and pieces of wood. Try staking in a tepee form, or make a pyramid using one central stake and pieces of string.

Garden string, twist-ems or baggy ties can be used for tying plants. Old nylons and plastic strips can also be used. Ties should be applied loosely.



PESTS

Insect pests common to the summer growing season are Aphids, Whitefly, Slugs, Mites, Loopers and Cutworms, just to name a few. A safe and simple treatment is to physically remove the offenders, or wash down the plant with water or a light soap solution.

Great care should be taken with any chemical treatment. Check with your local Department of Agriculture or horticultural information service before applying insecticides, especially to edible plants.

Drying and Preserving Flowers and Herbs

This particular topic can be a source of pleasure over a long period of time, in fact from one flowering season right through to the next. Flowers and herbs picked at midsummer can provide the basis for Fall and Winter programs such as potpourri, dried flower arranging and dried wreaths, packaged herbs and herb vinegar, and pressed flowers for decorating stationery, matchboxes, etc. You may discover an original use for dried flowers, the possibilities are endless.

It is a common fact that we all start to think about drying flowers when they have passed their peak of bloom. The same is true of foliage; when the leaves begin to turn color late in the Fall, everyone wants to know how to preserve them and it is usually too late. Flowers for drying must be collected before the pollen is released, otherwise they tend to mature during the drying process, go to seed and disintegrate. Leaves should be picked while they are still actively growing. Herbs are best gathered just before flowering.

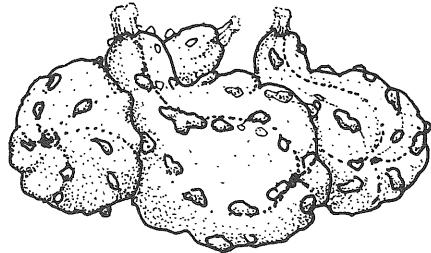
The second most important requirement in flower and herb drying is a dry, darkened, well-ventilated storage area. Successful drying depends on the speed with which it is done. In areas of high rainfall or intense summer humidity this can sometimes present problems.

FLOWERS

If you have never tried air-drying flowers, try everything in sight to get a feeling for it.

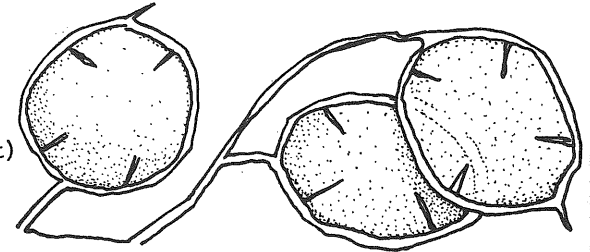
ANNUALS (See Topic 6 for Sowing Seeds)

BELLS OF IRELAND
CELOSIA
GOMPHRENA
INDIAN CORN
ORNAMENTAL GOURDS
STATICE
STRAWFLOWERS



PERENNIALS (Finding these plants can sometimes be difficult)

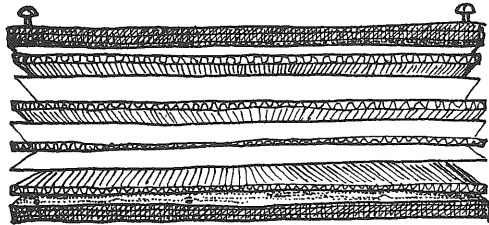
ACHILLEA (Yarrow)
ECHINOPS (Globe Thistle)
GYPSOPHILLA (Baby's Breath)
LUNARIA (Honesty or Dollar Plant)
PHYSALIS (Chinese Lantern)
TANACETUM (Common Tansy)



In addition to flowers there are many kinds of beautiful or structurally interesting seedpods that can be collected as they mature. Keep your eyes open when travelling along country roads or while walking in fields and meadows. Then again there are many different grasses that lend themselves well to drying. A few seed catalogues will list ornamental grasses for the garden.

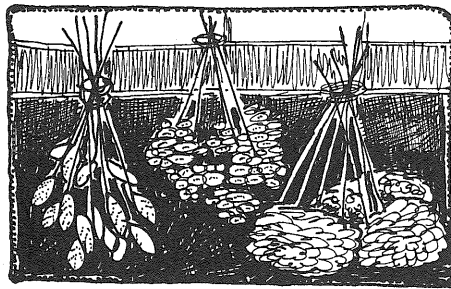
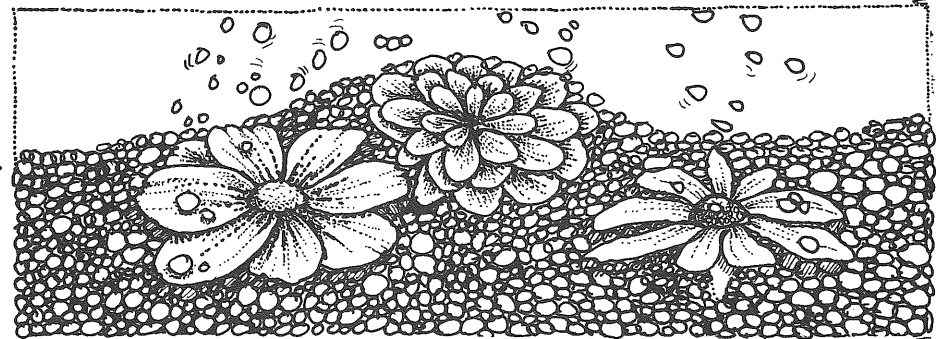
Gather the flowers on a clear day in mid-morning after the dew has dried and before the sun becomes too hot. In most cases remove the foliage as it becomes brittle and messy to deal with when dry. Divide the flowers into bunches of 5-7 stems, tie them together with string or twine and hang upside down in a dry shady room. If they are not hung upside down, the flower heads will droop. Depending on weather conditions most flowers will take anywhere from 7-10 days to dry. Treat seedpods and grasses in the same manner.

