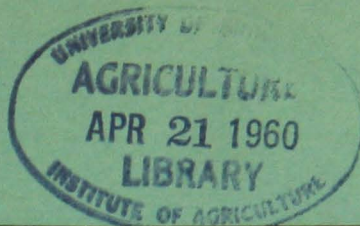


MAGR  
GOVS  
MN  
2000  
MISC-1960

*misc* (3)  
1960  
④



*CCM*

# Top Horticultural Stories-1959

- Research
- Recommended Practices in
  - Ornamental Horticulture
  - Vegetable Gardening
  - Fruit Growing
- Monthly Home Garden Tips

COMPILED FROM NEWS RELEASES ISSUED BY THE INFORMATION SERVICE

UNIVERSITY OF MINNESOTA ①  
*Agricultural Extension Service* ②  
U. S. DEPARTMENT OF AGRICULTURE

This archival publication may not reflect current scientific knowledge or recommendations.  
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>.

The Institute of Agriculture issues many printed reports and bulletins recording the results of its research and providing information on new developments and recommended practices in horticulture. These appear as Extension Service bulletins, folders, or fact sheets; as Experiment Station bulletins, as articles in Minnesota Farm and Home Science and in several other forms.

In addition, the Institute also sends news releases and weekly columns on gardening to newspapers, radio stations, trade and farm papers and other outlets. These releases contain valuable information that could be used in the educational programs carried on by county extension agents, high school teachers and others

This publication has brought together some of the more important of these releases. Through this publication the Institute hopes to improve its informational service and to extend the reporting of the results of its research

# Ornamentals

## NEW PUBLICATION ON PERENNIALS

Gardeners looking for perennials that will do well in Minnesota will find some helpful suggestions in a new University of Minnesota Agricultural Extension Service publication, "Perennials for Minnesota," Extension Bulletin 295.

Author of the bulletin is C. Gustav Hard, University extension horticulturist.

Fifty perennials are listed which will withstand Minnesota winters and bloom within the growing season in this state. Along with a description of each perennial, blooming dates are given for each, as well as recommended culture and methods of propagation.

"Perennials for Minnesota," Extension Bulletin 295, is available from Bulletin Room, Institute of Agriculture, University of Minnesota, St. Paul 1 or from county extension offices.

## TREAT YOUR AFRICAN VIOLETS WITH CARE

Growing African violets has become a favorite hobby of American homemakers during the past 20 years.

Homemakers may find it an interesting and rewarding pastime if they follow these suggestions from C. Gustav Hard, extension horticulturist at the University of Minnesota.

Use a soil mixture containing equal parts of good garden soil, sand and organic matter such as leafmold, rotted manure or peat.

Plant the violet in a glazed container if possible, 4 inches or more in diameter. If you must use a clay flower pot, line the edge with aluminum foil or dip it in hot paraffin to prevent the breakdown of leaf tissue caused by leaves touching the edge of the pot.

Keep the day temperature close to 70-72 degrees F. and don't let night temperatures fall below 62 degrees F.

Keep plants near east or north windows if possible, since light should not be direct or bright. If the plant must be placed in west or south windows, put a light shade or curtain between the plants and the window.

Water plants either from the top or from the bottom, using water at room temperature. Be careful not to get cold water on the leaves. Don't keep the soil saturated with water; allow it to become nearly dry before watering.

The University horticulturist lists some causes of common problems in growing African violets:

**YELLOWING** of the foliage may be caused by over fertilization, not enough light, too high temperature, or over-watering.

**RING SPOTS** on the foliage may be caused by cold drafts, use of cold water or direct sunlight.

**POOR FLOWERING** means not enough light or poor temperature control.

**LIGHT GREEN GROWTH** and leaves cupped downward indicate too low a temperature.

## DO HOUSE PLANTS HAVE SPRING FEVER?

House plants, like humans, can get spring fever.

Sluggish growth, limp appearance, sparse blooming, browning of roots and pale foliage are all symptoms of spring fever in house plants.

As remedies to many of these house plant troubles, University floriculturist R. E. Widmer suggests repotting plants in fresh soil and providing balanced fertilizer at regular intervals. Root-bound plants may need larger pots. If a plant needs water more often than once in every 24 or 36 hours, it needs a bigger pot and fresh soil. Overwatering may be the cause of roots turning brown and rotting.

The better light conditions of the spring months should help to remedy many of the present troubles of house plants, Widmer said.

## NO RULES FOR WATERING PLANTS

No definite rule can be given for watering ornamentals at specific times such as every day or two or three times a week.

L. C. Snyder, head of the University's horticulture department, cautions gardeners not to water plants until they actually need water. Then saturate the ground deep enough so the roots of the plants will get water, he added.

The plant itself should be used as a guide in determining when to water. Knowledge of different types of plants and of the role water plays in the life of a plant will help gardeners know when to water. For example, the amount of water needed will be influenced by the rate of transpiration or water evaporation, which varies according to humidity, temperature, light and wind, as well as such plant characteristics as thinness of leaves and hairs on leaves. The intake of water is also influenced by the depth and penetration of the roots of a plant, the type of soil and the amount of rainfall.

## KEEP EASTER FLOWERS BLOOMING LONGER

Easter bouquets of cut flowers will last longer if cut flower "food" is placed in the water or if the water is changed daily, according to R. E. Widmer, floriculturist at the University of Minnesota.

Be sure to keep the water level up in the containers so all stems are actually in water.



Keep the flowers away from drafts and radiators and in a cool room at night.

If iris wilt prematurely, puncture the thickened green stems immediately below the flower with a hat pin.

If cut roses are not in water when delivered, placing the stems in warm water (100°F.) upon delivery and then letting the water cool naturally will force air bubbles out of the stems and allow the flowers to get all the water necessary to keep them fresh. This technique is particularly helpful in reviving roses which may wilt or which bend just below the flower.

To keep Easter plants blooming as long as possible, the University floriculturist gives these tips:

- . Place the plants in bright light, preferably sunlight.
- . Keep the soil moist but not bog-like.
- . Keep the plants at cool night temperatures, approximately 60°F.

#### BLUEGRASS BEST FOR MINNESOTA LAWNS

Kentucky bluegrass is still the most reliable lawn grass for Minnesota.

R. J. Stadtherr, University of Minnesota horticulturist, reports that University of Minnesota tests show that many of the new varieties such as Mondo and Zoysia are unsatisfactory for this area. Stadtherr is in charge of University turf grass experiments.

The University horticulture department is now growing different mixtures of lawn grasses at the Fruit Breeding Farm near Excelsior, at Crookston, Grand Rapids, Morris and Duluth, in an effort to find suitable selections for different parts of Minnesota.

The householder who does not enjoy mowing the lawn may want to plant Merion bluegrass, a dwarf-type grass, Stadtherr said. In University plots over the last two years Merion bluegrass grew 20 inches less per season than Kentucky blue, thus requiring fewer cuttings.

Fertilizer studies conducted by the University show that previous fertilizer recommendations for the lawn have been insufficient. Instead of the 1 or 2 pounds of actual nitrogen previously recommended per 1,000 square feet of lawn, the present recommendation is for up to 8 pounds for bluegrass on some soils. Red fescues do not require as heavy fertilization as the bluegrasses.

#### RECIPE FOR WEED-FREE LAWNS

Want a velvety, weed-free lawn this summer?

Then plant suitable adapted grasses and use good management practices in caring for the lawn.

R. J. Stadtherr, University horticulture instructor in charge of turf research, says there are two general methods of controlling crabgrass and other lawn weeds: cultural and chemical. Application of chemicals is often necessary to supplement good cultural methods.

The cultural method relies on a sound

management program to develop a dense turf which resists weed penetration. A mixture of Kentucky bluegrass and the red fescues makes an ideal lawn which requires the least amount of care in Minnesota.

Proper seed bed preparation with good soil aeration and drainage is basic in effective lawn management.

Misuse of fertilizers and water - both excessive and insufficient amounts - are two major causes of serious weed infiltration. Excessive shade and root competition, as well as improper mowing practices, are also responsible for weedy lawns.

Stadtherr recommends early spring as an excellent time to fertilize the lawn because the grass is dormant and there is no danger of injuring it. If the fertilizer can be spread while the soil is frozen, it will not be necessary to water it into the soil. Generally about 20 pounds per 1,000 square feet of a complete fertilizer having basically a 2:1:1 or 1:1:1 ratio is recommended. Examples of a 2:1:1 type would be 10-5-5 (10 percent nitrogen, 5 percent phosphate, 5 percent potash) or 10-6-4. A 1:1:1 type would be a 12-12-10-10-10 or 8-8-6. Make the first application of fertilizer as early in the spring as possible, Stadtherr urges, in order to develop a dense sod before weed seeds germinate.

A second application of fertilizer can be made the second or third week in May. For this application one pound of nitrogen per 1,000 square feet is sufficient. This would be 10 pounds if a 10 percent nitrogen-carrying fertilizer is used. (The first number in the analysis of a fertilizer gives the percentage of nitrogen.)

In tests at the University of Minnesota, the number of crabgrass plants has been reduced 65 percent by application of 2 pounds of nitrogen per 1,000 square feet compared with no nitrogen.

In shady areas, a light feeding of about a half pound of actual nitrogen per 1,000 square feet monthly will help develop a good turf.

Apply fertilizer when the soil is moist but when the grass blades are dry to prevent burning the turf. Then water thoroughly.

Proper mowing is another important factor in reducing the weed population. A dense, thick turf which will shade the ground will prevent germination of crabgrass. In University test plots there were fewer weeds where cutting heights of 1 1/2 to 2 inches were used. Never remove more than third of the total green leaf surface at a single mowing, Stadtherr cautioned.

#### MONDO NOT FOR MINNESOTA

Want a lush, thick growth of grass that make your lawn the envy of your neighbors?

Then stick to the permanent grasses recommended for Minnesota, such as the bluegrasses, red fescues and bent grasses. That recommendation comes from R. J. Stadtherr, University of Minnesota horticulturist in charge of turf studies.

Don't buy the highly publicized "miracle grasses" which may be advertised to grow under

all possible conditions, he warns.

One of the "wonder grasses" that is not adapted to Minnesota is Mondo. Stadtherr reports numerous queries from householders who ask if Mondo is the answer to all their lawn problems.

One of the disadvantages of Mondo is that it will not tolerate heavy traffic. For that reason it would be a poor choice for any lawn area used to any extent by the family, particularly as a play area.

Another disadvantage is that it is not winter hardy. In experimental plots of Mondo at the University Fruit Breeding Farm, Mondo has completely winter killed for two years in succession.

Mondo is actually not a grass at all, but a member of the lily family, native to Japan, Korea and northern China, according to Stadtherr. It has dark green, coarse, leathery leaves about one-eighth-inch wide, forming an open rosette. The plants, which may grow from 6 to 12 inches tall, often produce pale blue flowers in late summer. Because of its characteristics, Mondo will not blend well with any of the common lawn grasses, Stadtherr said.

Mondo has grown and spread very slowly in University tests, even though the plants are given ideal environmental conditions. It propagates in the same way as quackgrass--by underground stolons or runners.

An argument in favor of Mondo, as far as most householders are concerned, is that it should not be mowed. Though it makes a dense turf-like growth in some of the southern states, it is not hardy enough for Minnesota conditions.

#### LAWN GRASS NEEDS FEEDING FOR SPRING GROWTH

Early spring and early fall are the best times to fertilize lawn grasses. These are the seasons when grasses awaken to a period of rapid growth if they have sufficient plant food to stimulate them.

According to Richard J. Stadtherr, in charge of grass turf studies at the University of Minnesota, applications of fertilizer at other times, especially during hot weather, may burn the grasses and stimulate crabgrass and other weeds.

Since grasses are heavy nitrogen feeders, the amount of fertilizer recommended is usually figured in terms of pounds of nitrogen per 1,000 square feet of lawn. Kentucky bluegrass requires 3 to 4 pounds of actual nitrogen per 1,000 square feet per season; Merion bluegrass requires a heavier application. The usual recommendation is to apply not more than 2 pounds of actual nitrogen at any one time. Lawns containing a big percentage of red fescues should not receive over 3 pounds per 1,000 square feet per season. If trees are present, doubling the rate beneath the spread of the branches will reduce the competition between trees and grass for nutrients.

A complete fertilizer based on a 10-6-4 formula is 10 percent nitrogen, 6 percent phosphorus and 4 percent potash. An 80-pound sack of this fertilizer would contain 8 pounds of actual nitrogen--enough for about 2,000 square feet of

lawn per year.

Stadtherr recommends applying 20 pounds of complete fertilizer to each 1,000 square feet of lawn area in early spring. As long as the grass is not actively growing, it is not necessary to water the fertilizer into the lawn. However, if the grass is growing it is important to give it a thorough soaking after applying the fertilizer.

