Introduction to Agriculture
Part 1

United States Department of Agriculture
National Agricultural Statistics Service

A Presentation by the NOD-Training Group

Agriculture Overview

- American agriculture: over $300 billion industry
- There are 2.2 million agricultural operations (farms and ranches) in the US
  - Of these, only 395,220 (18%) have more than $100K in sales. Less than 7% have more than $500K in sales
- The total US land in farms is 914 million acres
  - About 1/3 of that is cropland
  - Average farm size is 421 acres

Agriculture Overview (2)

- Most valuable commodities by category:
  - Field Crops: Corn = $77.4 billion
  - Vegetables: Tomatoes = $1.9 billion
  - Fruits: Grapes = $4.9 billion
  - Livestock: Cattle and Calves = $45.2 billion
- Guess who calculates all these (and more) numbers?
- Farm and ranch products are the base of extensive value chains—creating multiple levels of jobs and income

Agriculture Overview (3)

- Only about 2% of the American population actually farm or ranch
- BUT agriculture employs about 15% of the total workforce - nearly 25 million individuals
  - **Input sector**: Supply seed, fertilizer, crop protection chemicals, machinery, fuel, etc.
    - John Deere, Monsanto, etc
  - **Production sector**: Produces raw agricultural products (farmers, ranchers, producer cooperatives)
  - **Output sector**: Processes and markets raw and value-added products to the public.
    - Tyson (poultry processing), Kraft (processed foods), etc

NASS Farm Definition

- **Any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the year**
- That includes:
  - Someone with 20 acres of idle cropland who says they are retired
  - Someone that owns five horses, and has never considered themselves a “farm”
  - Someone on the edge of town whose kids have 4-H sheep, hogs, steers and a handful of chickens
  - Someone with a small orchard and some sweet corn that they sell at a roadside stand
- All of these are farm operations
- And every farm is important. Big or small.

Acreage and Land

Acreage and Land (2)

- Remember, almost 1 billion acres of farmland
  - This includes cropland
    - Row crops, small grains, hay, vegetables, fruit, nuts, idle cropland
  - Pasture, rangeland
  - Woods, wetlands, farmsteads, etc
- Under various operating “arrangements”
  - Owned, rented/leased, sharecropped, etc
  - Land prices and rental rates: record highs in many areas
    - But depends on type of land

Acreage and Land (3)

- **Conservation Reserve Program** (CRP)
  - Also WRP, FWP, CREP, etc
  - Pays farmers to “set aside”/idle marginal cropland
- **Farm Service Agency** (FSA)
  - Oversee and administer various farm programs
    - CRP, counter cyclical payments, disaster relief, etc.
- **Natural Resource Conservation Service** (NRCS)
  - “Helping People Help the Land”
  - Funding opportunities for agricultural producers and other landowners to:
    - Reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters

Acreage and Land (4)

- **Animal Unit Month** (AUM): the amount of feed for a cow-calf pair, used as a means of pricing grazing rights on land
- **Irrigation**: artificially watering land. Multiple different systems and means
- **Double cropping**: two or more *different* crops grown and harvested from the same area in one growing season
- **Crop Insurance**: programs/plans to assist farmers experiencing disaster or reduced production
  - Payments can be in various forms (direct, loans, etc)
  - Private companies, but often subsidized/overseen by Risk Management Agency (RMA)

Acreage and Land (5)

Field Crops

- **Row Crops**
  - Corn (grain & silage), soybeans, cotton, sorghum (grain & silage), rice, sunflowers, (oil & non oil), sugarbeets, dry edible beans, peanuts
    - *Many* other crops with small acreages
  - Very diverse end uses: livestock feed, ethanol, oils, sweeteners, direct human consumption
- **Small Grains**
  - Wheat (winter, spring, durum), barley, oats, rye

Row Crops

Small Grains

Field Crops-The big three

- Corn
  - 95.4 million acres planted. Harvested for either grain (87.7m ac.) or silage (6.3m ac.)
  - Iowa, Illinois, Nebraska, Minnesota, Indiana
- Soybeans
  - 76.5m ac. planted, virtually all harvested as beans
  - Iowa, Illinois, Minnesota, Missouri, Indiana
- Wheat, all (includes winter, spring, durum)
  - 56.2m ac. planted, 80% harvested for grain
  - Kansas, North Dakota, Texas, Montana, Oklahoma
- Cotton (Upland, Pima)
  - A *distant* fourth with 7.6m ac harvested
  - Texas, Georgia, North Carolina, Arkansas, Mississippi