A special technique is required when handling Strawflowers. As the dried stem is not sturdy enough to support the blossom, remove the stems and push a strip of fine florist wire into the flower head. The moisture from the flower will rust the wire thus securing the flower.



Pressing: an old-fashioned method usually used to decorate flat surfaces. A crude flower press may be made by cutting 2 pieces of plywood, about 30cm x 40cm (12" x 18"). Layer with alternate pieces of corrugated cardboard and white butcher paper or newsprint, as shown at the left. The additional screws at the four corners make the press portable.

Silica Gel: a method that can be used year-round, its initial expense is considerable but the gel contains indicator crystals which can be dried in the oven and used repeatedly. If meticulously buried under the gel in a closed container (i.e. metal box or cake tin), the flower heads will usually be dry in 3 days.

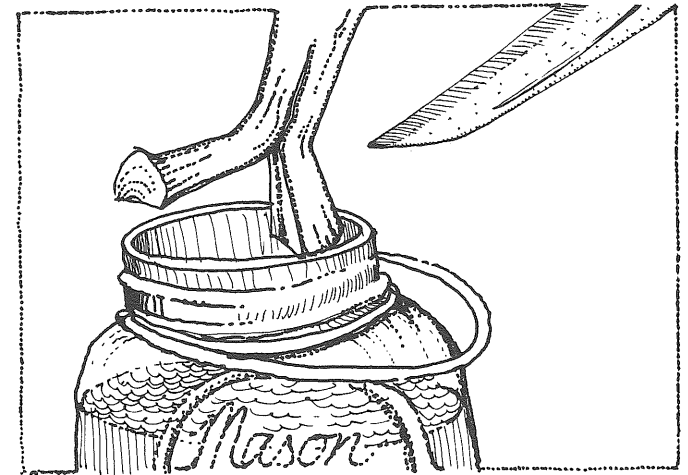


HERBS

Herbs can be collected and air-dried in the same manner as flowers. Gather at the height of Summer before the flowers mature and bunch together no more than 12 stems. In good weather the bunches should dry in 7-10 days. Should the weather be poor, dry the herbs in a very slow oven (door open) on cookie trays.

FOLIAGE

Branches of Salal, Beech, Laurel or Oak may be preserved in a solution of 1 part glycerine to 2 parts water, thoroughly mixed. Make enough to fill a Mason jar, cut the branches of foliage when they are actively growing (July/August), split the ends of the stems and plunge directly into the jar. The glycerine mix is quickly absorbed. Top as needed with water but do not add more glycerine. The foliage may be removed when it has turned a dark oily green and allowed to hang and dry. It will continue to darken as it dries. If left in a glycerine solution too long, tiny drops of moisture will form on surface of leaves and they will disintegrate. Foliage treated in glycerine will last indefinitely.