Many types of fertilizer are available, some organic, derived from such sources as sewage sludge, tankage and soybean meal, and some inorganic, purely chemical in nature. Both types are effective plant foods. Some commercial fertilizers are a mixture of these two. In general, the organic fertilizers, which cost more per unit of actual nitrogen, release their nutrients more slowly than the inorganic, thus giving more uniform stimulation to the grass over a longer period. Addition of organic material also improves the texture of most soils.

Some home owners may be interested in trying a relatively new, high-nitrogen, urea-form fertilizer. Sold under several different trade names, this fertilizer spreads easily and releases its nitrogen slowly. Applied at recommended rates, it will not burn grass leaves, doesn't over-stimulate the plants and is effective over a longer period than some of the older-type fertilizers. Since it contains at least 38 percent of actual nitrogen, a much smaller quantity is needed to provide the recommended amount.

#### HERE'S HOW TO GET RID OF DANDELIONS

Digging dandelions isn't the best answer to getting rid of this pest in your home lawn.

In fact, R. J. Stadtherr, in charge of turf research at the University of Minnesota, has discouraging news for dandelion diggers: Unless you dig practically all of the root, your work isn't worth the energy it takes; the dandelions will come right back.

As the best weapon to fight dandelions, the University turf researcher recommends a knapsack sprayer filled with 2,4-D. Use the amine form or a low volatile ester form of 2,4-D, or a 2,4-D product recommended specifically for lawns. The ester form commonly used for field weeds is highly volatile and is likely to injure nearby flowers and shrubs.

Apply the spray on a still, sunny day when the temperature is between 60 and 70°F. and when the weeds are actively growing. When the temperature is high, 2,4-D becomes very volatile and is likely to damage ornamentals. Use the spray according to manufacturer's directions. Hold the sprayer close to the ground so there is less chance of the 2,4-D drifting to flowers and nearby shrubs. It's a wise precaution to use a low-pressure sprayer that restricts the spray to the plants you wish to kill. The 2,4-D will injure clover in the lawn, but the clover will usually recover.

Dry weather has made dandelions somewhat less susceptible than usual to 2,4-D. For that reason, a second application in about two weeks may be necessary. To be sure that enough of the

chemical is absorbed into the weeds to kill them, add a wetting agent to the 2,4-D. About a teaspoonful of household detergent to 2 gallons of spray will serve the purpose.

The 2,4-D spray is most effective if the lawn is fertilized a week or two before it is applied, Stadtherr says. If the ground is dry, it's a good idea to water the lawn the day before spraying.

Be sure to wait 24 hours before watering the lawn after spraying dandelions, the University horticulturist cautions. Otherwise, the herbicide will be washed off the leaves and will not be absorbed into the plant system.

In University experiments various dry materials--a dry form of 2,4-D and combinations of fertilizer, insecticides and herbicides--have also been successful in controlling dandelions and other broad-leaved weeds.

### REJUVENATE WINTER-DAMAGED LAWNS

If your lawn has patches of dead grass from winter injury, even after recent rains, you'll probably have to resort to re-seeding, fertilizing and watering.

R. J. Stadtherr, in charge of turf research for the University of Minnesota, recommends raking the dead spots thoroughly with a steel rake to remove the dried grass so the seed will come in contact with the soil. Then seed patches that are in full sun with Kentucky bluegrass or the quicker germinating Park bluegrass. For a shady lawn, use a mixture of Kentucky bluegrass and one of the red fescues at the rate of about 4 pounds per 1,000 square feet.

Sodding the dead patches is also satisfactory. Be sure to take out enough soil so the sod is at the same level as the rest of the lawn.

If your lawn is thin and no longer contains much of the desirable grasses such as Kentucky bluegrass and the red fescues, overseed with a mixture of these two at the rate of 1/2 to 1 pound per 1,000 square feet. However, if there is less than 30 percent cover of these grasses, it is a good idea to re-work the entire lawn, following directions for starting a new lawn as given in Extension Folder 165, "The Home Lawn." This publication is available from Bulletin Room, Institute of Agriculture, University of Minnesota, St. Paul 1.

If you haven't fertilized the lawn this spring, apply a complete fertilizer such as 10-6-4 or 10-10-10, at the rate of 20 pounds for every 1,000 square feet of area. Be sure to water thoroughly after fertilizing. The fertilizer may be applied before or after seeding or sodding.

After seeding and fertilizing, keep the soil moist until the grass is at least an inch high. A light mulch of dry grass, hay, straw or peat will help to conserve moisture and prevent the seed from blowing off.

The University horticulturist recommends waiting until new grass is 2 inches high before cutting it.

### DON'T HIDE HOUSE WITH PLANTINGS

Your foundation planting can add to or detract from the value of your house.

That's why it pays to consider carefully before buying plants for this purpose, according to C. G. Hard, extension horticulturist at the University of Minnesota.

Overplanting is a common error made by amateur landscape gardeners. The reason for this may be a natural impatience to fill the empty spots quickly. Hence, the tendency is to plant too close and to choose materials that grow fast, without allowing sufficient space for their ultimate size.

In general, foundation plants should be low and spreading for the modern-type ranch house. Low plants are especially desirable at doorways and under windows, unless the house has a high foundation. It is not necessary to hide every expanse of wall. Sometimes placing plants only at the doorway and corners of the house produces a better effect.

Foliage color and seasonal color change add to the interest of the foundation planting. Shrubs with high autumn color include Amur maple, winged euonymus, sumac and highbush cranberry. Twig coloring and winter effects of many deciduous shrubs are just as interesting as evergreens. If you plan to use evergreen shrubs, be sure to select species such as Mugho pine, arborvitae and juniper which offer varieties that will grow only to the height you desire, he suggests.

A list of shrubs especially adapted to Minnesota conditions is given in "Woody Plants for Minnesota," Extension Bulletin 267. "Landscaping the Home," Extension Bulletin 283, gives suggestions on how and where to use particular shrubs. Copies of these bulletins are available from Bulletin Room, Institute of Agriculture, University of Minnesota, St. Paul 1.

### LENGTHEN LIFE OF CUT FLOWERS

What a disappointment to see that lovely flower arrangement wilt--especially after you worked on it all morning!

There are many things that you can do to lengthen the life of cut flowers, according to University of Minnesota extension horticulturist C. G. Hard.

Be selective when picking flowers for an arrangement. It's best to pick most garden flowers before the flower is fully open. Roses should be picked before the buds open, gladioli when the first flowers open and poppies the night before the buds open.

Use a sharp knife. Put flowers in water as soon as possible after cutting. Placing the stems deeply in water and putting the flowers in a humid place such as the basement for several hours will increase their life.

Peel back the stems of woody flowers about an inch and split them.

Seal the ends of such plants as dahlias and

poppies to allow free flow of water. To sear, hold the cut stem end in boiling water or over a flame for a few seconds. Then plunge the stems directly into water. Searing can also be done by placing the stem ends into as hot water as your hand can stand. Allow them to remain there until the water cools.

Use wide-mouthed, clean vases for your arrangement.

To recover slightly wilted flowers, place them in warm water. Warm water moves into the stem faster than cold does.

Once your arrangement is made, keep the flowers in a cool place and out of drafts. Change the water and cut the stems daily. Remove submerged leaves.

#### PARK BLUEGRASS GOOD TURF VARIETY

GRAND RAPIDS--Park bluegrass, recently developed by the University of Minnesota, is a potential favorite for both the backyard and the back forty.

It's a good, vigorous grass that makes as fine a lawn turf as you can ask for. It's also a good variety for farmers who would like to produce bluegrass seed.

Agronomist H. L. Thomas, who played a major role in its development, said it has survived winters well in plots at the station. It out-yields both common and Merion bluegrass and is more resistant than either to rust disease. Vigorous as it is, farmers who raise it for seed should find a good market in the future, Thomas added.

He also said Park might be considered for long-time pasture stands, since it's such a good yielder and will live through the toughest winters Minnesota can offer.

Two red clover varieties--Dollard from Canada and Lakeland, a new one from Wisconsin--both came through well last winter at the University's North Central Experiment Station at Grand Rapids.

Dollard so far is considered the best red clover for Minnesota. Lakeland is promising, but needs more testing before it can be recommended there. Thomas said that in addition to being winter-hardy, these varieties yield well and are resistant to northern anthracnose, a troublesome disease in red clover.

During the past two years, anthracnose has reduced seed production in some clover fields by as much as 20 or 25 percent. But that wouldn't happen with Dollard, Thomas said. The forage experiments were conducted at the Grand Rapids station in cooperation with C. H. Griffith, station agronomist.

#### FOR LONG BLOOM SELECT VARIETIES CAREFULLY

For gay color in your garden when the last snow leaves in spring, plant some spring-flowering bulbs in fall.

C. G. Hard, University extension horticulturist, gives some tips on selection of bulbs.

Spring-flowering bulbs include daffodils, tulips, hyacinths, bulb iris and crocuses. Smaller and not so well known are scillas, glory-of-the-snow, grape hyacinths and snowdrops.

By choosing your varieties carefully, you can extend the blooming of these bulbs over a long period, giving color to your garden before other flowers are in blossom.

Earliest of the tulips is the Red Emperor, which blossoms about the same time as crocus and scilla. Next to bloom are the early single-flowering tulips, then the cottage and the tall Darwin types, followed by the Triumph varieties. Among the latest flowering are the Parrot tulips with ruffled petals and the bronzed Breeder tulips. Daffodils usually bloom about the same time as Parrot tulips.

For the perennial border, select bulbs with colors that blend. Plant from five to seven bulbs of one color at each location to give a good show of bloom.

#### TIPS ON BUYING SPRING BULBS

The bigger the bulbs, the bigger the flowers.

That's a point gardeners should keep in mind in buying the spring-flowering bulbs that are now in the market.

C. G. Hard, extension horticulturist at the University of Minnesota, says firm, plump, large bulbs give best results. Large-flowering tulip bulbs should be at least 1 1/2 inches in diameter. Dutch hyacinths should be about 1 3/4 inches in diameter. Daffodils will vary in size, but the double-nosed large bulbs will give good results.

Jumbo bulbs will give the largest, finest blooms, but they also cost more than other size bulbs. They are desirable for the gardener who plans to exhibit rather than for the average gardener.

Many of the more common varieties of bulbs are available at reasonable prices. However, some bargain offers are not a bargain at all, since they may be an assortment of less desirable varieties, many of which may bloom the first year.

Gardeners will get most satisfaction from buying first-quality bulbs from reputable local dealers, Hard says. He urges selection of different varieties that will give extended bloom over a long period.

#### AUTUMN TIPS FOR THE GARDENER

Threats of frost and generally colder weather have brought scores of questions from gardeners about care of ornamental plants and the lawn.

C. G. Hard, extension horticulturist at the University of Minnesota, gives these tips in response to questions most frequently asked at this season:

LAWN - Continue mowing until cold weather stops growth. If the grass is left too long, it provides a good environment for snow mold in spring.



The lawn may be fertilized until the snow falls. Sodding may continue until freeze-up.

**EVERGREENS** - Water evergreens well to insure an available supply of moisture.

**GERANIUMS** - Take plants in now or make 4- to 6-inch cuttings from the stem to start new plants. Root cuttings in sand, vermiculite or water. When they are rooted, plant each cutting in a 4-inch pot or plant two in a 6-inch pot.

**CHRYSANTHEMUMS** - To lengthen blooming period, cover the 'mums if there is danger of freezing.

**TUBEROUS BEGONIAS** - If you want to continue to enjoy your tuberous begonias, take them indoors immediately. If they are planted in beds, lift the bulbs out carefully with some soil, plant in pots and bring indoors.

Or bring in pots of bulbs and let them dry in a cool, dry place. When the bulb can be separated easily from the stem, store in a cool, moist place or in slightly moistened sphagnum moss in a plastic bag.

**GLADIOLUS, DAHLIA AND OTHER TENDER BULBS** - Gladiolus, dahlia and canna bulbs may be harvested after the first killing frost. After digging the bulbs, wash off excess soil with the hose and let them dry thoroughly in the garage or a dry, well ventilated room. Take precautions to prevent them from freezing. When they are dry, store in a cool room 40° - 50° in dampened sphagnum moss.

**ROSES** - Mound up roses with dirt to about a foot around the crown of the plant for winter protection. Spray the roses with a good fungicide before mounding them. Avoid fertilizing or watering roses this late in the season. After the soil has frozen, apply a mulch of about 12-18 inches of marsh hay or straw.

## U DEVELOPS

### TWO MORE 'MUMS

Two new garden chrysanthemums have been developed by the University of Minnesota horticulture department.

Introduction of the two new 'mums, named Tonka and Prairie Moon, brings to 39 the number of garden chrysanthemums developed by the University of Minnesota especially for Minnesota growing conditions. Reports from other states where they have been tested indicate that they should do well over a wide area. Responsible for the development of the new 'mums are R. A. Phillips and R. E. Widmer, University horticulturists.

