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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