

Today's Lecture

- Classification of vegetables
- Nutritive value of vegetables

Classification of Vegetables

- Why do we need to classify vegetables?
 - What's the name?
 - Botanical classification
 - What part do you eat?
 - Edible plant part
 - Where and when do you grow it?
 - Temperature requirements
 - How does it grow?
 - Life cycle

Botanical Classification

- Division – Spermatophyta
 - Class – Angiospermae
 - Subclass – Monocot or Dicot
 - Family
 - » Genus
 - » Species
 - » Group or subspecies
 - » Cultivar

Lecture 3: Classification, Nutritional & Health Benefits

Important Monocots

- Alliaceae (Allium Family)
 - Onion, Garlic, Leek, Shallot
- Gramineae (Grass Family)
 - Sweet corn
- Liliaceae (Lily Family)
 - Asparagus

Most Vegetables are Dicots

- Compositae (Sunflower Family)
 - Lettuce, Globe artichoke, Jerusalem artichoke
- Convolvulaceae (Morning-glory Family)
 - Sweet potato
- Cruciferae (Mustard Family)
 - Cabbage, broccoli, cauliflower, kohlrabi, collard, kale, brussels sprouts, Chinese cabbage, turnip, radish

- Cucurbitaceae (Gourd Family)
 - Cucumber, watermelon, cantaloupe, honeydew melon, summer squash, winter squash, pumpkin
- Leguminosae (Pea/Bean Family)
 - Snap bean, pea, cowpea, black-eyed pea
- Malvaceae (Cotton Family)
 - Okra
- Solanaceae (Nightshade Family)
 - Tomato, pepper, eggplant, potato
- Umbelliferae (Parsley Family)
 - Celery, carrot, parsnip, parsley

Lecture 3: Classification, Nutritional & Health Benefits

Edible Parts - Underground

- **Roots**
 - Beet, carrot, parsnip, radish, rutabaga, sweet potato, turnip
- **Tuber**
 - Potato, Jerusalem artichoke
- **Bulb**
 - Garlic, leek, onion

Edible Parts – Above ground

- **Stem**
 - Asparagus, kohlrabi
- **Leaf**
 - Brussels sprout, cabbage, celery, chard, chinese cabbage, collard, kale, lettuce, spinach
- **Floral**
 - Broccoli, cauliflower, globe artichoke

Edible Parts – Above ground

- **Immature Fruit**
 - Cucumber, eggplant, okra, snap bean, summer squash, sweet corn
- **Mature Fruit**
 - Honeydew, muskmelon, cantaloupe, pepper, podded pea, pumpkin, tomato, watermelon, winter squash
- **Seed**
 - Cowpea, garden pea, soybean, lima bean

Classification by Temperature

Cool season crops

- Hardy:
 - Asparagus, broccoli, brussels sprouts, cabbage, collard, garlic, kale, kohlrabi, leek, mustard, onion, pea, radish, rhubarb, rutabaga, spinach, turnip
- Half-hardy:
 - Beet, carrot, cauliflower, celery, chard, chinese cabbage, globe artichoke, Jerusalem artichoke, lettuce, parsnip, potato

Warm Season Crops

- Tender:
 - Cowpea, snap bean, soybean, sweet corn, tomato
- Very Tender:
 - Cucumber, cantaloupe, eggplant, honeydew, lima bean, okra, pepper, pumpkin, squash, sweet potato, watermelon

Classification by Life Cycle

- Perennials
 - Asparagus, eggplant, garlic, globe artichoke, Jerusalem artichoke, lima bean, pepper, potato, rhubarb, sweet potato, tomato
- Biennials
 - Beet, broccoli, Brussels sprout, cabbage, carrot, cauliflower, celery, chard, Chinese cabbage, collard, kale, kohlrabi, leek, onion, parsnip, rutabaga, turnip

Lecture 3: Classification, Nutritional & Health Benefits

Annual Crops

- Cowpea, cucumber, cantaloupe, honeydew, lettuce, okra, pea, pumpkin, snap bean, soybean, spinach, squash, sweet corn, watermelon
- Text also lists:
 - Broccoli, cauliflower, Chinese cabbage, mustard (vernalization)
 - Potatoe?

Nutritive Value of Vegetables

- Mom always said “eat your vegetables”
- Vital source of essential minerals, vitamins and dietary fiber - Handout
- Also a source of carbohydrates, protein and energy
- More recently recognized as a vital source for phytochemicals

Overview of the health benefits of fruit and vegetable consumption for the dietetics professional: Selected literature. Journal of the American Dietetic Association, Dec, 2000, by Maryann S. Van Duyn, Elizabeth Pivonka

Reduced Cancer Risk
20% reduction

Reduced risk of Coronary Heart Disease
20-40% reduction

Reduced risk of Stroke
up to 25% reduction

Also: Cataracts, Chronic Obstructive Pulmonary Disease, Diverticulosis, and Hypertension