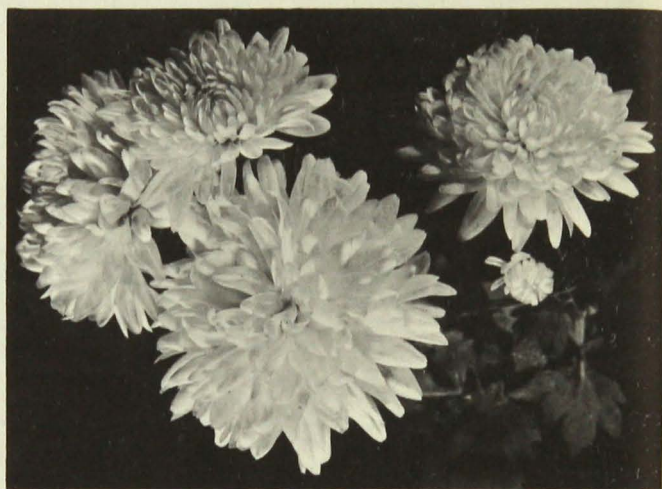
Plants of the two new varieties will be available from nurseries in this area.

**Tonka** (Minn. No. 54-44-2) is a large-flowered (3 1/2 inch), fully double, deep yellow variety. The flowers and clean, rich green foliage are borne on stiff stems. An open center is never visible in the flower. The plant grows to a height of 20 inches and spreads to 30 inches. The flowers bloom from early September to hard frost.

**Prairie Moon** (54-128-81) is a creamy-white, double-flowered variety with large blossoms 4 inches in diameter. When the flowers are fully open, a gold center is usually visible. A prolific bloomer, the willowy plant has rich green foliage.

Because the height is 24 to 30 inches, **Prairie Moon** should be used toward the rear of the flower border. Plant spread is about 18 to 24 inches. The flowers bloom from early September to frost.

A complete description of the two new varieties is given in University of Minnesota Agricultural Experiment Station Miscellaneous Report 33, available from the Bulletin Room, University of Minnesota, St. Paul 1.



Prairie Moon is creamy-white and double-flowered.

## INDOOR GARDEN YEAR-ROUND ENTERTAINMENT

Summer isn't the only time of the year that you can have a garden.

You can create a simple indoor garden any time of the year in a glass-enclosed seed box or even in a large-size glass jar, according to C. G. Hard, extension horticulturist at the University of Minnesota.

Start with a seed flat to make a terrarium garden. Make the box about 1 foot wide, 1 1/2 feet long and 3 inches deep. Enclose the sides and top of the seed flat with glass, using two pieces for the cover.

Fasten the glass at the corners with adhesive or masking tape. Line the inside of the box with aluminum foil so that the water does not come through. Place about 1 inch of coarse gravel or crushed charcoal in the bottom of the box. Then fill the flat with a mixture of two parts garden soil, one part coarse sand and one part organic matter. This will make a good soil for growing your plants.

Many different types of plants will grow in a terrarium garden. African violets, coleus, Chinese evergreen, begonia, English or grape ivy are but a few. Use plants which grow at about the same rate and which need about the same amount of sunlight. Don't overcrowd the plants.

A terrarium needs bright sunlight, but not direct sunlight. When moisture collects on the



inside of the glass, slide the glass top back. Plants need ventilation, too. Put the terrarium in a place where you can watch it daily. Water the plants when the soil becomes dry.

For more interesting effects, plant your terrarium as a landscape scene or as a wood scene. You can also divide the box into two parts. Fill one section with sand or vermiculite and use this part for starting new plants.

#### U DEVELOPS NEW RED ROSE

Prairie Fire rose is a new bright red semi-double floribunda rose developed by the University of Minnesota department of horticulture. It is being introduced to the public this spring.

The rose is especially useful as a showy flowering shrub or as background for a border of perennials or garden roses.

The large flowers, 2 1/2 to 3 inches in diameter, are borne in clusters. From 35 to 55 individual blooms crown a single cane. The plant produces flushes of bloom at approximately monthly intervals, with some flowers present almost continuously throughout the summer.

Flowers age slowly to a lovely clear pink. The combination of the pink flowers with the bright red buds and new blooms gives an unusually attractive display. Blossoms are highly fragrant.

Growth habit is upright and very vigorous. Height of the plants is up to 5 feet.

Although plants will generally survive without protection, a 12-inch leaf or hay mulch without earth mounding will assure winter survival in northern gardens where winter protection is usually necessary. Winter-killing of the cane ends can be expected. Pruning back into live tissue is recommended in spring to make bushy, vigorous plants.



Prairie Rose has bright red large flowers.

#### MAKE CHRISTMAS FLOWERS LAST

Your Christmas cut flowers will last twice as long if you keep them cool at night - at a temperature of about 50°F.

However, it's best not to set the flowers in the home refrigerator, according to R. E. Widmer, University of Minnesota floriculturist. Refrigerated fresh vegetables and fruits give off ethylene gas which has the effect of putting roses and other cut flowers to sleep and shortening their life considerably. A cool basement is ideal for flowers at night.

# Vegetable Gardening

## GIBBERELLIN NOT PRACTICAL FOR GARDENING

Present cost of gibberellic acid makes it impractical for use in commercial or home gardening, even if there were evidence that it was always desirable, according to R. E. Nylund, horticulturist at the University of Minnesota.

At present wholesale prices of \$112 an ounce, the amount needed to treat an acre or even a small garden plot would be prohibitive.

Tests of gibberellin by researchers in Minnesota and other states show that it increases plant size and yield of some vegetable but may reduce the yield of others. Research has shown that gibberellic acid had these effects on specific plants:

- . Stimulated growth in practically every plant. Bush beans developed into pole-type beans; dwarf plants grew as tall as normal-size plants.

- . Increased growth of lawn grasses earlier in spring, but produced yellowing.

- . Produced earlier flowers in some annuals like petunias but did not affect snapdragons. Gibberellin delayed flowering of cucumbers, peppers and muskmelons.

- . Inhibited root growth. Gibberellin would therefore have no use on carrots and other root crops.

- . Produced bigger fruits and larger clusters when used on grapes.

Studies at the University of Minnesota showed that:

- . Treatment of potato seed pieces with gibberellin reduced potato yields.

- . Applications of approximately 1/2 ounce of gibberellin per acre of celery increased height and stalk weight slightly.

Nylund said that young plants respond to gibberellin faster than old plants; mature tissues are not affected. Experiments show that frequent small doses are better than large single doses and that foliar sprays are the most effective way of applying gibberellin.

## CHOOSE VARIETIES FOR MINNESOTA

Selecting vegetable varieties adapted to Minnesota is one of the simplest, yet one of the most important steps to a successful vegetable garden, according to a University of Minnesota horticulturist, O. C. Turnquist.

The Minnesota Agricultural Extension Service has had vegetable test plots around the state for a number of years to find out what vegetables will do well in various locations. A newly revised publication just off the press, "Vegetable Varieties for Minnesota," Extension Folder 154, summarizes the results of last year's tests of hybrids and newer varieties. It also gives a suggested list of older varieties found dependable for Minnesota home gardens.

Among newer varieties that did well in trial plots last year, the University horticulturist recommended these as worth trying in home gardens

Catskill Brussels sprouts, a very productive variety; Early Abundant peas, a variety maturing about the same time as Little Marvel but with larger, more abundant pods; Improved Tender-green snap beans, a new strain of the old Tender-green but mosaic resistant and more productive; Greenhart lettuce, tolerant against bolting to seed; Glamour tomato for southern Minnesota, Moreton hybrid (very early) and Big Boy hybrid (later than Moreton) for the entire state; Earliking sweet corn, a new early hybrid with high-quality large ears.

## VEGETABLE YIELDS NOT INCREASED BY GIBBERELLIN

Vegetable crop yields were not increased by gibberellin in 1957 research at the University of Minnesota.

In fact, adding gibberellin actually decreased yields in some cases, according to R. E. Nylund University horticulturist.

Gibberellin or gibberellic acid is a material which, in some experiments around the nation, has resulted in unusually high growth and other changes in vegetables, ornamentals and other plants. Little research has been done on its effect on yields, though.

Nylund sprayed tomatoes at three rates -- 5, 25 and 50 ppm (parts per million). He compared spraying at transplanting and when the first flower opened. Tomatoes in every case yielded less than those not sprayed.

All levels of treatment and different treating times also resulted in lower yields in peas and potatoes. Nylund used seed treatments on both crops and, on peas, he also sprayed some plants when they were in full bloom. In potatoes, some got a gibberellin treatment when the plants were 8-10 inches tall.

In greenhouse tests with celery, the treatments did not affect height of the plants, but they did reduce number of leaves on celery plants.

The gibberellin increased plant growth in the tomatoes and peas, but for some reason, it stunted potato plants.

Nylund points out that these tests do not mean that gibberellin might not be useful. The material causes a number of changes in different plants. For example, it affects flowering in some cases which might be useful with ornamentals.

Gibberellin at present may be most useful as a research tool, according to Nylund. Since it causes so many different kinds of changes in different plants, it may give scientists new leads as to what controls plant growth.



## MORE EFFECTS OF GIBBERELLIN NOTED

Two more effects of gibberellin on plants have been noted by scientists at the University of Minnesota.

They have found that this so-called "wonder" chemical--known to stimulate growth--causes a plant both to take up more phosphorus and to lose water more rapidly.

The findings come from botanists A. J. Linck and T. W. Sudia. In one test, they put bean plant roots in gibberellic acid solutions, added radioactive phosphorus (P-32) and checked plants 28, 52, and 76 hours later with a Geiger counter.

In all cases, plants treated with the chemical had absorbed more phosphorus than non-treated ones. Gibberellin also affected the phosphorous distribution; after 76 hours, for example, upper stems of treated plants had four times as much phosphorus as non-treated ones. In new leaves, though, gibberellin only doubled the amount of phosphorus.

Another experiment showed that plants treated with the material lost more water than untreated ones.

Just how these findings may be used in the future is still a question. Linck and Sudia say it would take many more tests to tell whether gibberellin can be used to speed up fertilizer use. But both findings give the scientists important clues on what goes on inside the plant.

Gibberellin causes spectacular growth increases in some plants, mostly by causing plant cells to grow longer. In the Minnesota tests, treated beans grew much higher than untreated ones. Scientists around the country have found the material has a variety of effects, but there's conflicting evidence on whether it increases yields.

University horticulturists in 1957 found it increased growth but failed to make tomatoes or peas yield more. It actually stunted potato growth.

## CHEMICALS CUT WEEDING TIME IN HALF

Chemical weed-killers can reduce weeding costs in a crop like onions by as much as 50 percent.

University of Minnesota horticulturists R. E. Nylund, D. C. Nelson and D. H. Dinkel came to that conclusion after two years of tests.

In 1956, they found that where no chemical was used, it took 170 hours of labor per acre to hand-weed onions. But where they made a "pre-emergence" application of Telvar, a chemical herbicide, workers did the hand weeding in 70 percent less time. And when you add the cost of the chemical, total weeding costs were still cut in half.

Pre-emergence treatment is shortly after planting, but before the crop comes up.

The following summer, pre-emergence treatments of either 1.6 pounds Telvar, 8 pounds Chloro-IPC or 4 pounds Radox per acre reduced total weeding time by about 50 percent and weeding costs by 35-40 percent.

A second application of chemical on July 19 resulted in no more overall reduction in hand-weeding time or weeding costs than did the first application alone.

## SCIENTISTS SHOW QUACKGRASS CONTROL METHOD

A procedure that can almost completely rid a potato field of quackgrass has proved itself in University of Minnesota experiments.

Here it is:

\* Let the quackgrass grow 6 to 8 inches tall.

\* Spray the grass with 10 pounds of dalapon per acre, in enough water to give good, uniform coverage.

\* Wait 7 to 10 days, then plow the field and plant the spuds.

This method was tested thoroughly for three years at the Northeast Experiment station, Duluth, by Wallace W. Nelson, assistant superintendent of the station, and R. E. Nylund, University horticulturist.

Each year, it worked out well; scientists rated the control "good" or "excellent" in each case.

Biggest problem, though, is cost--about \$20 to \$25 per acre at current prices. Nelson and Nylund say a grower would have to weigh the expense against improvement in potato quality, easier digging and benefit to succeeding crops from eliminating quackgrass. Potato yields in the experiments weren't increased by controlling quackgrass.

Nelson and Nylund tried three different spraying rates, but found 10 pounds gave the best control at least cost.

Control was fairly consistent from year to year, regardless of variations in temperature and rainfall before and after applying the dalapon.

The scientists add one point of caution: this treatment shouldn't be used on land to be planted to red-skinned potato varieties. LaSoda, Red Pontiac and other red varieties sometimes have a lighter color where dalapon has been used. Otherwise, though, the chemical does not hurt the potatoes. Nelson and Nylund found it had no effect on sprouting or storage decay.

