

# FLOWER SHOW SCHOOL I

2022.601.0146

STANDARD SHOW S's

2. Townsend's Notes, Oct. 1966  
Bumpson Garden Center, Miami

- SPONSORED-----planned and executed by National Council member clubs and groups of member clubs. - *Two Chairmen from non-fed clubs.*
- START-----in a SYSTEMATIC manner: - *Students*  
SOLICIT the cooperation of ALL members:  
SECURE only the most SPLENDID chairmen willing to SHARE their SERVICES to the SUCCESS of a SUPERIOR STANDARD SHOW.
- STUDY *had manual book\**-----in National SCHOOLS and SYMPOSIUMS and STATE SPONSORED SEMINARS.
- SECTIONS-----or Divisions required with at least 5 classes in each.
- STABILIZE----- (or balance) your SHOW, having SYMMETRY between Horticulture and Artistic Exhibits.
- SOLICIT-----only SPECIMEN stalks, sprays, spikes, stems, sprigs, shrubs, and and other entries.
- SCHEDULE-----written, preferably printed, mimeographed, or duplicated by other means.  
*award for scheds. - 3 \$10.00 if show rates \$5,*  
SHOULD be--SPECIFIC and SAY or SIGNIFY exactly what is wanted or not wanted in the show.
- SUBJECT *(theme)*----- (or theme) should be SIMPLE and SEASONABLE within the SCOPE of the abilities of the members, and one that can be carried out in ALL divisions of the show. *Sub-themes -- Distinction = dignity - Taste -*  
*see green book --*
- STANDARD JUDGING---(1) only one Blue, one Red, one Yellow in a class---if merited.  
(2) at least 2/3 Nationally Accredited Judges; other 2/3 may be Student Judges and recognized experts. *Honorable mention - grades or ribbon*  
(3) exhibits are judged against perfection---NOT each other. *quality - up to yellow.*
- SELECT-----a SATISFACTORY color SCHEME to best interpret the over-all theme.
- STAGING-----in ALL SECTIONS should be beautiful, interpretive, inspirational, and practical.
- SAMPLES-----of Conservation materials may be SHOWN as cut plant material or on their own roots ONLY in the Conservation (or educational) Division of a FLORIDA Standard Show. (Florida policy)
- SPACE-----potentialities should be considered as an important parts of the show. Remember to give the greatest emphasis to fresh plant material....keeping flowers and plants in our shows.
- SPECIFY-----in the rules of the show, the awards offered, stating the classes made eligible in the schedule and the number of entries expected in each. (Important!) *in Art. Div., required for Standard Show, - for Junior, Double & Crest.*
- SETTINGS *\**-----for artistic exhibits are varied. Try them all---table space, ~~back~~ *space*, backgrounds, niches, shadow boxes, tables, pedestals, placement shows, mantels, breakfast trays, capsule tables, etc. *Where, ->*
- SIGHT-----the first SIGHT of your STAGED SHOW compensates for any SUFFERING or STRESS you might have experienced, and you are ready to START anew.

SO--- You SEE---S's---SERVE---SIGNIFICANT---SERVICES  
To The STANDARD FLOWER SHOW

Your State Chairman of Flower Shows -  
Mrs. Horace I. Tompkins

*note to home - different eye lens.*

*very important to you - weeks in.*



for exam { p. 2 - current divisions -  
p. 22 - Tagging  
p. 26 - Classif. ch.  
- Schedule ch.

Page 1 only

STUDY SHEET

FLOWER SHOW PRACTICE COURSE I Miami, Oct. 18, 19, 20, 1966

Instructor, Mrs. Helen M. Cutten

The Flower Show Handbook is really our text book on Flower Show Practice. It is recommended that you read ahead of time and be familiar with the material included in Chapters I and II i.e. Pages 1 - 13.

This is very condensed information and not easily absorbed by casual reading. Questions asked in the written exam will necessarily be based on this material and also material included in Chapter IV, pages 45, 46 and 47. It is also recommended that students, particularly those that are inexperienced should not try to prepare for the course by reading their Handbooks from cover to cover or even in large part. The material in it is too diverse for the inexperienced judge to retain and might easily prove confusing.

National Council requirements for Course I, Flower Show Practice include coverage of;

1. Setting up a Standard Flower Show - overall planning. This is outline on page 9.
2. Types of Shows --- see pages 4 and 5.
3. Requirements for Standard Flower Show --- see page 4.
4. Necessary Chairmen and duties --- see page 10.
5. Standard method of Awarding --- page 45 (Chapter IV)
6. Basic and Top Awards --- page 46.

The foregoing is Required Reading material and should be studied.

Class discussion will be on these six subjects in the order given.

Pertinent queries will be permitted and students may take any notes they desire. Many students will already know part of these facts and it is hoped that following the 2 hour lecture period all students will have a clear conception of this elementary part of Flower Show Practice.

gen. attendance  
at show is falling off.



We have no fruit & veg. under hort.

pedestals for advanced exhibits, "free standing", to be observed from  
all sides.

Dish Gardens may be under artistic disposition if we wish.

Exhibitors have learned a lot of botanical terms since the beginning  
of Flower Show work progress.

Consultant Chairman for each art. class.

