PLSC 210: Lecture 1

August 26, 2009

**INTRODUCTION TO HORTICULTURE**

**I.** **DEFINITION**

1. Horticulture = *hortus* (garden) + *cultura* (culture)

derived from the Latin words, perhaps first used in the 17th century. It involves the art and science of growing so-called garden crops such as flowers, vegetables, fruits, herbs, and trees. The modern horticulture integrates many natural phenomena with advanced technology and practices the art of gardening and decoration.

2. Agriculture = Technology of raising plants and animals

*Animal agriculture*

Animal science

Dairy science

Veterinary science

*Plant agriculture*

Agronomy...field crops mainly grains and forages

Horticulture...so-called garden crops

Forestry...forest trees and products

3. Disciplines within Horticulture

**Olericulture**: culture of vegetable crops

**Pomology**: culture of fruit crops

**Floriculture**: production of flowers

**Environmental Horticulture**: culture of plants to enhance our surroundings

**Nursery** **crops** (trees, shrubs, vines, and herbaceous landscape plants)

**Arboriculture** (culture of trees and shrubs)

**Landscape horticulture** (care of plants in the landscape)

**Turfgrass management** (care of lawns and grasses)

**Landscape Architecture**: planning and design of outdoor space for beautification

**II. ROLE OF HORTICULTURE**

1. Food and nutrition

2. Emotional fulfillment

3. Environmental enhancement

**III.**  **HORTICULTURAL CROPS**

1. Food Crops

a. Vegetables

Grown for fruits or seeds (beans, peas, squash, melons, tomato, eggplant, pepper)

Grown for vegetative parts

Stems, leaves, flower parts (cabbage, broccoli, spinach, lettuce, cauliflower)

Roots, bulbs, tubers (beet, carrot, potato, sweet potato, taro, onion)

b. Fruits

Deciduous

Herbaceous (strawberry)

Shrubs (blueberries, raspberries, blackberries)

Vines (grapes, kiwifruit)

Trees: Pome fruits (apple, pear, quince)

Stone fruits (peach, plum, cherry, apricot)

Nuts (pecan, filbert, walnut, almond)

Evergreens

Herbaceous (pineapple, banana)

Shrubs (tea, pomegranate)

Trees (citrus, avocado, guava, mango, coffee, cacao)

2. Ornamental Plants

a. Floricultural crops

Cut flowers (roses, chrysanthemum, carnation, alstroemeria)

Flowering pot plants (geranium, azalea, Easter lily, gloxinia)

Foliage plants (philodendron, dracaena, ficus, aglaonema)

Bedding plants (impatiens, petunia, marigold, zinnia, pansy)

b. Landscape plants

Woody plants

Trees

Deciduous (oaks, elms, maples, larch, birch, willow, ash)

Evergreen (pine, juniper, spruce)

Shrubs

Deciduous (lilac, spirea, viburnum, dogwood, euonymus)

Evergreen (juniper, mugo pine)

Vines (clematis, wisteria, bougainvillea, ivy)

Ground covers (periwinkle, juniper, ivy, lantana)

Herbaceous plants

Perennials (peony, delphinium, chrysanthemum, columbine)

Annuals (bedding plants)

c. Turfgrasses

Kentucky bluegrass, Bermudagrass, bentgrass, etc.

3. Industrial Crops

a. Herbs and spices (rosemary, tarragon, cloves, basil, black pepper)

b. Medicinal and drug plants (opium poppy, digitalis, reserpine, quinine)

c. Insecticides (pyrethrum, rotenone)

d. Rubber (guayule, hevea)

e. Oil (oil palm, tung, olive, jojoba, sunflower)

f. Gums (acacia, gua)

g. Fiber (hemp, Manila hemp, sisal)

**III.**  **WHAT HORTICULTURISTS DO**

1. Plant Improvement

Breeding of horticultural crops for better quality and higher yields.

2. Plant Propagation

Seed propagation

Vegetative propagation

Tissue culture propagation

3. Crop Production

Field production

Greenhouse production

4. Plant Protection

Disease control

Insect control

5. Plant Utilization

Food technology

Sales and marketing

6. Landscaping

Design, construction, maintenance

**IV**. **KINDS OF ORGANIZATIONS HORTICULTURISTS WORK IN**

1 Public Service

Research

Universities and experiment stations, government research agencies such as USDA, botanic gardens, arboretums

Education

Teaching in high schools, vocational schools, colleges and universities

Extension adult education in the state and federal cooperative extension service

Educational programs in public horticulture, botanical gardens, arboretums, etc.

Service and regulatory agencies

Plant inspection and quarantine services

Product grading services

Statistical reporting services

Park and recreation facilities

State and local governments

2. Private Enterprises

Crop production

Fruit and vegetable farms

Nurseries

Turfgrass farms

Greenhouses

Plant breeding

Vegetable, fruit, flower and grass breeding companies

Propagation

Nursery and greenhouse crop propagators

3. Processing and Marketing Enterprises

Fruit and vegetable shippers, wholesalers, and retailers

Flower and foliage plant distributors and merchandisers

Nursery stock distributors, retail nurseries and garden centers

Canners, freezers, dehydrators, winery

4. Service Enterprises

Landscape designers

Landscape construction

Landscape maintenance

Technical consultants

Golf courses and athletic fields

Transportation companies

5. Suppliers

Seed and plant supply companies

Fertilizer and growing media companies

Pesticide and chemical companies

Equipment manufacturers and distributors

Supplies manufacturers and distributors

6. Your Own Business

Research and development (biotechnology, tissue culture)

Production of vegetables, fruits, ornamental plants, turfgrass, floral crops, herbs and spices, etc.

Consulting services

Landscape construction and maintenance

Wholesale and retail florists

Horticultural suppliers

Seed companies

Horticultural therapy

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