## VEGETABLE GROWERS SHOULD COMPARE MARKETS

Minnesota fruit and vegetable growers are urged to keep a sharp eye on both local and out-of-state market prices.

And best way to do it is check the Daily Fruit and Vegetable report from the Federal-State Market News service, according to Frank Smith, extension marketing economist at the University of Minnesota.

This report, Smith says, can help a grower decide whether to sell locally or somewhere else. Also, it helps growers selling locally to determine whether they're getting paid as much as buyers would eventually have to pay for shipped-in



vegetables and fruits.

For example, Smith says, suppose local buyers have a choice of buying carrots either from Minnesota or from Salinas, California. Then say the Market News Service report shows that the F. O. B. price for carrots at Salinas is \$2 for each 48-pound crate, and the transfer cost is \$1.50 per crate.

This means that a local buyer really has a total cost of \$3.50 per crate for California carrots. If a local grower has carrots of a comparable grade for sale, he should then expect to get paid about that same amount.

The report also gives information on other terminal markets. As another example, Smith says that if the local market price is \$3 per crate for carrots, but the same grade brings \$4.50 at Chicago and the transfer cost is \$1, there is still a 50-cent advantage for shipping the carrots to Chicago.

If the market system functioned perfectly, prices between markets would differ only by the transfer costs. Over the long run, that generally is true. But from day to day, there can be some important differences, and that's why it's important to follow the daily market prices.

Vegetable growers can get on the free mailing list for the Fruit and Vegetable report by writing to the Federal-State Market News service, 303 Gorham Building, Minneapolis.

#### PLAN GARDEN ON PAPER

"Plan before you plant" is a basic rule for successful vegetable gardening.

So says O. C. Turnquist, extension horticulturist at the University of Minnesota.

Turnquist suggests taking time to draw a garden plan on paper, drawing it to appropriate scale. The plan should show size of the garden, spacing between rows, crops and varieties to be planted, date of planting, length of row of each crop, spacing of transplanted crops, succession plantings and arrangement of crops.

Many vegetables grown in the home garden are wasted because too large a quantity of one vegetable matures at the same time. One way to avoid having too large a crop at once is to make succession plantings of the same vegetables. Plant only enough seed crops like lettuce, radish and spinach to provide the amount that can be used within a short period. Then, after a few weeks, plant another lot to mature after the first harvest. Or follow quick-maturing crops with later-maturing vegetables.

Another point to consider in making the garden plan is location of tall-growing crops and perennial vegetables like asparagus and rhubarb. Arrange the crops so that tall plants like sweet corn and pole beans do not shade the small plants. Plant perennial vegetables like asparagus and rhubarb on one side of the garden where they will not interfere with garden preparation.

In choosing varieties of vegetables for the garden, consider the family's likes and dislikes. Plan for crops that will give high nutritive returns such as snap beans and tomatoes. Select disease-

resistant varieties whenever possible, since they usually make gardening easier.

The University horticulturist gives this additional bit of advice: Order your seed early from reliable seed companies; don't wait until planting time. New varieties disappear from the seed store shelves early in spring.

A University publication, "Getting Started With Your Vegetable Garden," Extension Folder 164, gives information on making a garden plan, tips on planting and transplanting, including when to start seeds indoors and when to plant seeds in the garden. Copies of the publication are available free of charge from Bulletin Room, Institute of Agriculture, University of Minnesota, St. Paul 1, Minnesota.

#### NEW TECHNIQUES INCREASE YIELDS

Home gardeners can double and even quadruple their yields of tomatoes by adopting some of the techniques used by University of Minnesota plant scientists.

R. E. Nylund, associate professor of horticulture, reported that combined use of four of the new gardening "ideas" increased total yields of tomatoes 400 percent and early yields 50 percent in recent University of Minnesota experiments in Grand Rapids. The techniques used were a starter solution at planting time, plastic tents over the plants until the first blossoms appeared, a black plastic mulch applied before transplanting and a hormone spray to set blossoms.

The starter solution alone, applied at transplanting time, more than doubled total yields of tomatoes. Home gardeners can make a starter solution by adding 4 tablespoons of any good lawn fertilizer - or 6 tablespoons of a 4-12-4 fertilizer to a gallon of water, Nylund said. About 1/2 cup of the starter solution should be applied around each transplant after it is set into the garden.

Use of the black plastic mulch in the University experiments increased early yields of tomatoes 30 percent, though it had no effect on total yields. It had the additional advantage of controlling weeds and helping prevent rot by keeping fruits off the ground. The plastic was laid on the ground before planting the tomatoes. Tomato plants, set into the soil through slits in the plastic, grew four or five times as large as under ordinary conditions.

Potted plants produced twice as many tomatoes as plants grown in flats. Peat pots were used in experiments so the pots could be left in the ground.

#### NEW CHEMICALS FOR GARDENER

New chemicals are taking much of the gamble and drudgery out of home gardening.

Many of the newest chemicals have not been adequately tested in this area but some of them show great promise, say University of Minnesota horticulturists, entomologists and plant pathologists. Among the newer chemicals developed

for various uses in the home garden and on the lawn are these:

. A combination insecticide, herbicide and fertilizer for the home lawn. This material looks promising for keeping crabgrass out of the lawn for a whole season. It also controls grubs and various soil insects and fertilizes the lawn with enough nitrogen for one normal lawn feeding.

. A combination of 2, 4-D and disodium methyl arsenate for crabgrass control. This is a combination material which controls both broad-leaved weeds and crabgrass.

. Urea-form fertilizer for lawns. A mixture of urea and formaldehyde, this fertilizer releases the nitrogen gradually over a period of several months so there is little danger of burning the grass.

. New and better soil fumigants. These fumigants tend to kill weed seeds, nematodes and disease organisms. Use of one of these materials before seeding a new lawn will practically eliminate the weed problem in the lawn the first season. The possibility of using these soil fumigants in the vegetable garden is now under study by University of Minnesota horticulturists.

. Gibberellic acid. In some experiments around the nation, gibberellic acid has resulted in unusual elongation and other changes in vegetable and ornamental plants. In University of Minnesota experiments, gibberellic acid did not increase vegetable crop yields, in many instances producing adverse rather than beneficial effects. University of Minnesota horticulturists recommend that gardeners delay use of this material until further information is available from experiments now in progress.

. A fruit-setting spray for use on tomatoes. The advantage of the new spray is that it contains materials which make it possible to spray the entire plant instead of confining the spray to blossom clusters alone.

. Insecticides such as malathion and Diazinon which control both mites and insects. Malathion, the least hazardous of the newer insecticides for the vegetable garden, is also useful in controlling aphids and mites on fruits. Diazinon is approved for use on fruits but not on all vegetables. It has a somewhat longer lasting effect than malathion.

. A rabbit repellent - trinitrobenzene-aniline. This is one of the most effective chemical repellents for rabbits and very easy to apply. It should not be used on evergreens, however.

. A tree-wound coating chemical in an aerosol container for easy spraying on fruit or shade tree wounds.

. A soil fungicide, PCNB. Mixed with the soil before planting, this fungicide will control club root in cabbage and related plants, various root rot diseases, potato scab and damping off.

. Dinitro phenyl crotonate fungicides for control of powdery mildew. This is a useful material for home gardeners, since powdery mildew is a foliage disease of numerous fruit, vegetable and ornamental plants.

## LOCATION VITAL FOR GARDEN SUCCESS

If you plan to start a garden this year, be sure the site you select is adapted to growing vegetables.

Orrin C. Turnquist, extension horticulturist at the University of Minnesota, says gardeners can waste both time and energy on a poor plot and get only disappointing results. Even the best seeds won't grow into fine vegetables unless they are planted in a reasonably favorable location.

The ideal garden plot would be a level, well drained, sunny spot with rich, deep, friable sandy loam soil free of rocks and debris. Most garden enthusiasts have to make do with something less than this. But there are a few important things every gardener should look for in planning the location of a garden plot, the University horticulturist points out.

One of the most important is good drainage. Vegetable plants will drown if allowed to stand too long in water or really wet soil. Too much moisture in a badly drained area deprives plant roots of air and nutrients needed for healthy development. Avoid land that has low areas where water might stand or where late spring and early fall frosts might strike. Prospective gardeners would do well to observe the drainage of a spot for awhile before turning it into a vegetable garden.

Another important ingredient for garden success is an open space with plenty of sunshine. Direct sunlight for at least six hours a day is a "must" for leafy crops. Others like tomatoes, eggplant, peppers and lima beans will need more than that. Trees close to the garden plot not only shut out sunlight, but also rob the soil of water and minerals the vegetables need.

A further consideration in choosing a garden site is having a source of water close by. A garden hose or a few lengths of temporary piping will afford protection against the summer droughts that can cut a garden's production.

Generally speaking, a soil that is well drained and produces a rank, quick growth of weeds or grass can probably be developed into a good garden plot.

"Getting Started with Your Vegetable Garden," Extension Folder 164, is available from Bulletin Room, University of Minnesota, St. Paul 1.

## HOMEMADE COMPOST WILL IMPROVE GARDEN SOIL

Garden and landscape plants thrive better in good soil with plenty of organic matter to help it hold air, moisture and plant food and give it a loose structure that permits roots to develop naturally.

With a little effort, home gardeners can have such soil in flower beds, vegetable plots and around their landscape plants, according to

Orrin C. Turnquist, extension horticulturist at the University of Minnesota. In fact, he points out that many home owners struggling with heavy clay or very sandy soil are constantly throwing away materials that could be used to improve it. Grass clippings, leaves, weeds, even vegetable parings and fruit peels from the kitchen will decompose into material suitable for addition to the soil.

In city and suburban gardens where large quantities of manure are difficult to obtain, a compost pile can supply much of the organic material needed for growing shrubs, flowers and vegetables, Turnquist says.

To make compost, it's necessary to build up alternate layers of soil and organic waste materials. Over a 5- or 6-inch layer of clippings, leaves or other wastes, throw a few handfuls of a complete fertilizer such as 6-10-4 or 5-10-5, to hasten decomposition. Then add 1 or 2 inches of soil. Continue to build the pile in this manner, with alternate layers, beginning and ending with soil. The sides of the pile can be kept vertical with temporary wire fencing. Keeping a slight depression in the center will catch rain water. In dry seasons, sprinkle the pile to keep it moist.

Turning and mixing the compost will help the decomposition process.

The compost built this year will be ready for use next year, the University horticulturist says. For a constant supply, many gardeners find it convenient to keep two piles--one to build upon while the other is being used.

In using compost in the garden, mix it with additional soil or with sand and soil. For most plants, additional fertilizer will be necessary.

#### CUT OFF TOPS OF TOMATO PLANTS TO RIPEN FRUITS

If the tomatoes in your garden aren't ripening, cut off the tops of the plants.

O. C. Turnquist, extension horticulturist at the University of Minnesota, says that by cutting off the tops of the plants you will remove flowers that will not develop before frost. Moisture and nutrients will then be concentrated in the lower half of the plant and will hasten maturity of the fruits that have already developed.

When there is danger of frost, you can extend the tomato season by pulling the vines and hanging them in the garage or basement and allowing fruits to ripen on the vine. Or fruits may be picked at the pink or green-mature stage (when they turn from green to light green or white) and then

ripened indoors.

Old-time practices to the contrary, a sunny warm window sill is not the ideal place to ripen tomatoes. To enjoy tomatoes over a longer period keep the pink fruits at temperatures of 40-50 degrees F. and the green mature tomatoes at 50-60 degrees F. Ripening tomatoes at these temperatures will give uniform red color, good flavor and vitamin value. But to ripen successfully the tomatoes should be grown to their full size and just ready to change color.

#### HERE'S HOW TO PREPARE GOURDS

Gardeners who raised gourds this year can preserve their natural beauty with wax or similar treatments.

O. C. Turnquist, extension horticulturist at the University of Minnesota, gives these suggestions for preparing gourds to be used for decorative purposes:

Leave gourds on the vines as long as possible since the fruits are not fully colored until they are mature. If the skin is hard and unyielding to thumbnail pressure, the fruit may be picked. Lagenaria fruits -- the hard-shell, colored ornamental types -- should be picked when the fruit and stem have turned a little brown. These hard shell type may be left on the vines until after the first frosts if they are not mature.

Cut gourds from the vines with pruning shears or a sharp knife, allowing two or three inches of stem to remain attached to the fruit.

After harvesting the fruits, cure them in a light, warm, dry, well ventilated place for several weeks before preparing them for use. Wipe the gourds with a soft, dry cloth and either hang the gourds or store them one layer thick during the drying period.

When the gourds are cured, wash and dry them thoroughly. Rub down hard-shell gourds with pumice or fine steel wool--not sandpaper--to remove rough areas.

Application of water wax or varnish will give colored gourds a gloss and accentuate their coloring. After applying water wax, polish with a soft cloth. Be sure gourds are dry when applying varnish. White varnish will heighten the natural color of the gourds; ordinary varnishes and shellac are likely to change their color.