Instructions for Judges' Clerks. - They should not talk or write. Should not  
work in classes where they exhibit.

Each show should instruct judges about written comments -  
if written, should be sealed in envelope, wanted or not wanted.

Type out rules of each Chairman.



Traditional design in 1st course - realistic; contemporary, pleases the eye.

Expressionism in 3rd course - appeals to the heart

Abstractions in 4th & 5th courses - appeals to the mind.

Given Oct. 18th in Training by  
Mrs. Horace I. Tompkins, State  
Chairman of Flower Shows.

## COURSE ONE - - - - FLOWER ARRANGEMENT

### A. ART PRINCIPLES AS APPLIED TO FLOWER ARRANGEMENT

I. Design, in general, is the selection and arrangement of materials with TWO AIMS: 1. To achieve ORDER

2. To achieve BEAUTY

II. The characteristics, attributes, or qualities we strive for in flower arranging through the art of organizing the elements of design according to the principles of design are:

1. Beauty-----appeals to the viewer's eye

2. Simplicity-----elimination of unnecessary details - gives understanding

3. Expression-----communication to the observer

4. Harmony-----unified whole

III. ELEMENTS of DESIGN --- the working ingredients which the arrangers uses and must organize and combine to form a complete unit.

1. SPACE ----- all design begins with space (or frame). - 3 dimensional

2. LINE ----- a visual path along which the eye is led from one point of interest to another.

(1) Characteristics of line --- long, short, straight, curved, weak, strong, etc.

(2) Directions of line --- a. Vertical

b. Horizontal

c. Diagonal (or oblique)

(3) Line is the "foundation of all designs"

3. FORM ----- is the total effect of the structure of an artistic creation. It is the final result of combining materials, colors and texture.

(1) Basic Forms: a. Sphere includes circle, crescent, etc.

b. Cube - horizontal, vertical, diag.

c. Pyramid - triangle, zigzag & spiral

d. Designer's choice

4. PATTERN --- is the silhouette made by the design against background. It deals with open spaces (voids) and solids. They should balance.

5. COLOR --- is a visual sensation --- the most compelling and dangerous of all the elements. - treated in later courses.

6. TEXTURE --- refers to the surface finish and tissue structure of the plant materials and other component parts of the design. It is determined by touch, by sight, by mind and imagination.

(1) Plant materials have extreme variations  
The following is a list of adjectives that apply to texture (surface finish and tissue structure):

Coarse	harsh	smooth
corky	metallic	sticky
crisp	lacy	stiff
delicate	mossy	tough
dull	polished	velvety
fine	prickly	waxy
firm	rough	woody
frilly	satiny	wooly
glossy	shiny	solid
hairy	silky	soft

Texture is emphasized in 1st course. Gives contrast & rhythm - both unity & variety.

6 elements and

6 principles - see next page.

Ethics of judging -

fair play

experience

courage - in withholding too!

Tact.

Clerks should stand back & not

interfere - should not clerk in

classes where they exhibit.

By John T. Brown (JIMMY)



- (2) Texture adds interest to an arrangement:
- Variety of Texture may be used to avoid monotony.
  - Textures help to interpret themes.
  - Textures influence weight.
  - Textures modify color. *-can bring sharp contrast*
  - Textures hold the attention.
  - Textures are associated with elegance.

IV. PRINCIPLES OF DESIGN --- are the laws of relationship or the plans of organizing the ELEMENTS of Design in order to produce a desired effect in the design. (It is a fundamental truth which gives some special quality of effect).

- BALANCE ---- is visual stability --- the distribution of weight around a central axis (imaginary) in such a way as to make an arrangement secure and steady. *"kinds" of Balance in later course*
  - DOMINANCE ---- implies subordination --- it means "more than one" line, shape, texture, or color than another; more of one line direction, unequal lengths, unequal amounts, etc.
  - CONTRAST --- the placing of elements together in such a way as to emphasize their differences.
  - RHYTHM --- the smooth flow of material and color which carries the eye through the design. *-a feeling of movement.*
    - The best way to attain rhythm is through:
      - Repetition
      - Gradation
      - Line Direction
  - PROPORTION---is the size relationship of ONE area of an arrangement to another.
    - It deals with areas and relative amounts.
  - SCALE ----- is the size relationship of the component parts of an arrangement to each other. *5 aspects of scale treated in Course 4.*
    - It deals with parts and their relative sizes.
- V. FOCAL POINT ----- is the place or point in a design where all the lines begin.

VI CENTER OF INTEREST--- is the main interest created with line, color, textures, forms, etc.

- There is only one Center of Interest in the Traditional and Expressionistic designs.
- There is NO Center of Interest in an Abstract design. Interest here is said to be "equated throughout the design".

#### B. TYPES OF DESIGNS in TRADITIONAL flower arrangement

- Specialty of Course 1.*
- LINE DESIGN ----- one in which LINE is the dominant Form. Characterized by:
    - Openness of silhouette
    - Restraint in quantity of material.
  - MASSED-LINE DESIGN--- is a Line arrangement with mass added.
  - MASS DESIGN ----- is the opposite of line in that it has a closed form. *light values should be at edges & top, dark values low.*

IV also designer's choice.