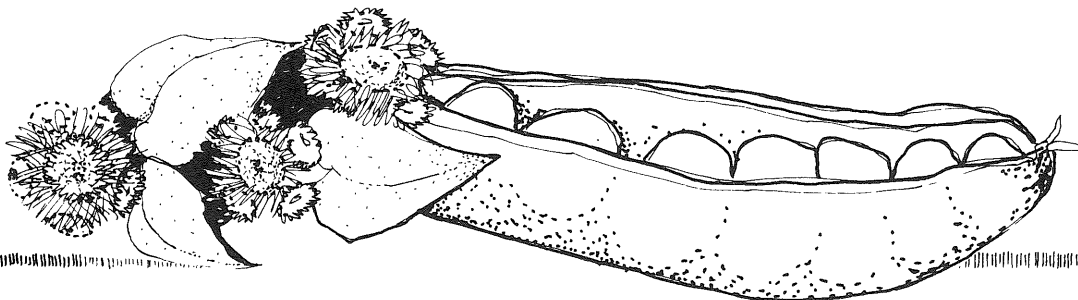
SUPPLIERS

<u>Item</u>	<u>Source</u>
Barrels	Cooperage Suppliers & Whiskey Distilleries
Cold Frame Sash	Greenhouse Companies & Lumber Yards
Electric Heating Cable & Thermostat	Garden Equipment Suppliers
Fertilizer & Rooting Hormone (Perlite, Peat Moss, Bark Mulch)	Plant Shops & Retail Nurseries
Glycerine	Pharmacies & Druggists
Hanging Baskets & Planters (Wooden, Ceramic, Plastic)	Plant Shops & Retail Nurseries
Hoses, Nozzles & Water Breakers	Garden Equipment Suppliers, Plant Shops & Retail Nurseries
Propagating Kits	Garden Equipment Suppliers & Plant Shops
Sand & Gravel	Sand & Gravel Companies (in bulk) & Lumber Yards
Seeds & Plants	Seed Catalogues, Plant Shops & Retail Nurseries
Silica Gel	Florists' Suppliers
Soil	Soil Suppliers (in bulk), Plant Shops & Retail Nurseries

We have avoided recommending specific retail outlets but you will find them in the Yellow Pages of your telephone directory under the headings listed above.

RESOURCES

- BIBLIOGRAPHY.....ANNOTATED BIBLIOGRAPHY OF HORTICULTURAL THERAPY. Published by the National Council for Therapy and Rehabilitation through Horticulture, Mount Vernon, Virginia 22121, U.S.A.
- FILM.....THE VACANT LOT. 17 minutes. Color. 1977.
A delightful and humorous record of how a large group of senior citizens transformed a vacant lot into a garden in the city of Montreal. The garden means more than it produces; attitudes of the gardeners towards inactivity and retirement are completely changed.
- From: National Film Board of Canada (Offices in all major cities)
16th Floor, 1251 Avenue of the Americas
New York, New York 10020 U.S.A. Telephone: 212-586-2400
- MANUAL.....GARDENING AS THERAPY: A Resource Manual for the Development of Horticultural Therapy Programs for the Spring Season. 1978.
- From: Office of The Botanical Garden
6501 N.W. Marine Drive
The University of British Columbia
Vancouver, B.C., Canada V6T 1W5 Telephone: 604-228-3928
- SLIDE TAPE.....PLANTS AND PEOPLE. 11 minutes. Color. 1978.
An introduction to Gardening as Therapy showing how a disabled person can perform and enjoy simple garden tasks. It is useful for stimulating interest in horticulture among beginning groups.
- From: Slide Film Library
Biomedical Resource Centre
Woodward Library
The University of British Columbia
Vancouver, B.C. Telephone: 604-228-2762
- SYMPOSIUM PROCEEDINGS..HORTICULTURE AS THERAPY. An accurate and valuable record of the Spring 1978 Symposium shared by health, professional and garden staff, volunteers, and Mr. Andrew White of the Nuffield Orthopaedic Centre, Headington, Oxford, England. 1978.
- From: Office of The Botanical Garden
6501 N.W. Marine Drive
The University of British Columbia
Vancouver, B.C., Canada V6T 1W5 Telephone: 604-228-3928



NOTES

OTHER BOTANICAL GARDEN PUBLICATIONS AVAILABLE

TECHNICAL BULLETINS

Gardening as Therapy: A Resource Manual for Development of Horticultural Therapy Programs for the Spring Season. 1978. Margaret E. Coxon (Co-ordinator). Technical Bulletin, The Botanical Garden, The University of British Columbia, No. 5.

Price \$4.25 + postage

Horticulture as Therapy. 1978. Sylvia Taylor (Editor). Technical Bulletin, The Botanical Garden, The University of British Columbia, No. 9.

Price \$3.00 + postage

Phenology of Cultivated Rhododendrons in the Lower Mainland of British Columbia. 1979. L. Keith Wade. Technical Bulletin, The Botanical Garden, The University of British Columbia, No. 10.

Price \$8.25 + postage

PLANTAE OCCIDENTALIS: 200 Years of Botanical Art in British Columbia. 1979. Maria Newberry House. Technical Bulletin, The Botanical Garden, The University of British Columbia, No. 11.

Price \$8.95 + postage

Vascular Plants of British Columbia: A Descriptive Resource Inventory. 1977. Roy L. Taylor and Bruce MacBryde. Technical Bulletin, The Botanical Garden, The University of British Columbia, No. 4. The University of British Columbia Press, Vancouver.

Price \$28.00 + postage

MISCELLANEOUS PUBLICATIONS

DAVIDSONIA — A quarterly journal containing horticultural and botanical information on British Columbia plants. Activities and programs of the Garden are provided. Special issues have been published on the Nitobe Garden, Campus Plants, Rhododendrons at UBC, Trough Gardening for Alpines and the E.H. Lohbrunner Alpine Garden.

Available by subscription or single numbers.

Meet the Natives! The B.C. Native Plant Garden Resource Book. 1976. Elaine V. Mascali and Roy L. Taylor. The Botanical Garden, The University of British Columbia, Vancouver.

Price \$3.50 + postage

HOW TO ORDER

All orders should be addressed to:

Office of The Botanical Garden
6501 N.W. Marine Drive
The University of British Columbia
Vancouver, B.C., Canada V6T 1W5