If the gourd is to be hung up, burn a hole through the neck with a heated wire. The fruit should not be hung by the fruit stalk, since it is likely to separate from the fruit.



# Fruit Growing

## TIME TO PRUNE SHADE, FRUIT TREES

Prune shade and fruit trees while they are still dormant--in March or early April.

That suggestion comes from extension horticulturists O. C. Turnquist and C. G. Hard at the University of Minnesota.

Summer-flowering shrubs that bloom on new wood may also be pruned at that time. Hydrangeas and summer-flowering spirea are shrubs belonging to this group. Spring-flowering shrubs, however, should not be pruned until after they are through blooming.

Shearing off the top is not the best way to control growth of a large tree. It is more effective to cut back terminal branches to a fork or to a side bud. This practice will give a better shaped tree.

An important part of the pruning job is to remove dead branches and branches that cross and rub each other. If branches crowd each other, prune out some of the weak, narrow-crotched branches to make room for better development of the more desirable branches. Always cut out weak, unproductive wood in the center of large apple trees.

In removing a large branch, the horticulturists advise first undercutting it about a foot from the trunk. Then cut the branch off, leaving a stub. The next step is to saw the stub off close to the trunk. To hasten healing of wounds, paint all cut surfaces more than 1 1/2 inches in diameter with orange shellac or any good tree preservative compound.

Information on how to prune is given in Extension Folder 161, "Pruning Fruit Trees," available from Bulletin Room, Institute of Agriculture, University of Minnesota, St. Paul 1. The same principles apply to the pruning of fruit and shade trees.

## SPRAY PROGRAM IMPORTANT IN FRUIT GROWING

A complete spray program and planting healthy stock are the best methods of combating diseases in growing apples, strawberries and raspberries in the home garden, according to H. G. Johnson, extension plant pathologist at the University of Minnesota.

Spraying throughout the growing season with captan will control such common diseases as scab and rust in apple trees, he said.

He recommended spraying for controlling foliage diseases in strawberries and raspberries. Soil treatment and use of healthy plants will also reduce fruit diseases for small fruits.

## MULCHING STRAWBERRIES RECOMMENDED

For best results with strawberries, use both summer and winter mulching.

A summer mulch of sawdust or woodchips applied soon after setting out strawberry plants will have the advantage of conserving moisture near the soil surface and controlling weeds, according to E. T. Anderson, University of Minnesota horticulturist.

A winter mulch of coarse straw or marsh hay applied in late fall will serve the dual purpose of protecting plants against both heat and cold. The protection against the warm spells that may start unseasonal growth is just as important as protection against cold.

## U DEVELOPS NEW STRAWBERRY

A new extra-early, productive June-bearing strawberry named Earlimore has been developed by the University of Minnesota department of horticulture and is now available.

The Earlimore strawberry was developed at the University of Minnesota Fruit Breeding farm from a cross made in 1940.

The new variety has medium-large, bright red, firm but juicy berries with a sprightly, pleasant, aromatic flavor. Total crop yields are high and fruit size holds well throughout the season. Commercial growers report that the brightness of color, even after shipping, has unusual sales appeal. The early yield gives it a price advantage since it is the first homegrown berry on the market.

The fruit is most suitable for fresh dessert use. It is fair to good for freezing.

The Earlimore develops a wide row of vigorous plants which appear to be highly resistant to leafspot and to scorch. Survival of plants after winter has been consistently high.

The Earlimore should not be confused with the Evermore, an everbearing variety introduced by the University of Minnesota in 1945.

More information on the new strawberry is available in Miscellaneous Report 34, "A New Fruit Introduction for 1959," available from Bulletin Room, Institute of Agriculture, University of Minnesota, St. Paul 1.

## NEW HARDY FRUIT FOR MINNESOTA

Three new hardy fruit varieties have been developed for fruit growers and home gardeners by the University of Minnesota and will be available for planting -- the Welcome gooseberry,

Centennial and Northland apple-crabs.

Stock of these new fruits is available from Minnesota nurseries.



Centennial apple-crab bears heavy crops of red fruits.

The new fruits are the result of years of breeding work at the University of Minnesota Fruit Breeding Farm and some years of testing there and at other locations. The fruits have also been tested for freezing and canning quality at the University food processing laboratory on the St. Paul campus.

The Welcome gooseberry has two characteristics especially welcomed by gardeners -- 1) the spines are reduced in size and number so the fruit can be picked comfortably and safely and 2) the bushes are relatively resistant to disease. The mildly tart large red berries are good for jam and pie.

The two new apple varieties are called apple-crabs because they are larger than crabapples and resemble apples in eating quality. A medium-early apple, the Centennial bears heavy crops of red fruits during late August and early September. It is a hybrid of Wealthy apple and Dolgo crab-apple. Because trees are semi-dwarf, they are suitable for planting in the home yard. The Centennial is winter hardy.

The Northland apple-crab is a hardy, early, productive variety, particularly for northern Minnesota, probably the best all-round crab for that area. An attractive, bright red apple, the Northland is larger than Dolgo, one of its

parents, but smaller than McIntosh, its other parent. It is good for sauce, jelly and pickles and for eating fresh. Trees are medium in size and very productive but are not entirely free from blight or scab. Ripening season is early, beginning in mid-August.

#### NEW STRAWBERRY GOOD FOR FREEZING

A June-bearing strawberry that produces large, well formed, brightly colored fruit especially good for home freezing has been developed by the University of Minnesota horticulture department.

Plants of the new fruit, named Trumpeter, will be available to the public this spring.

Trumpeter strawberry has glossy, smooth fruits with full, fresh green caps. The berries show off to exceptional advantage when packed in boxes for marketing. They hold their market quality for a long time.

Flavor of the Trumpeter is pleasant and lively. The flesh is firm and red throughout. Tests in the University of Minnesota food processing laboratory show that it is one of the best strawberry varieties for freezing.

The tall, strong, easily propagated plants are hardy and very free from foliage diseases.



Trumpeter strawberry is one of the best varieties for freezing.





**C. GUSTAV HARD  
ORRIN C. TURNQUIST**

**AGRICULTURAL EXTENSION SERVICE  
UNIVERSITY OF MINNESOTA, ST. PAUL 1, MINN.**

**MARCH**

**GROWING TUBEROUS BEGONIAS**

**STARTING FLOWER SEED INDOORS**

March is a good time to start the annual flowers you will want to plant in the garden this spring. Among those are ageratum, browallia, carnation, dahlia, lobelia, petunia, pinks, verbena and torenia. Also start perennials and alpine plants which you would like to have bloom this year.

These flowers are usually started in flats, shallow clay pots or azalea pans. A flat should be at least 3 inches deep. In flats, plant the seeds in rows about 2 inches apart. In clay pots, broadcast seeds on the surface of the medium.

A good soil mixture is loose in texture but holds plenty of moisture. Good drainage is essential. Mix the soil thoroughly and then put it through a 1/4-inch screen. Put the soil in the pot or flat and then level it off, firming it slightly so there is a smooth surface about an inch from the top of the container. To prevent damping-off, a disease which kills many seedlings, use a 1/2-inch layer of sphagnum moss over the top of the soil mixture. First, however, put the moss through a 1/8-inch screen and moisten it.

Plant the seeds thinly so they are about 1/8 inch apart. Plant very fine seeds more closely. Cover the seeds lightly with the screened sphagnum moss or with washed sand. Water carefully, using a fine spray, or place pots in a pan of water until the surface appears moist.

Place a glass over the top of the pot, shading it with a newspaper until the seedlings appear. Set in a room about 68°F. until the seeds germinate. When the seedlings are up, remove the paper and tilt the glass slightly to allow air to circulate over the surface of the pot. Place pot or flat in a south window where there is good ventilation and where the temperature is between 55 and 60. Never allow the soil to dry out. Flats may be covered with moist newspaper to keep the seeds moist until they germinate.

Do you have a problem area on the north side of the house? Tuberous begonias may be the answer. They can be grown successfully on the north side of the house or in partial shade. They come in a variety of flower types and colors.

The tuberous begonia should be started in early spring so plants are a good size at transplanting time. Plant the bulbs in moistened peat or sphagnum moss and water carefully. Be sure the water does not stand in the center of the bulb. In placing the bulb in a rooting medium, tilt it so the water will run off the bulb. After the plants are about 2 inches tall, transplant them into pots containing a soil high in organic matter. Tuberous begonias like a soil slightly on the acid side.

You can set the plants out of doors as soon as the danger of frost is past. Put them in the pots. Tuberous begonias like a soil high in humus. If the soil is heavy and does not drain well, add sand and organic matter until it is easy to work. Space the tubers about 15 inches apart in the bed.

Ample moisture is a requirement for growing high-quality tuberous begonias. But take care not to break them with heavy streams of water.

Staking can prevent breakage of the plants where they are exposed to high winds and rain storms. Insert stakes in the soil and support the stems by tying them to the stake.

In fall, reduce watering and dry plants off. Store them for several weeks and then remove stems from the tuber. Store in slightly damp peat or vermiculite at a temperature of 45° to 60°F.

**PRUNING FRUIT TREES**

Failure of many fruit trees to produce high-quality fruit may be due to lack of pruning. Most people are either afraid to prune for fear of ruining the tree or else they put it off until it's too late. Early spring -- before growth starts -- is a good



time to prune.

Young trees should be pruned to produce a good framework of branches. They should be 6-8 inches apart and well distributed around the main trunk. Cut back branches that are growing too fast and those that cross or rub each other. Make all cuts close to the trunk or main branches and just above a bud pointed in the direction where you want the new growth to develop.

On larger trees cut out all dead or diseased branches or those that cross or rub each other. Remove water sprouts or shoots that grow up in the center of the tree. Inside the tree remove branches that have stopped growing at the tips. These usually produce only small, poorly colored fruits. Keep trees from growing too tall by cutting back to a fork or side branch. Keep growth developing outward.

Paint all wounds over 1 1/2 inches with orange shellac or other suitable wound dressings.

## APRIL

### PLANNING THE SHRUB BORDER

A well planned shrub border will enhance the beauty of your private area but also provide privacy, windbreak and seasonal change of background. An interesting shrub border is one that varies in height, texture and color all through the growing season.

Variations in height may be obtained by selecting different varieties or species of a particular shrub or both the name variety and a dwarf variety of the same shrub. Or use a combination of different kinds of shrub materials.

Combining textural qualities of shrubs can also build interest. For example, the common Japanese barberry would be a fine-textured shrub, whereas the French hybrid lilac would be coarse-textured. Spirea Van Houtte is medium textured.

Utilize foliage color to achieve interest, too. The foliage of the Peking cotoneaster is a very glossy dark green, whereas the foliage of the honeysuckle is usually dark green but has a gray tone which lightens the color effect of the foliage. Where distances need to be shortened, use dark foliage. If the lot is small and you want the feeling of space, use shrubs with light-colored foliage.

Seasonal color change adds to the interest of the border. Include some shrubs with high autumn color such as the Amur maple, winged Euonymus, highbush cranberry, or false spirea sumac. Include also some flowering shrubs. The lilac, mockorange and honeysuckle are good examples of these.

### DIVIDE PERENNIALS THIS SPRING

Perennials that have been growing in the same location for several years often become root bound and bloom poorly. Dividing and transplanting them this spring will give them a new lease on life. They'll produce bigger flowers, bloom for a longer period and be bothered less with disease and insects.

Perennials that can be divided in spring include garden phlox, chrysanthemum, sweet

William, delphinium, gaillardia, Shasta daisy, hollyhock, astilbe, painted daisy, daylily, lythrum evening primrose, hosta or plantain lily, false dragon's head, primrose.

Make the divisions by lifting the entire plant and dividing it with a sharp knife or shovel. The number of divisions depends on the size of the plant or clump. Inspect the clump for disease or insects and discard any infested plants.

Set the plants in the border at about the same depth as they were growing before. Firm the soil around the plants to exclude any air pockets. Water thoroughly. Usually it's well to apply a complete fertilizer after transplanting. Use it at the rate of 1 pound per 25 square feet of area or 4 to 5 pounds per 100 square feet of area.

### STARTING SEEDS IN THE GARDEN

Many of the summer-blooming annual flowers can be seeded directly in the flower border. These annuals include sweet alyssum, bachelor's button, balsam, calendula, calliopsis, celosia, cosmos, clarkia, larkspur, marigold, moss rose, portulaca nasturtium, annual phlox, stocks (seven-week), Unwin dahlia, and zinnia.

Usually it's most effective to group annuals in the border, using three to five plants to a group. Space the plants 6 to 12 inches apart, depending upon mature plant size. Plant the seeds very shallow -- only 1/8 to 1/4 inch deep.

Often it's hard to identify the seeds you have planted from weeds or other seeds which might be germinating. Plant three to five seeds at each location in the grouping and place a small stick and label by the planting. You can thin the seedlings after they begin to show their first true leaves.