## C. CREATING THE TRADITIONAL ARRANGEMENT

## I. Decide where to place it

1. Must be in harmony with its SETTING in the home (or show)
  - (1) IMMEDIATE SETTING--- the place where it will actually stand.
  - (2) GENERAL SETTING ---- the room or hall where it will be used.

## II. Select the Container

1. In doing so, one must consider five relationships:
  - (1) Size
  - (2) Color
  - (3) Textures
  - (4) Shape
  - (5) Period
2. Characteristics of a good Traditional container:
  - (1) Utterly simple
  - (2) Inconspicuous in color
  - (3) Has no superimposed design or decoration
  - (4) Has purely functional lines. *and is versatile.*

III Visualize Your Arrangement *(but not for abstractions)*

1. Linear Patterns --- popular in the Traditional Arrangement:
  - (1) Vertical --- rises upward or downward in a stately manner
  - (2) Horizontal --- emphasizes width instead of height -- gives a feeling of tranquility
  - (3) Diagonal --- seldom used alone except in Balance By Placement
  - (4) Circle ---- or
  - (5) Oval ----- very rhythmic
  - (6) Crescent --- part of a circle -- very rhythmic and popular
  - (7) Hogarth Curve- known as the "line of Beauty"
  - (8) Fan ----- airy and gay, but often monotonous
  - (9) Spiral ----- rhythmic, dynamic and living
  - (10) Zigzag ----- gives an exciting effect
  - (11) Parabolic Curve -- has great tension and force
  - (12) Triangular -- represents solidity
2. Form or shape (or the outline) of the design - *see list on page 1.*

## IV Get the Mechanical Controls together:

1. Clippers or scissors
2. Holders: (1) Needlepoint (plain or encased) (5) Chicken wire
  - (2) Hairpin
  - (3) Frog (metal or glass)
  - (4) Suction
  - (6) Oasis - *cover with foil.*
  - (7) Styrofoam
  - (8) Fillers, such as: sand, rocks marbles, paper, etc.
3. Qualities of holders: (1) Heavy (2) Flexible (3) Rustproof or lasting
4. Other necessary controls:
  - (1) Floral clay (or Styx)
  - (2) Scotch tape
  - (3) Toothpicks
  - (4) Sharp knife
  - (5) Floral Tape
  - (6) Florist wires
  - (7) Ice pick
  - (8) Cotton
  - (9) Large nail, pencil, hammer, etc.

*a 12¢ pair made  
to water chickens makes  
a good care for holders.*



## V Select and Cut your plant material

1. FORMS of PLANT materials:
  - (1) Rounded ---target or head
  - (2) Elongated -- spike
  - (3) Fillers --transitional -- (peacemakers)
2. Qualities of all plant materials:
  - (1) Color
  - (2) Weight
  - (3) Line
3. Conditioning of Plant Material: It is the hardening of plant materials by so preparing it to last as long as you wish your arrangement to last
  - (1) Preparation of the materials
    - a. Cut after sundown
    - b. Cut on the slant - *gets more water.*
    - c. Place in a dark room
    - d. The keeping qualities of cut flowers is increased if the water is changed daily.
    - e. Woody branches are usually split, scraped, and crushed at the ends. They may also be dipped in a salt solution and then burned.
    - f. Most leaves should be submerged in cold water for a few hours or overnight to keep crisp.
    - g. Burning the ends of stems over a flame is the treatment for some flowers. *Poinsettias, etc. must be sure to open a hole with a pin for water to go in.*

## VI ASSEMBLE the arrangement

1. Anchor the holder
2. Establish the main lines (or pattern) of your design
3. Place the secondary lines.
4. Add a Center of Interest if the type of design calls for it.
5. Pour the water in the container - *or do it first if you work slowly.*

## VII SCALE OF POINTS

A "Scale of Point" is a "measuring stick" by which entries in a show may be judged. PERFECTION is represented by 100%, divided into HEADINGS or QUALIFICATIONS ...suitable to the design being judged, such as: Design, Color, Distinction, Originality, Condition, Suitability of combination, Conformance to theme or Class, Restraint, Technique, etc.

## Scales of Points for:

1. LINE DESIGN:		Design (Rhythm allotted 15 points; other p principles 5 points each) .....	40
		Color .....	15
		Restraint .....	20
		Distinction <i>see below</i> .....	25
		Total	100
2. MASSED LINE DESIGN:		Design <i>6 principles rate 5 points each</i> .....	30
		Color .....	30
		Distinction <i>rare material not a factor</i> .....	20
		Suitability of materials .....	20
		Total	100

3. MASSED DESIGN: Same as for the Massed Line Design

OUTLINE Compiled by Mrs. Horace I. Tompkins, Rtl, Bx 969, Gulf Breeze, Fla.

*Condition in scale of points = clean, unblemished, not "tired"*



V Select and Cut your plant material  
 1. FORMS of PLANT material

a "ree red space" in a flower show has 3 sides but no top.  
 a "trike" in a flower show has a top as well as 3 sides and  
 is ligated from the front - a sharpened top in reverse.

3. Conditioning of Plant Material: It is the handling of plant material by so preparing it to last as long as you wish your arrangement to last.

