

- CAFOs began with chicken production, where industry bred chickens called "broilers" for meat production
- Broilers enhanced w/ animal protein, amino acids, vitamins, and minerals
- Crowded conditions in CAFOs led antibiotics to prevent diseases and artificial light to stimulate growth
- Results are bigger broilers with less feed and fewer deaths pre-slaughter
- Smithfield Foods propagated a genetic line of pigs on thousands of farms to standardize production
- Producers started designing slaughter/butcher machinery to fit characteristics of developed breeds
- In feedlots calves receive corn-based feed enhanced with soybeans, fats and proteins, vitamins, synthetic estrogen, antibiotics, and roughage
- Growth promoters added to feed to boost muscle growth in the final 3 weeks before slaughter to add 30 pounds of meat
- Cows are ruminants: digestive system that turns plant-based cellulose into protein by fermenting food in different digestive compartments

### Catching & Raising Seafood:

- Sonar, GPS, 3-D mapping, and helicopter technologies have enhanced abilities to find and catch large quantities of fish
- Since 1950, global annual oceanic fish catch has quintupled
- Seafood also raised in high concentrations in controlled ponds, tanks, or pens in a practice called commercial aquaculture
  - Fastest growing form of food production, more 1/2 half of US seafood

### Is Conventional Meat Production Sustainable?

- CAFOs produce lots of manure each year
- CAFO waste runoff pollutes groundwater, spreading pathogens incl Salmonella
- Organic dust from CAFO feed, bedding, pesticides, waste, dander, and livestock methane cause air pollution
- Antibiotics added to cattle feed in CAFOs caused bacteria to develop resistance
  - Reason many bacteria are now resistant to penicillin and tetracycline
- Overfishing: quantity of fish caught exceeds productive capacity of a species, causes population decline and even collapse
- Bycatch: non-food species are incidentally captured in fishing nets and lines, killing millions of tons of sea turtles, seabirds, marine mammals, and fish
- Aquaculture avoids overfishing + bycatch, weakens genetic traits of wild fish + spreads diseases

### How Have Our Food Systems Changed?

- Food system: web of processes merging agricultural production to consumption
- Food security: physical and economic access to nutritious food to maintain dietary needs and food preferences for an active and healthy life

### Production:

- Increasing Scale and Shrinking Diversity:
  - Varieties of cultivated food crops declined, more than 1/2 variety extinct