On-Farm Grain Storage

On-Farm Grain Storage

- Grain demand is year round
  - Grain supply peaks at harvest
- Grain storage ensures demand aligns with supply
  - And allows producers marketing options
- ONLY **on-farm** capacity (and stocks)
  - Commercial storage/elevator data is collected separately
    - Growers often rent space in these facilities
    - Must be excluded to avoid double counting
- For capacity: ONLY looking for “permanent” or “normally used” structures
  - Exclude any temporary structures capacity

Hay and Forage

Hay and Forage

- Used for livestock consumption
  - Dry hay
    - Mowed, allowed to dry, and baled
  - Haylage/silage
    - Mowed, chopped and fermented to be fed to ruminants
- Generally multiple cuttings/crops per year
  - Different cuttings can be dry hay or haylage
- Alfalfa: high protein legume
  - Common as both dry hay and haylage
- Other hay: small grain hay, tame hay (grasses and legumes), wild hay
  - Generally dry hay

Horticulture, Floriculture, Nursery, etc.

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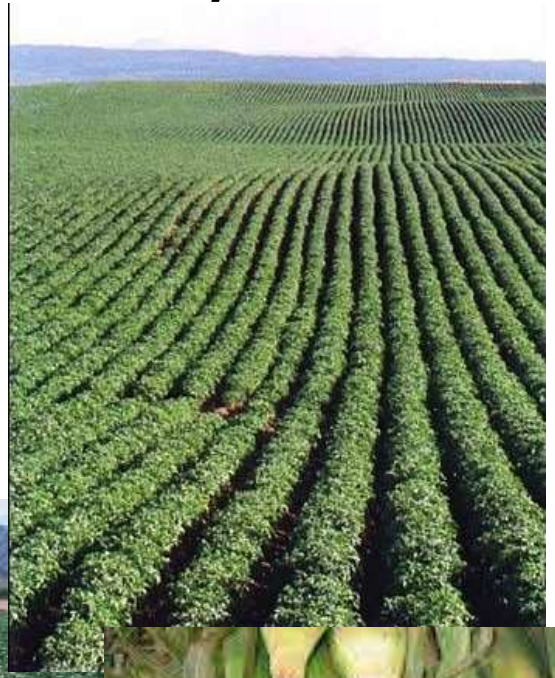
- Smaller area BUT high value crops
- Production largely in the South and West Coast
  - Although MI ranks 3rd in Floriculture production
- Horticulture/Floriculture=diverse array of things such as:
  - Bedding/garden plants
    - Annuals, perennials, vegetable plants
  - Cut flowers
  - Nursery products (trees, shrubs, etc)
  - Cut Christmas trees
  - Sod
- Mushrooms (Pennsylvania largest producer)
- Food crops under glass (tomatoes, etc)
- These operations may not consider themselves “farms”

Vegetables, Potatoes, Melons



Vegetables, Potatoes, Melons

- **Potatoes**: 1.052m acres of potatoes harvested in the US
  - Idaho: about 30% of the acres and production
  - WA, ND, WI and CO round out the top 5
- **Fresh market vegetables**: Artichokes to tomatoes = 1.679m acres harvested
  - Sweet Corn: 244k ac; Onions: $944m (followed closely by sweet corn, lettuce, tomatoes); Tomatoes: ($9k/ac)
  - California (~50%), Florida, Arizona, Georgia, New York/Washington
- **Processing vegetables**: Beans to tomatoes = 1.135m acres
  - Sweet corn: 359k ac, Tomatoes: $1.01b
  - California, Wisconsin, Minnesota, Washington, Oregon/Michigan

Fruits, Nuts, Berries

Fruits, Nuts, Berries

- Much like horticulture and vegetables, very high $$$ value per acre crops
  - BUT intense growing practices and high production expenses
  - Diverse array of crops (apples to walnuts)
- **Non citrus fruits and berries**: 1.965m acres, $15b value
  - Grapes and apples largest acreage and value of prod.
    - Strawberries third for value (but almost $43k per acre!)
  - California largest overall producer
- **Tree nuts**: 1.247m acres, $7.4b value
  - Almonds (CA only) largest acreage and value of prod.
- **Citrus fruits**: 797k acres, $3.15b value
  - Florida with almost 2/3 of the US production