(1) Preparation of the materials

1. Cut after sundown
2. Cut on the slant
3. Place in a dark room
4. The keeping qualities of cut flowers is increased if the water is changed daily.
5. Weekly changes are usually sufficient, however.
6. Most flowers are usually wilted and should be dipped in a salt solution for 10 minutes.
7. Most leaves should be removed in cold water.
8. For a few hours or overnight to keep crisp.
9. During the ends of stems over a flame is the treatment for some flowers.

VI ASSEMBLE the arrangement

1. Anchor the holder
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3. Place the secondary lines
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Scales of Points for

1. LINE DESIGN:	
Design (Diagram allotted 15 points; other principles 5 points each)	40
Color	15
Restraint	20
Distinction	25
<b>Total</b>	<b>100</b>

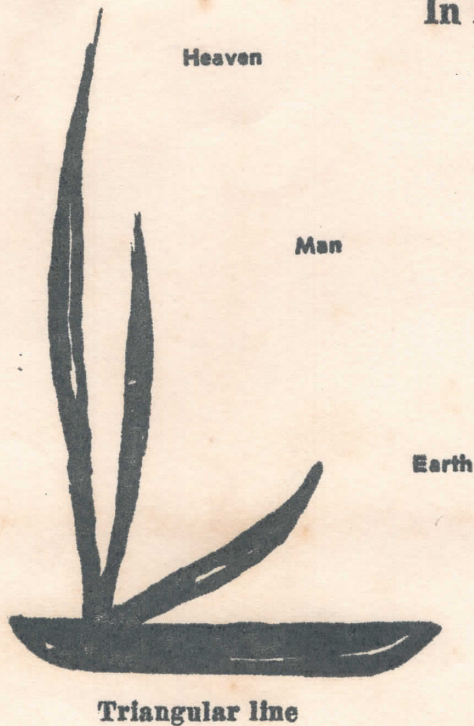
2. MASED LINE DESIGN:	
Design	30
Color	30
Distinction	20
Suitability of materials	20
<b>Total</b>	<b>100</b>

3. MASED DESIGN: Same as for the Mased Line Design  
 OUTLINE Copyrighted by Mrs. Horace L. Thompson, 211, Ex 302, Gulf Breeze, Fla.

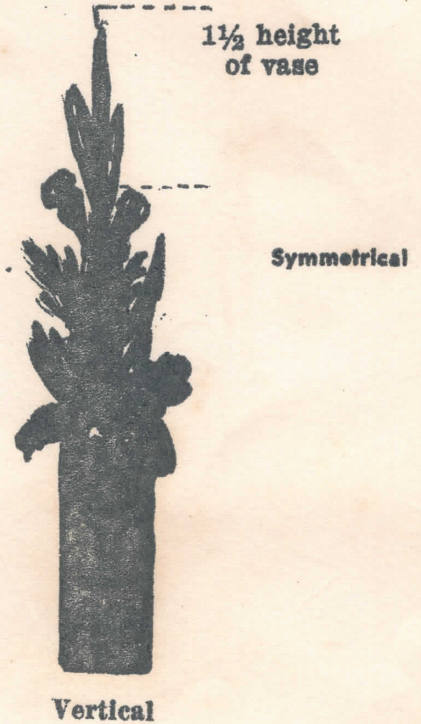


25-4

# Basic Designs In Flower Arranging



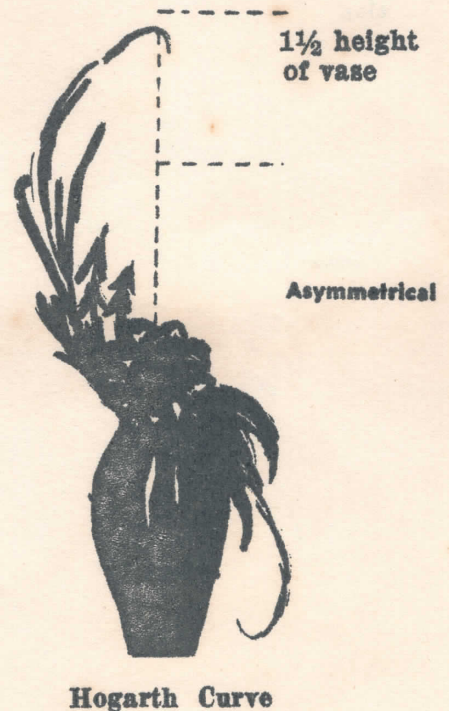
A line arrangement is one in which voids exceed the materials used. Adding more material would make this a line mass or mass arrangement.



This vertical arrangement could be made in a pedestal or low container. Small flowers at top, large flowers at bottom.