To get a head start with your seedlings, prepare a small section of the border by spading the soil and leveling it with a garden rake. Mark off squares about 18 x 18 inches -- enough for each annual you plan to grow. This small area can be seeded before normal planting time. If frost or freezing weather is predicted, the area can be covered or protected. Later, when the seedlings are large enough, transplant them to the border.

### PERENNIAL VEGETABLES

Asparagus and rhubarb are two important perennial vegetables. Since both occupy the garden space for several years, it's best to put them at one end of the garden where they will not interfere with future garden preparation.

Both are cool-season crops and can be planted as early in the spring as the soil can be prepared. Set asparagus crowns 8-10 inches deep in a furrow that has been prepared with some well rotted manure on the bottom and then covered with an inch or two of soil.

Cover the crowns with 2 inches of soil and fill in the rest of the trench gradually as the plants develop. Rows should be 3-4 feet apart and the crowns set 18-24 inches apart in the row.

Rhubarb roots can be planted the same way, but space them so they are at least 3-4 feet apart in the row.

For a family of five, plant at least 60 one-year-old crowns of asparagus and 12 rhubarb plants.

Select either Faribo Hybrid or Minnesota four-way cross asparagus. Valentine, MacDonald or Chipman's Canada Red rhubarb are excellent red varieties.

Don't harvest new plantings of either crop until the spring of the third year after planting. Don't cut asparagus after July 1 and avoid pulling rhubarb after mid-July each year. Remove flower stalks as they begin to develop on rhubarb but allow asparagus tops to grow after July 1. Don't cut them off until early the following spring.

## MAY

### PLANTING SMALL FRUITS

Raspberries and strawberries are two of the most important fruits in Minnesota home gardens. Success with them depends not only on good care but also on starting out with healthy, disease-free plants of a good variety.

Small fruits should be planted at one end of the garden, where they will not interfere with plowing and preparation of the garden each year. Plant these fruits as soon as the frost is out of the ground and when the soil can be worked.

Space June-bearing strawberries 2 feet apart in rows 4 feet apart. Plant everbearing strawberries 12 inches apart in the row. Raspberries should be 4 feet apart in rows 6 feet apart.

Plant strawberries so the crowns are just level with the soil. Don't plant too deep or too shallow. Remove all blossoms from newly set strawberry plants until July 1. Remove all runners as they form on the everbearing types. On June-bearing types the runners should be spaced not closer than 18 inches and the rows limited to 18-24 inches in width.

When raspberries are planted, cut the canes back to within 4 to 6 inches of the soil surface. This will stimulate the roots to send up new shoots that will produce berries next year.

If raspberries are to be grown in hills, leave 6 to 8 canes per hill. If they are to be grown in a continuous hedge row, leave three or four canes per foot. If you have more than this number, remove them this spring. However, most gardeners attend to this job after harvest, when they remove the old canes.

Some good varieties of strawberries for home planting are: June-bearing--Premier, Dunlap, Robinson, Earlimore; everbearing--Red Rich, Superfection, Gem. Latham and Newburgh are good red raspberry varieties. September produces fall crop as well as a summer crop of raspberries each year.

### PLANTING THE VEGETABLE GARDEN

Since vegetables and other garden plants draw nutrients from the soil, it's important to replenish these nutrients each spring by applying a complete fertilizer to the garden. One way is to broadcast fertilizer such as 5-10-5, 5-20-20, 8-16-16 or similar analysis at the rate of 15 pounds per 1,000

square feet. Rake it into the upper 2 or 3 inches of soil.

You may also find it advisable to spade or plow down some organic matter such as well rotted manure, leafmold, peat or compost. Apply this at the rate of 3 or 4 bushel per 100 square feet of area. Such a material will improve the structure of the soil and provide better tilth.

Don't plant all your vegetable seed at one time. Allow for succession plantings to assure a continuous harvest of good-quality produce. Don't plant warm-season crops like beans, corn, cucumbers, melons and squash until the middle of May after soil and air temperatures are warm. If you want a good crop of tomatoes for canning, you may sow tomato seeds directly into the garden in early May. For early fruit, set out a few transplants -- but not until Memorial Day or after frost danger is past.

Spray or dust the garden soil with DDT or methoxychlor to kill any insects that may come into the garden and cause damage as plants are emerging. Granular dieldrin or heptachlor is effective in controlling soil insects like root maggots, white grubs or wire worms. Apply it along with the seed or on each side of the row.

To use space more efficiently, grow slow-growing late crops like cucumbers, squash and melons between rows of early crops like peas, lettuce, spinach or radish.

### TRANSPLANTING TOMATOES

One of the most popular garden vegetables is the tomato. Although you can produce a good crop by growing tomatoes from seed, the best way to assure yourself of early tomatoes is to start plants indoors.

Selection of good varieties is very important. If you live in northern Minnesota, grow Fireball or Moreton Hybrid. If you live in southern Minnesota, Firesteel, Moreton Hybrid and Big Boy are all excellent choices for your garden.

Don't make the mistake of setting the plants out too early. The soil as well as the air should be warm for good growth and development of tomatoes. Usually it's best to wait until after Memorial Day before transplanting tomatoes.

If space is not a problem, set the plants 4 by 4 feet apart. If you stake the plants, you may plant them as close as 18 to 24 inches apart in the row to conserve space.

Lay long, spindly plants in a shallow trench about 4 inches deep, with only about 4 or 5 inches of the top extending out of the soil. Such plants will produce roots along the stem and become established more quickly than if they are set deep in the soil.

Apply a fertilizer solution to the roots of the plants when you set them out in the garden. Mix one-half cup of this solution to the roots of each plant when transplanting.

When tomatoes are spaced close together, it's necessary to prune them. As the plants begin to branch, remove the small side shoots that develop between the leaf and the main stem. Allow only one or two stems to develop and tie these to a support of some kind.

## GROUP FLOWERS FOR MASS EFFECT

To give a mass effect in the flower border and reduce maintenance, you may want to group annual and perennial flowers together. When planning for mass effect, give consideration to continuous bloom, flower color, textures and form.

Here are some suggestions:

- . Select various annuals and perennials that will bloom from early spring until late fall.
- . Plan to have three or four different flowers in bloom at one time. It isn't necessary to have the entire border in bloom at the same time.
- . Use a predominance of cool colors. Use warm colors (red, yellow, orange) sparingly.
- . Repeat colors at various locations.
- . Avoid color clashes by using white as companion plants.
- . Mix textures for contrasting interests.
- . Keep coarse textures toward the back of the border.
- . Don't use too much of any one plant type. You can create interest by using various plant forms and shapes.
- . Plant large perennials or annuals individually rather than in groups in several places in the border.
- . Remove all dead or faded flowers and prune when necessary to improve appearance.

## PRUNING EVERGREENS

Evergreens need training and pruning each year. A little attention to your evergreens each spring will reward you with added beauty to your home landscape.

Prune evergreens just as new growth begins to start actively in spring. There are two basic methods of pruning them: 1) cutting the terminal growth at each growing point and 2) shearing. Of the two, the first is most satisfactory. It provides a less stylized looking plant and gives better growth control. It also eliminates the danger of too severe pruning. Using the first method, you prune off a third to half of the current year's growth, or cut back to a side branch or an adventitious bud.

When shearing, do not cut back the previous year's growth too heavily. Consistent heavy pruning will lower vigor and will ultimately destroy the shrub.

Yews, junipers and arborvitae may be pruned a second time during the summer. Do not prune after August 15, because any new growth that's encouraged after this time will not withstand the winter.

## MEMORIAL DAY FLOWERS

Plan your Memorial Day plantings a week or so in advance. Take the urns and other flower containers to your greenhouse so that they may be planted and the plants become adjusted to their new planting location before you take them to the cemetery on Memorial Day.

Soil for cemetery planters should be very

high in organic matter to increase its water-holding capacity. Soils which dry out easily limit the flowering period of the planting. After planting, cover the surface of the soil with moist sphagnum moss.

Flowers should be planted in combination to give a variety of color and extend the period of bloom. It's not necessary to have all the plants in flower at the time of planting. By planting some of them in the bud stage, you will lengthen the period of bloom.

Plants commonly used for the cemetery are geraniums, dwarf marigolds, ageratum, petunia, verbena, alyssum, miniature zinnias and pansies. Some greenery material always adds to the effectiveness of the planting. Vinca and dracaena are useful for this purpose because they stand sun and drouth.

## GLADIOLUS

Gladiolus is one of the showiest garden flowers and the most often used for cut flowers during the summer season. It comes in a large variety of colors and is remarkable for its keeping qualities.

To grow really fine glads, it's necessary to start with healthy bulbs (corms) of choice varieties and grow them in good soil. A well drained, rich, sandy loam soil is best. Plant the bulbs about 6 inches apart in rows that are 18 to 36 inches deep. The glads may be grouped in the flower border instead of planting them in rows.

Label all name varieties so you can identify them for your own use and also for sale.

Thrips are the worst enemy of glads. These tiny insects feed on the leaves and flower buds. As a result, flowers are misshapen when they open. A dusting of a 5 percent DDT dust will control thrips. For a spray, use a 50 percent wettable powder of DDT.

Cut spikes as soon as the first florets have opened. Place the cut stem in water immediately and store in a cool place out of the sun. Use a sharp knife to cut the end spike and avoid taking too many leaves. Leaves on the plant will help to insure a good storage of food in the bulb for next year's flowers.

## JUNE

### CONTROLLING INSECTS ON ORNAMENTALS

A regular spray or dust program is necessary to keep ornamental plants free from insects this summer. The best method for controlling the insects is to set aside a regular date for spraying or dusting your ornamental plants.

The success of a spray or dust program depends on the thoroughness of application. If a plant is only half-covered with the insecticide, the plant is still open to injury from the insect. Spray the plant till it is thoroughly covered. Apply dust in early morning so while the dew is still present the dust will adhere to the leaves.

During the spring when growth is very rapid it's necessary to spray more often than later in



the summer when growth begins to slow down. As the plant gets taller and the leaf area expands very rapidly, these surfaces are exposed to the insects even though the spray material has been applied.

For most home gardens, an all-purpose garden spray or dust is recommended. Included in the all-purpose spray or dust might be DDT, malathion or methoxychlor.

The red spider is one of the most troublesome of garden insects. Usually it begins to ravage the garden after a few warm days in summer. Aramite, ovex, malathion or Kelthane will control this pest.

## SUMMER PRUNING

Pruning is not limited to early spring but is a continuous job for the gardener throughout the summer.

In June you can prune the early spring-flowering shrubs. They include the flowering crabapple, the lilac, the early spring spireas, the Persian lilacs and the flowering almond. Take into consideration the general form of the shrubs as you prune.

After the summer spireas have flowered, cut them back and they will bloom again before fall.

Prune roses after they have finished their bloom. As soon as the flower has faded, cut back the flower stem to the first five leaflets to provide the good strong bud which will produce a new flower shoot.

Remove flowers on all annuals and perennials as soon as the blossoms begin to fade and wither. By so doing you will keep almost all flowering plants in blossom longer.

## CONTROLLING VEGETABLE GARDEN PESTS

The most troublesome pests in the vegetable garden include weeds, insects and disease.

The aster yellows virus disease on carrots, lettuce, celery and tomatoes is spread from certain weeds to the vegetables by the six-spotted leaf hopper. Weeds must be controlled not only from the standpoint of competition but also from the possibility of harboring diseases and insects.

Chemical weed control in the small vegetable garden is not practical. Chemicals that control certain weeds will harm some vegetable crops and not others. It's only where we have a large acreage of one crop that we suggest chemical weed control during the growing season.

Foliage diseases on potato and tomato can be controlled with zineb (Parzate or Dithane). Maneb (Manzate) has also given excellent control of blight. Follow directions on the package on rate of application.

Soil insects like maggots, wireworms and grubworms can be readily controlled by granular Dieldrin applied to the soil around the plants. Maggots are especially troublesome in onions, radish and cabbage.

Chewing insects can be controlled with methoxychlor. This gives good control for cucumber beetles that transmit bacterial wilt and cause wilting of the vines.

Aphids and plant lice should be controlled

with malathion. Applications of this material will be helpful on broccoli, cabbage, cauliflower, cucumbers and tomatoes.

Controlling weeds and applying insecticides and fungicides early before the pests become troublesome are steps toward a successful garden.

## SUCCESSION PLANTINGS

A continuous harvest of good-quality vegetables may be obtained by succession plantings. These should be made at 7 to 10-day intervals. Crops that lend themselves to succession plantings include peas, beans, carrots, beets and sweet corn.

Early maturing crops like lettuce, radish, spinach and turnips grow best when the weather is cool. These can be planted in late July or early August for a fall crop.

Carrots and beets are usually overmature when harvest time comes if planted early. To get good storage roots, sow seed of carrots in mid-June. Chantenay is a good variety of carrots for winter storage.