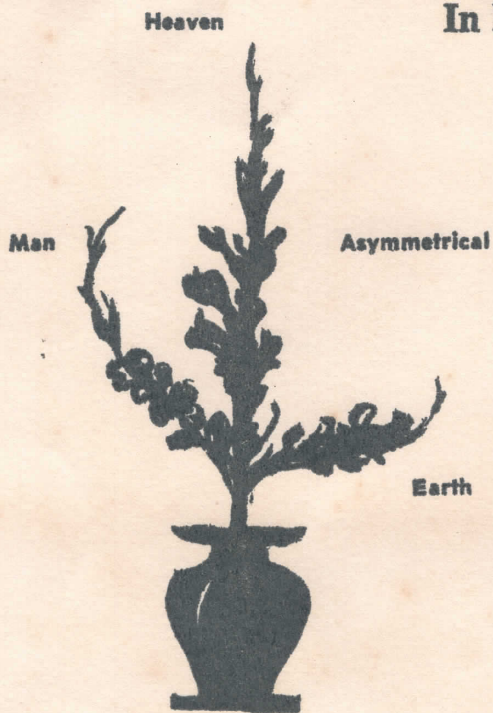
If these lines were filled in with more flowers or foliage, it would be an oval mass



Often called Line of Beauty, serpentine line forming a lazy S.

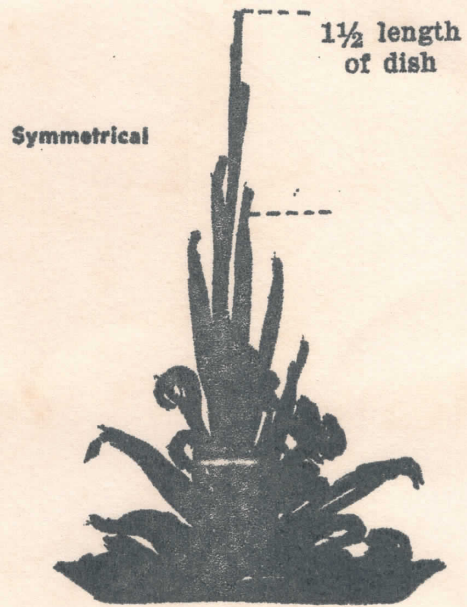


# Basic Designs In Flower Arranging



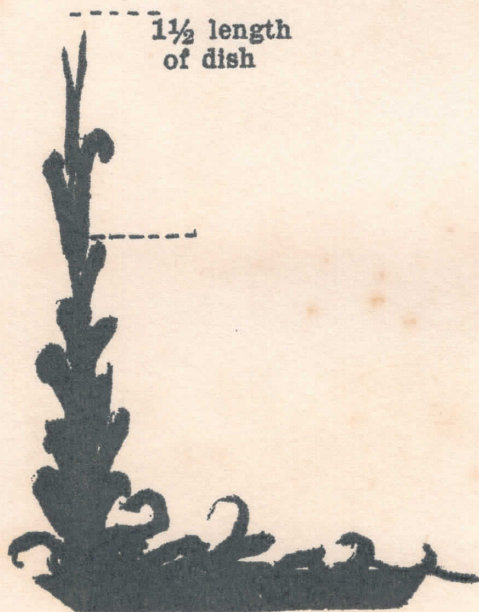
Classical Japanese line

Light colors at top, dark colors at bottom in all arrangements.



Pyramid

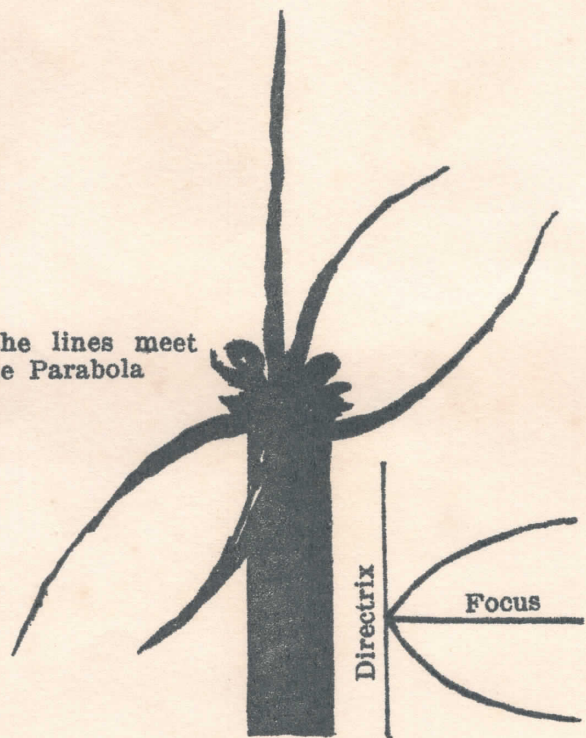
This could be made in a low or high pedestal container and could be a line mass if less material was used.



L Pattern

Line design. More flowers would make this a triangular mass.

Where all the lines meet is called the Parabola



Parabolic Curve

The Parabolic Curve is the newest design in flower arranging



Instructor: Mrs. Helen Cutten

PROPAGATION

Lower plants such as mosses and ferns propagate by means of spores.

Higher plants are propagated in two distinct ways:

1. Sexual reproduction - by means of seeds - commonest way in nature

Advantages - seeds are cheap, plentiful and usually disease free or can be treated.

Disadvantages - seeds may not come true to type, may be difficult to germinate. Some species take a long time from seed to maturity.

2. Asexual or vegetative propagation employs some vegetative part of a plant.

Advantages - will come true to type, may achieve quicker maturity.

There is also the possibility of multiplying species that produce few or no seeds.

METHODS

There are FOUR MAJOR DIVISIONS TO ASEXUAL (VEGETATIVE) PROPAGATION namely:

1. Cuttage of stem, leaf or root. Stem cuttings are usually the easiest and most often employed. May be tips of stems or portions of hard or soft wood. All stem cuttings should have at least two nodes, one of which is left above the ground and the other below as most plants root best from or near a node.

Tip and soft wood cuttings need some leaf tissue left on to carry on photosynthesis as they have little stored food.

All cuttings need light, moisture, warmth and oxygen to strike roots. It is best to cut diagonally to give more surface for rooting. Light should be reflected or controlled in order to prevent drying. Media should be fairly fine, sterile sand or sand and peat to hold enough moisture and also enough air.

In theory one should be able to produce new individuals from any part of a plant but as yet it cannot be done from many plants. A few are propagated by leaves or parts of leaves such as African Violets, Geranium, Rex Begonias, also Lemons and Rhododendrons (if any one wants to). Many hormone preparations are available to help induce rooting. Few ornamentals are propagated by roots.

2. Layerage There are several different ways. Air layering is familiar and used extensively to obtain quick propagation of ornamentals. Ground layering includes tip layering, Nature's own method with blackberries and others where the tips of branches bend down and rest on the ground. Mound layering and trench layering are variants of the same principle that stems in constant contact with moist soil tend to send out roots at the nodes - a little bruising or exposure of the green cambium layer will help.

place where  
leaf comes out

with roots are  
different quality -  
because of pollination

cf. Rootone



3. Separation and Division These are quick and easy method for some species. They too are mostly nature's own and include such things as the use of bulbs and bulblets, cutting up of tubers, parts of rhizomes, etc.

4. Grafting This takes practice and experience. It involves the use of parts of two plants and the fact that when their cambium layers are placed in contact with each other a union can be formed (sometimes). The plant which is to receive the graft is called the stock and the grafted part is the scion or cion. If a portion of a stem is used as a scion and contains two or more buds it is called true grafting but when only one bud is used it is called budding although it too is grafting.

Advantages of Grafting - desirable clones may be perpetuated. Weak growing varieties may be placed on strong roots or on roots that are better adapted to an environment. Varieties which don't produce seed may be perpetuated this way.

#### PLANT PESTS AND DISEASES

There are 2 major groups of Pests that may attack plants: i.e. Chewing and Sucking pests - may be subdivided into 6 types:

1. Chewing insects: may be controlled by stomach poisons such as Arsenate of lead spray, or baits, also compounds like Malathion.
2. Sucking insects: may be controlled by contact poisons such as rotenone, pyrethrum, oil sprays (for scale only) and Malathion and its relatives.
3. Mites: are also sucking pests but they belong to the spiders and are not true insects. Can be controlled with Aramite, Dimite or Kelthane.
4. Rats, mice and other rodents. Can use Warfarin products such as Rat Knot or use traps.
5. Snails and Slugs: best remedy is Metaldehyde in some form. Dusts or baits such as Buggetta pellets for snails.
6. Nematodes; best known of these are the Root Knot nematodes. They invade and suck vital juices from plant roots. Live in the soil. Small areas may be disinfected with Soil Fume or similar capsules. Mulching will help hold them in check.

NOTE! Any chemical remedy used to combat living pests is a poison and should be treated with respect. ALWAYS USE ACCORDING TO DIRECTIONS AND DO NOT TAKE RISKS. Take care not to breathe or get in eyes or mouth. Wash off hands and skin after using. This applies to fungicides as well as remedies for insect or animal pests.

There are three types of actual DISEASE ORGANISMS that may invade plant tissues.

1. Fungus. Cause of mildews, black rot, black spot, dampoff, rusts, etc.



For most plants Copper compounds of some sort are the best all round remedies. Many other remedies are specific for one ailment only. The number of sprays is legion and you can pay your money and take your choice if you know what your ailment is. Do not use copper compounds on Orchids or Bromeliads.

2. Bacteria; These attack few flowers except Orchids. Surgery of the affected parts is indicated. There are also some antibiotics especially for plants, i.e. Agromycin.

3. Virus: Often mottles leaves, sometimes cripples flowers and sometimes cause color breaks in petals. Cause of yellows in Asters, Mosaic diseases in other plants. Carried by insects. Only remedy is to destroy plant by burning.

### SOILS

Most plants in which we are interested grow in soil. Some understanding of soil is necessary for successful and intelligent gardening. Soil is not a simple substance. It is a complex, changing thing. There are ---

#### Five components of Soil:

1. Mineral particles 2. Humus 3. Bacteria 4. Water 5. Air

1. Mineral particles - It may be (a) SAND - relatively large sized or (b) SILT - much smaller, or (c) CLAY - very fine, or (d) LOAM a mixture of all three. These are soil textures.
2. Humus - is the residue of rotted or decomposed plant and animal matter. It holds moisture, makes nutrient elements more readily available for roots, furnishes food for earthworms and prevents fertilizers from leaching.
3. Bacteria - feed on organic matter in the soil, secrete enzymes which release water-soluble nutrients, some take nitrogen from the air and fix it in the soil. Large amounts of plant nutrients are released by the action of micro-organisms.
4. Water - exists in soil as a film around mineral particles or as vapor in the pore spaces. After a rain it may entirely fill the spaces. It moves downward by gravity or upward by capillary attraction. Soil air always contains some water vapor or else roots dry and plants normally die. Moisture carries nutrients to plant roots.
5. Air - is present in pore spaces in soil. Roots of land plants need considerable oxygen, most bacteria likewise. Therefore most garden plants need a well-drained soil.