Sweet corn and beans may be planted up to July 1 in most parts of the state. Make succession plantings every 10 to 14 days.

Cabbage, broccoli and cauliflower are often set out in mid-June so they will mature during the cool fall weather.

An application of a complete fertilizer is desirable in making succession plantings. Apply 1 pound per 25 feet of row. Apply in a furrow 2 inches deep and 2 to 3 inches on each side of the seeded row.

## JULY

### SUMMER MULCHES

A mulch can make gardening easier. One reason is that a good mulch will control weeds by smothering them and so cut down on the need for hoeing and cultivating. Often the roots of the plants we are growing are cut off in the process of cultivation and the plants suffer from lack of moisture. Blossom-end rot of tomatoes may not be as troublesome when the seeds are controlled by mulching instead of cultivating.

A mulch will also act as a sponge and conserve moisture for the surrounding plants. Mulching will also help in preventing blossom-end rot.

Many rots of fruits and vegetables may be caused by their contact with the soil. Mulches keep the fruits and edible parts of vegetables off the ground, free of grit and dirt.

Under a mulch the soil temperature is cooler-- a condition especially desirable for roses, pansies and delphinium.

Some good mulching materials are ground corncobs, sphagnum moss, finely chopped straw, sawdust, wood shavings and grass clippings. Apply the mulch to a depth of two or three inches around the plants and between the rows in mid-July, preferably after a heavy rain.

Sometimes you may notice a yellowing of foliage with the use of a mulch. This yellowing

indicates a nitrogen competition which can be corrected by adding a little ammonium nitrate.

## PREPARING VEGETABLES FOR SHOW

Exhibiting produce grown in the home garden is part of the fun of gardening. A good exhibit attracts attention and arouses interest in new varieties and in better cultural practices.

It's important to select good-quality vegetables free of insects, diseases and defects. All specimens should be properly trimmed for show purposes. Here are some ideas on grooming vegetables:

Cut off the tops of carrots and other root vegetables 1 1/2-2 inches above the crown. The tap roots of beets should be 1 1/2 inches long.

Don't skin onions. Each specimen should have a hard, dry skin. The necks should be small and well cured.

Leave sweet corn in the husk. The shank should be trimmed short.

Remove stems of tomatoes. Select fruits that are uniformly ripe.

Don't trim cabbage too much. Leave two or three outside wrapper leaves around the head. Select specimens without insect damage.

Exhibit beans and peas in the pod. Don't remove the small stems which attach the pod to the plant.

All vegetables should be clean. Washing is permitted for root crops and potatoes. But don't bruise the skin by scrubbing.

It's important to select specimens that are uniform in size, shape and color. Varieties must be true to type and should be properly labeled.

Be sure to check the premium list to see if you have the required number of specimens.

## TRANSPLANTING PERENNIALS

Many of the garden perennials like peonies, iris, bleeding heart, columbine, hyacinth, crocus, tulip and lily of the valley can be transplanted this month.

Plan your flower border on paper so you achieve the desired effect, get an idea of how much material is required and where plants should go in the border.

Don't transplant diseased or insect-ridden plants. Check roots and bulbs carefully for soft rots, dry rots or root borers. Discard any infested materials.

Place stakes in the area where you have planted to serve as a reminder.

Take advantage of the early transplanting season to renovate the flower border. Add organic matter such as well rotted manure, leaf mold, peat or compost. Apply a complete fertilizer such as 7-7-7 at the rate of 4 pounds per 100 square feet. Work the organic matter and fertilizer in deeply.

How deep should you plant? Peonies should be about 1 1/2 inches below the soil surface. Iris should be just covered with soil. Hyacinths and tulips should be about 6 inches deep, crocus 3 to 4 inches, Lily of the valley should be 3 inches

deep.

Remember that water is essential after transplanting.

## YOUR GARDEN DURING VACATION

Summer mulches will help to keep your garden fresh and growing while you're on vacation. Good materials for mulches include compost, leafmold, ground corn cobs, buckwheat hulls and pulverized straw or hay. Mulches will help conserve moisture and keep weeds under control.

Apply a good insecticide and fungicide before leaving. DDT has a long-lasting effect and kills a wide range of insects. A protective spray with ferbam or captan will help control many diseases.

If red spider is a problem in your garden, spray with ovex (Ovatron).

Remove all dead flowers before you go on vacation. Let the neighbors enjoy your garden while you're gone.

A thorough watering before you leave should last for one week. Soak the soil to a depth of 6-8 inches. If you're to be gone longer than a week, hire a boy to water if there is no rain.

Place house plants in a cool location in the house. Place pots in saucers and water from the bottom. Don't overwater.

## AUGUST

### PRUNING RASPBERRIES

To be sure of a good crop of raspberries next year, prune them after harvest. Understanding the growth habits of the raspberry can help you do a better pruning job.

Underground parts of the plant are perennial while the above-ground parts are biennial. Canes grow up from the roots one year and produce vegetative growth. The second year, these canes develop flowers and fruits. Then the canes die.

Pruning involves cutting out all the old canes that have just borne fruit. It also means thinning out the new canes that will develop fruit next year. If the raspberries are grown in hedgerows, the plants should be thinned to three or four canes per foot of row. Where canes are grown in hills, thin them to six or eight strong canes per hill. Always save the strong, straight, vigorous canes for next year's crop.

Do the pruning immediately after harvest. Then burn or destroy the bush, to get rid of any insects or disease that may be present.

After growth starts next spring, the canes can be clipped back to four or five feet if they are in hills, or three feet if in hedgerows.

### HARVESTING FOR QUALITY

Quality of your garden vegetables depends on the time and stage of harvesting. Vegetables like sweet corn, peas, beans, cauliflower and broccoli deteriorate quickly and should be used immediately.

Harvest sweet corn when the silks are dry and brown and the kernels are in the milk stage.

Check the corn by pressing the kernels with your thumbnail. If a watery, milky substance squirts out, the ear is ready for harvest.

Don't pull cucumbers and pickles; cut them off instead. Pick the fruits often, to keep the plants more productive. If large cucumbers are allowed to develop and ripen, production will be reduced.

Muskmelons are ripe when the stem slips easily from the fruit, leaving a clean scar. Watermelons are ready for harvest when the undersides of the fruits turn from white to yellow. You can also check by snapping the melon with a finger. If it's ripe, you'll hear a dull, hollow sound.

Broccoli should be cut when the flower bud clusters are well formed, but before the buds open into yellow flowers. Cut off 4 or 5 inches of stem with each head.

Harvest summer squash when the fruits are only 6-10 inches long and before the skin and seeds are hard. Allow winter squash to ripen on the vine so skin and seeds are hard.

Don't pull onions until two-thirds of the tops have fallen over by themselves. Breaking the tops over will not promote ripening, but may result in poorer quality onions.

#### TRANSPLANTING FLOWERS TO THE FLOWER SHOW

Every year hundreds of gardeners in Minnesota participate in local and regional flower shows. One of the big problems of exhibiting is transporting the flowers to the show so they will arrive fresh and uninjured.

Pick the flowers the day before the flower show. Plunge the stems into deep water of room temperature. Then place the flowers in a cool place to "harden" them.

Don't overcrowd your containers when you transport the flowers. Place only one kind of flower in a container to help simplify your work when you arrive at the show.

Use containers with broad bases. Glass vases make poor containers because they are too easily broken. Chicken wire stretched over the top of a five-gallon paint pail will help to hold the flowers upright.

Don't open all the windows in the car. The air rushing over the flowers may wilt them. If the day is very warm, lay cheesecloth over the flowers and syringe the cloth to raise the humidity around the flowers.

Don't take the flowers out of water until you are ready to arrange them.

#### PLANTING IRIS

August is the month to plant new iris and divide your old clumps. You'll want to check some of the fine new varieties before ordering.

Old clumps of iris which have been growing in the same place for any years should be divided and transplanted. Rejuvenating the old clumps will result in more blooms and better flowers.

Use a spading fork to lift the old clumps. To avoid breaking roots, loosen the soil all

around the clump before trying to remove it from the soil. Wash the soil from the clump.

Examine old clumps for evidence of disease or insects. Throw away any infested part.

The part of the plant farthest from the center of the clump is the youngest and should be used for transplanting. Cut the rhizome (root) about 2-3 inches behind the fan or where the green leaves are attached.

Dig a trench 3 to 4 inches deep and 6 to 8 inches wide. In the bottom of the trench make a slightly raised mound. Set the iris rhizome on the mound and spread the roots on each side of it. Cover the roots and rhizome with soil and firm the soil. For the sake of appearance, cut back the foliage to 6-8 inches. Follow the same procedure for iris you have purchased from a nursery.

#### STARTING A NEW LAWN

Starting a new lawn in fall is already popular in Minnesota. In fact, more people would do well to follow the idea. Why? Fall planting helps avoid the weed problem, for one thing. Second, you don't have as much work to do in the garden at this time of year and probably have more time to do the watering that's needed. And third, fall planting can result in as good a lawn as planting at any other time.

Thorough soil preparation before planting is important. Add organic matter to both heavy soils and light soils. Good sources of organic matter are barnyard manure, compost and agricultural peat. Work organic matter thoroughly into the upper 6 inches of the soil.

Add a complete fertilizer, such as 10-10-10 or 12-12-12. Apply 40 or 50 pounds per 1,000 square feet and work it in with the organic matter.

Use a good quality grass seed, adapted to your lawn conditions. Use bluegrass alone on a sunny lawn, and use a mixture of fescues and bluegrass in shady areas.

Keep the soil surface moist until the grass seed has germinated and start mowing when the grass is three inches high. Don't let it grow too long before mowing for the first time; early mowing doesn't hurt lawn grass.

You can apply a complete fertilizer again before the end of September.

#### GATHER DRIED MATERIALS FOR WINTER ARRANGEMENTS

Winter arrangements of dried weeds and flowers provide a special challenge for many gardeners. On a trip through the country you can collect such materials as curly dock, cattails, sedges, thistles, coneflower, fern fronds and teasel.

Proper preparation and storing of the materials is important for successful arrangements. Pick weeds or flowers to be dried before they are over-mature and before the seeds begin to fall. If you plan to use seed pods, they will have to be picked later.

Rapid drying is necessary to retain color. A warm, dark, dry room with good ventilation is



best. Hanging the materials loosely upside down will make stems straighter. If you want curved or twisted stems, shape them before you dry the stalks.

If materials are to be sprayed or painted, do the painting or spraying as soon as drying is complete to avoid a mess when making a last-minute arrangement.

Once materials are dry, store them in a cool room with medium moisture so they won't get too brittle before you make your arrangements.

### MOVE YOUR HOUSE PLANTS INDOORS

If you moved your house plants out of doors for the summer, take them in late in August or in early September. First, though, examine the plants for insects and diseases that may be present. Remove the pots to see if the plants are badly pot bound or overgrown. If the roots have grown in a solid clump, they are pot bound.

Any plant which is infested with disease should be repropagated or discarded. Don't take a chance on spreading disease and insects to other healthy plants. If a portion of the plant is diseased it may be possible to take a cutting from a healthy part of the plant. Most house plant insects can be controlled with a chemical called malathion.

Pot-bound plants should be shifted to larger pots or repropagated. To repot house plants, use a good potting mix such as three parts garden soil, two parts organic matter and one part sand. Add to this mixture 1 cup of superphosphate per bushel of mixture.

Most foliage plants such as philodendron, pothos, and ivy can be repropagated by tip cutting. Make cuttings about 4 inches long and plant them in sand or vermiculite. Then cover the pot with a plastic refrigerator bag to keep the moisture in the container. Keep the rooting medium moist at all times. Don't allow it to dry out and cause wilting of the cutting. These cuttings will usually root in four to six weeks.

### EVALUATE YOUR GARDEN

Now that the garden season is well advanced, it's time to take stock and see just how good a job you have done. What have been the problems? What has been especially successful?

A good set of garden notes will be invaluable next year when you begin to garden. They should include records of all the different plants you have in your garden. A diagrammatic outline where check marks can be used eases the note taking.

Keep blossoming dates for all flowers. This information will help you plan for continuous bloom under your set of conditions.

Keep a record of planting dates.

Keep a record of insect and disease problems. When did they occur and what did you use to control insects and diseases?

Make a note of the last frost date as well as the first frost date.

Keep a record of:

. When you divided peonies, iris and other perennials.

. When you fertilized and what you used.

. Plants that friends have found especially pleasing in your garden. These plants will make a welcome gift when the occasion arises.

### SEPTEMBER

#### RENOVATING THE FLOWER BORDER

Renovating the flower border often is easier in the fall than in the spring because there is more time available to make the proper soil preparation. If during the summer the garden has been unsatisfactory, the soil can be reworked and improved for the next year's flowers while the failures are still fresh in mind. Usually during the fall of the year the soil is easier to prepare because in spring the soil often has very high moisture and cannot be worked until very late in the season.