A good garden soil - should have large pore space, good drainage, enough fine particles to hold moisture without becoming water-logged. Organic material can be added to soil to improve it and compost will improve both sandy and clay soils. Garden soil should be free from stones, not over 15% clay and not over 30% coarse sand.



Mineral particles are broken down rock. Chemical elements are originally released by the slow dissolution of the particles. These nutrient elements are also released from decomposed plant and animal remains, may be added to the soil in the form of compost, manures, commercial fertilizers, etc.

Humus may be added to soils by mulching (a slow method) or incorporated directly by spading, tilling, raking, etc. It is helpful in all types of soils for if it is added to sand it increases the ability to retain moisture because fine particles sift down and penetrate large spore spaces helping to slow up drainage. When added to clay it stimulates the fine clay particles to combine in larger clusters thereby increasing pore space and facilitating drainage. When humus slowly oxidizes or breaks down in soil it then gives up nutrients.

Best garden soils are those which have 50% or more fine sand and are the sandy loams. Muck and peat soils are not mineral soils. They contain a high proportion of plant remains, need a high water table or will oxidize and disappear.

#### PLANT REQUIREMENTS FOR GOOD GROWTH AND REPRODUCTION

Come under two categories -- ENVIRONMENTAL and CULTURAL

ENVIRONMENTAL FACTORS -- 1. Water Supply 2. Temperature 3. Light  
4. Nutrient Supply

Since the above usually limit the growth and development of plants they are called the LIMITING FACTORS -- In other words if any one of the four is unsatisfactory the growth process is limited thereby and increasing any of the others will not help matters or replay the deficiency.

1. WATER - No plant life is possible without water. It is necessary for seed germination and if the water supply ends the plant life ends. During active growth large quantities of water are incorporated into the plant body. Plants are 85% - 95% water by weight.

All nutrients that are absorbed by the plant must be dissolved in water. This is absorbed by the fine root hairs. It passes into tiny vessels in the rootlets and is borne upward through the conducting system in the stems and out still through vessels into the leaf. Here the vessels break up into a fine network of veins that get smaller and smaller penetrating all the inner parts of the leaf so that water can diffuse into every cell. Part of this water is used up in photosynthesis and other life processes of the cell but most of it passes on out as water vapor thru the pores of the leaf. Sometimes this upward passage is very rapid, sometimes much slower depending on such factors as temperature, relative humidity of the air, amount of light, etc.



2. TEMPERATURE - The favorable temperature range for the growth and development of any particular plant is called its optimum range. This is not at all the same range for all plants. Since we cannot control outdoor temperatures the only thing we can do is to plant plants which do fairly well in our temperatures.

Little activity goes on in any plant under 40 degrees and many plants will exhaust themselves and succumb at 110. Within the optimum range vegetative growth becomes more rapid as the temperature rises. This is not true of flower production. According to the text books, temperatures in the lower half of the optimum range favor reproductive process (flowers). Cool season crops or those which have a comparatively low optimum range such as the majority of vegetables and many garden flowers are grown in the fall-winter spring in Florida.

3. LIGHT - Light is a form of radiant energy. No green plant can live without light. It is needed for the production of chlorophyll as well as being essential in the process of photosynthesis (which will be discussed under Nutrients). Plants vary in their light requirements. This is the result of evolution and adaptation to environment and must be known and respected in cultural practices. Most garden flowers need at least 5 hours of sunlight.

4. NUTRIENTS - Plant nutrients are substances which can be absorbed by plant roots and which contain one or more (chemical) elements essential for plant growth. One nutrient, Carbon Dioxide is obtained from the air, the remainder are derived from soil.

Other nutrients are Water, Nitrogen (in the form of nitrates or ammonium nitrogen), Phosphorous (in the form of Phosphates) and other compounds containing Potassium, Calcium, Sulfur, Magnesium, Iron, Manganese, Boron, Zinc, Copper and Molybdenum.

#### Chemical Elements which are Deficient in Soils.

Chemical elements which are deficient in many soils are Nitrogen, Phosphorous and Potassium. These are often supplied by adding commercial fertilizers. When growers speak of 5-7-5 mixture, for example, they mean a commercial fertilizer containing 5% nitrogen, 7% phosphoric acid and 5% potassium. All fertilizer tags are required to state the analysis in percentages and also state the source.

Although their functions are not simple nor entirely known, it has been determined that Nitrogen is needed for body and leaf growth. It enters into the formation of protoplasm. Phosphorous stimulates root growth and is needed for good seed and fruit. Potassium increases vigor and helps ward off disease and insect damage. Also connected with setting of fruit and its color and flavor (production and quality).

Certain of the elements such as iron, boron, zinc, and copper and manganese are needed in very minute amounts. These are called trace elements.