It is not necessary to rework the entire border at one time. Usually, it's less tiring and just as practical to take half or a third of the border each year and renovate it.

The first step in renovation is to remove all the flowering plants and bulbs. The plants can be heeled in temporarily in another section of the garden and bulbs can be left out of the soil temporarily.

After the garden is cleared, the renovation can begin. Organic matter should be reincorporated into the soil. Good sources of organic matter include compost, well rotted barnyard manure, leaf mold, commercial peat and sawdust. Apply fertilizer at the rate of about 4-5 pounds of a complete fertilizer such as 10-10-10 for each 100 square feet of garden area.

Work the soil to a depth of approximately 18 inches. This is to give consideration to the deep-rooted plants such as peony, as well as the shallow-rooted perennials such as iris.

Now would be the time to add such new flowers as the spring-flowering bulbs, peonies and bleeding heart. Chrysanthemums can still be planted during September. Often the nurserymen will sell blossoming plants directly from the field. These can be planted directly into the garden and will continue to bloom this fall.

After all the plants are relocated in the border, water them thoroughly. Be sure to continue watering until frost this season.

#### HARVESTING TENDER BULBS

Most tender bulbs are harvested after the first killing frost in fall. The usual practice is to continue growing the gladiolus, dahlia, canna and tuberous begonia until the frost has nipped the tops. The reason for waiting for the frost is to allow plenty of time for the plant to build a good bulb for the next year. The result will be larger flowers and more vigorous plants.

When harvesting gladiolus, first loosen the plant with a spade or spading fork. If you want to save the cormels--one of the smaller corms

developed on the old corm--lift the entire plant from the soil carefully and separate the corm and soil. Place the corms in a separate paper bag and label immediately. Corms must be cured from one to two weeks before storing. Place them in a dry place with good air circulation to cure them. Do not put them in the hot sun. The maximum temperature for curing is 100°F. Flats with false bottoms made of hardware cloth of 1/4 inch mesh are excellent for drying the corms.

Dahlias may be left in the ground after the frost has killed the tops. However, if the weather is persistently rainy, dig the roots before decay organisms attack them. After digging them, label each clump as to variety. Wash soil from the roots using a stream from the hose. To cure the roots, place them in a dry room where there is good air circulation and the temperature is between 75 and 85 degrees F. Allow all wounds to cork over before storing the roots for winter. Handle cannas the same as dahlia roots.

Tuberous-rooted begonias may be carried over as house plants indoors. Otherwise, the tops should be cut back after frost and bulbs cured in pots. If tuberous begonias have been grown out of pots in the garden, they should be dug and air dried before storing.

#### STORING TENDER BULBS

Careful storage of tender bulbs can mean dollars to the gardener. Each year millions of dollars are spent on bulb stock only to be lost through poor over-wintering storage. A little care at this time can help to bring your bulbs through the winter successfully.

Gladiolus corms should be cleaned after curing. Remove the old corm from the base of the new corm and take off the loose, outer husks. Take off the old flower stalk by snapping it loose gently from the new corm.

Before placing gladiolus bulbs in storage, dust the corms with a 5 percent DDT dust to control thrips. Be sure to discard corms which show signs of dry rot or soft rot. Store the healthy corms in shallow crates or onion bags at a temperature between 32 and 40°F. in a room where there is good air circulation.

When dahlia roots are cured, pack them in moistened sand, wood shavings, vermiculite or plastic bags to reduce excessive moisture loss that causes shriveling. A cool, moist room where the temperature is above 40°F. is ideal for dahlia roots. Check periodically during winter to be sure no organisms are active. Cannas may be stored with the dahlias.

Tuberous-rooted begonia bulbs may be stored in pots. Keep the soil quite dry, but don't allow the bulbs to shrivel. If you have a large number of bulbs, store them in dampened peat moss or vermiculite in a room where the temperature is 40 to 50°F.

#### PLANTING SPRING FLOWERING BULBS

Plant such spring-flowering bulbs as crocus, snowdrop, grape hyacinth and squill during September and other bulbs like tulips, hyacinth and daffodils in October so they will be properly rooted before freezing.

Prepare the soil by adding organic matter such as compost, well rotted barnyard manures, commercial peat and leaf mold. Add a fertilizer like 10-10-10 at the rate of approximately 4-5 pounds per 100 square feet.

The bulbs can be grown in full sun or in partial shade. Don't plant bulbs too close to the foundation line--especially on the south side of a house. If you are planting bulbs on the south side of the house, plant them about 3 feet from the foundation.

Not all bulbs are planted the same depth. The hyacinth, tulip and daffodil bulbs are planted from 6-8 inches deep, whereas the crocus, snowdrop and grape hyacinth are planted from a depth of 3 to 4 inches.

One method of planting bulbs is in a clump-like circle rather than in rows. In this case, it's best to dig out the hole to about 2 feet in circumference. Then set the bulbs at equal distances in the hole and cover it carefully. Be sure the pointed end of the bulb is up.

After planting, water the bulbs well so they are off to a good start.

#### GOURDS

With their great variety of colors, shapes, and uses, gourds have become increasingly popular for home decoration.

It's generally a good idea to leave gourds on the vines until after a light frost. Cut off mature fruits with the stems attached. You can usually tell maturity by a browning and drying of the stem. Often the fingernail test is used to determine hardness of the skin. However, taking off a bit of the skin with the fingernail may blemish an under-ripe gourd and destroy its future ornamental value.

After harvesting the fruits, wash them with soapy water and rinse in clean water to which you've added a household disinfectant. The disinfectant will help control the organisms that often cling to the shell.

Next spread the gourds out on several layers of newspaper in a warm, dry place to allow evaporation of the surface moisture, to let the skin harden and to set the color. This process usually takes about a week, during which time the fruits should be rotated frequently so they will dry uniformly.

The curing process is completed by wiping the gourds clean and placing them in a warm, dry but dark room for three to four more weeks.

After the gourds are cured, you may want to give them a coat of wax, shellac or varnish. Several applications of water-base wax, each

followed by a brushing with a soft cloth, will accentuate the natural color and produce a slight gloss. The waxing is an inexpensive treatment that dries within a few minutes.

## STORING FRUITS AND VEGETABLES

If you have proper storage conditions, you can assure yourself a winter supply of garden produce--in addition to what you have frozen or canned.

Mature vegetables and fruits are still alive after they're harvested. To keep them living as long as possible, regulate the temperature and humidity in the room where they're stored. By doing so you will slow down the growth processes and maintain the edible quality of the stored products.

Many of our garden products like apples, carrots, beets, rutabagas and potatoes require moist, cool conditions for storage. These may be placed in a room built in a corner of the basement where the temperature can be kept between 32°F and 40°F. A ventilator shaft connected to a window will provide ample ventilation and proper room temperature.

Onions require cool, dry conditions. They may be stored in mesh bags and hung from the ceiling of the storage room where the air is dry but cool.

Store pumpkins and squash in a warm, dry place such as a furnace room. Cure them first, however, by keeping them at 75° - 80°F. for a few weeks to harden the shell.

The secret to successful carrot storage is a temperature of 32°F - 40°F. Clean the roots and dry them before placing them in boxes or earthenware crocks. Removing the tops along with a fourth inch of the crown of the carrot will prevent sprouting.

Place apples in several perforated plastic bags and keep them cool and moist. Bring them up to the kitchen refrigerator as needed.

## OCTOBER

### FALL CLEAN UP IN THE GARDEN

When all the vegetables have been harvested it's time to clean up the garden plot so it will be ready for working again next spring.

All dead plants should be removed from the garden plot. These include tomato vines, pepper plants, vine crops, remnant cabbage, broccoli and cauliflower plants. Corn stalks could be cut up in small pieces and either scattered on the ground for plowing under or placed on the compost pile.

If diseases and insects have been prevalent during the past season, it's best to remove the debris and burn it instead of plowing it down or making compost out of it.

Any old fruits of tomato, pepper, cucumber, squash and melon that were not harvested should be raked up and destroyed to prevent volunteer plants in the garden next spring.

Pull up all wooden stakes used for labeling

rows and supporting plants in the garden, clean and store them away for use next year. After they're cleaned and dried, you may want to paint them with a good wood preservative before putting them away.

## WINTER PROTECTION OF FRUIT PLANTINGS

The time to think about protecting fruit plantings against various types of winter injury is before cold weather approaches.

Protect fruit trees against mice and rabbits by placing a cylinder of 1/4-inch mesh screen or hardware cloth around the base of the tree, far enough into the soil to prevent mice from getting underneath the wire screen. Rabbit repellents which may be sprayed on the trunk and upper branches are also available.

Sunscald is a common winter injury to fruit trees. This disorder results from bright sunshine that is reflected from the snow and strikes the southwest side of the trunk and branches during winter months. As a result the bark warms up to the point where cold resistance is lost. At night when the temperature again falls below freezing, the cells are killed and injury to the bark results. Any measure that will shade the southwest side of the tree will reduce sunscald. Boards, evergreen boughs or burlap will usually provide necessary protection.

Raspberry canes may be laid down and covered completely with soil. Tip covering alone will usually be adequate if a good snow cover can be expected. It's the sudden changes in temperature during late winter that kill the canes rather than the extreme cold.

Don't cover strawberries too early. Wait until the plants have been hardened by a few frosts but before freezing weather sets in. Then cover the plants with a 2-3 inch cover of clean straw or marsh hay. Fruit buds will be injured if temperatures fall lower than 20°F. before they are protected.

## COMPOSTING

Compost provides nutrients for the garden and improves the soil structure. Often the value of leaves and other organic materials is lost through careless burning in the fall of the year. A compost pile will salvage all organic matter for further use in the garden.

Almost all organic material can be used in the compost pile. Take care, however, not to include weeds that have gone to seed or plant parts which are badly infested with disease and insects.

It's a good idea to locate the compost pile where it will not have to be moved or disturbed during the time the compost is being prepared. A temporary compost pile can be made in one section of the flower border and left over winter.

The compost pile may be made by piling the organic material in a 6-foot square. For each 6-inch layer of leaves or other material, about a 1-inch layer of soil should be added to the organic layer. Along with the soil, 4-5 pounds



of a complete fertilizer should be added per layer. The soil and fertilizer provide the bacteria and food for the breakdown of the compost. Keep the center of the compost pile lower than the outer edges to avoid runoff of water. Water is important for the composting process.

Usually, a good compost pile is ready to use the following spring. With ample water, with proper nutrients and the introduction of bacteria, compost will provide a good summer mulch as well as material for improving the soil in the flower border.

#### WINTER PROTECTION IN THE BORDER

Winter protection means several things. First of all, it means taking the necessary precautions to protect plants against the climate, to protect against the rodents, and third, to protect against certain variations of weather during the winter season. Most of our perennial materials will benefit from winter protection.

Winter protection begins when the flower border is first planted. A shrub background helps to break the winds and provides a snow catch. Snow is one of the best winter protection materials we have and we should take advantage of it.

Such mulch material as marsh hay, straw, alfalfa hay, corn stalks all help to insulate against extreme cold. These mulches will also help to control the soil temperature late in spring when there is alternating freezing and thawing. These mulches should be applied about 6-8 inches deep over the flowering plants.

Apply the winter mulch after the ground has begun to freeze in the fall. A wet mulch can cause severe damage through suffocation and added disease problems in the border. That's why it's best to put the mulch on fairly late in the season.

To keep mice from being a problem in the

border, use a bait. Cut both ends from a tin can and put a small quantity of the poisoned bait inside the can so other animals won't get it.

Trees and shrubs prone to rabbit or other rodent injury should be protected with hardware cloth. Smaller trees can be wrapped with aluminum foil to provide protection. At garden centers and hardware stores, certain types of repellents are available which can be used in the garden.

#### THINGS TO DO THIS WINTER

Winter is the time for indoor gardening -- growing house plants, planning the garden for next year and also doing some reading on gardening.

If you don't have a planting plan for your flower border, make it this winter. Buy some graph paper and develop the plan according to scale (1 inch = 5 feet). Locate the existing perennials in the border area and then make the additions or necessary changes.

An interesting type of garden for winter is the terrarium. It can be developed from lichens and mosses or it can be made of small growing house plants. Select materials that will grow under very low light intensity. Put an inch of sand in the bottom of the jar and then add good garden soil. Any jar which can be closed may be used. Water thoroughly before closing it.

Don't miss the opportunity of visiting your local library to select some books on gardening for good reading.

Check your fruits and vegetables in storage frequently for decayed produce to prevent spread of soft rot. Prevent potatoes from sprouting by dusting them with dormatone in early December.

Take inventory of your supply of fertilizer, pest control material and garden equipment. Have your tools sharpened and repaired so they are ready for use next spring.

Be sure to take your garden hose indoors.

UNIVERSITY OF MINNESOTA



3 1951 D02 586 344 2