Sometimes they may be actually deficient in soils or the soil may be so acid or so alkaline that these trace elements and manganese as well may be locked up in chemical combinations that make them unavailable to plant roots. They may then be sprayed on in a process that is called foliar feeding. Soil test will reveal the acidity or alkalinity of soil. A reading of pH 7 is neutral. Higher is alkaline, lower is acid. It is practical to change the pH of limited areas of soil by adding sulfur or oak leaves etc. for acidity or lime for alkalinity.

Nutritional deficiencies show up in various ways on the leaves, twigs, and fruits. The commonest is some degree of chlorosis or yellowing of the leaf. Nitrogen deficiency is common and easily recognizable - leaves become a uniform yellowish green and growth is slowed down. When flowering plants receive insufficient nutrition - flower production is likely to be scant and flowers themselves may be undersized, poor color, poor substance, etc.

### PHOTOSYNTHESIS

Photosynthesis is a manufacturing process carried on in the green cells of all plants. It is actually a chemical reaction in which carbon dioxide from the air and water from the roots are combined under the influence of light and in the presence of chlorophyll to produce carbohydrates.

These carbohydrates frequently called sugars are the basis from which the plant makes all the other substances to be found in plant bodies. From carbohydrates plus nitrogen and sulfur it makes Proteins. With a small change in the proportions of carbon and oxygen, carbohydrates can be converted into fats.

CULTURAL METHODS ARE EXTREMELY IMPORTANT FACTORS IN PLANT GROWTH

These factors will not be taken up in detail at this time because they will be included more thoroughly in Course II "Growing Exhibition Plants"

Cultural Factors include:

1. Proper planting including soil preparation.
2. Proper selection of seeds or young plants.
3. Fertilizing in accordance with the needs of the plant.
4. Watering to supply sufficient moisture in the soil at all times.
5. Cultivating including weeding and mulching, and stirring of the soil.
6. Trimming and Pruning to improve or control shape and to remove dead, diseased or superfluous tissue.



SUMMARY OF FACTOS INVOLVED IN PRODUCING VARIOUS QUALITIES OF PLANTS AND  
FLOWERS

The plant or flower which come before us for judging is the product of 3 major factors.

1. Heredity: Certain inherent potentialities are carried in seeds, cuttings, etc. These patterns for development, the "genes" are present in every cell of the pland the plant is limited thereby Careful bfeeding for good characteristics may have been carried out for a number of generations. Heredity will control the basic form, color, normal blooming habit, preference for sun or shade, and for acid or alkaline conditions, etc.

2. Environment: As noted earlier the physical factors as light supply, nutrient supply, temperature, water supply, and drainage are extremely important. If one of these factors in the environment is deficient or unsatisfactory, things cannot be rectified by increasing the others. These so-called Limiting Factors will affect the development of the plant, its size, its color and its substance.

3. Culture: Such procedures as proper planting, watering fertilizing, pest control, trimming, pinching, grooming, all modify and promote development and have a great deal to do with condition.

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One of the plants we will take up in this course is Anthurium. This belongs to a large Plant Family called the Aroids or the Jack in the Pulpit family, because they all have the same general type of bloom known as the spathe and spadix. Many of this group are sufficiently enduring to withstand unfavorable environments and will live for a long time indoors. This family furnishes many of our potted plants such as Alocasia, Caladium, Dieffenbachia, Philodendron, Pothos, and Spathiphyllum.

Judges should form the habit of automatically noting the cultural condition of the plants. This includes the quality and composition of foliage and stems, the appearance of well being and good nutrition, the compactness and even development of the plant, freedom from pest damage, cleanliness and good grooming.



The following is a scale of points for Foliage Plants worked out by a former National Chairman of Horticulture, which seems fairly well adapted to judging Foliage Plants in this area.

Form according to variety	20
Size in relation to container	20
Uniformity of leaves (color, size and shape)	15
Freedom from blemish (insect and disease)	20
Grooming dead leaves, ect)	20
(freedom from dust,	20
Correct labeling	<u>5</u>
	100

Note that in this scale there are no points for rarity, nor for distinction.

We shall also point out some important features and do some practice point-scoring on Roses, although Roses are really a specialty and good Rose judges are not plentiful.

To adequately judge Roses a judge should have grown them and be familiar with types and varieties. Nevertheless all judges should be acquainted with the fact that there are four main categories from the Show point of view.

1. Includes Hybrid Teas, Teas and other "Exhibition types" which except for the single varieties should be grown disbudded.
2. Floribunda may be shown without disbudding.
3. Grandiflora may or may not be grown disbudded and shown accordingly.
4. Polyantha, climbers, etc. may be shown without disbudding.

At time of judging an exhibition, rose should be in the most perfect phase of its blooming usually 1/2 to 3/4 open. For more detailed information see Handbook, page 179.

Chrysanthemum is another flower on our list. Most of them that are garden grown in this area are spray types. On page 137, 138 we can gather an idea of the wide variance in types seen in a purely Chrysanthemum Show. For evaluating sprays, see page 141 and page 142.

Gladiolus is another flower we seldom see in our local Shows in any quantity. Judges should however be familiar with the main types into which the specialty is divided on the basis of size. Also with the complex scale of points and the desirable features as pointed out on page 155 and 156. It is not necessary in this connection to memorize this material.