Center Pivot Irrigation
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- Water is supplied to sprinkler heads or nozzles at a radius from the center of the field.
- Water is delivered to the center or pivot point of the system.
- Center pivots have been adapted to run on many different soils and to move over uneven surfaces.
- Pivots can be used on almost any field size or shape.
Design Considerations

- Field parameters
- Water capacity
- Pressure
- Tillage practices
- Types of crops
- Sprinkler selection
- Economics
Advantages

• Water conservation and improved efficiency.
• Energy efficient.
• Requires less time, maintenance, and labor to operate.
• Center pivots can be used on many different soil types and varying topography.
• Some pivots can be towed from one field to another.
Disadvantages

- Runoff and erosion can be a problem if not managed properly.
- High initial cost- materials and installation.
- Repairing and replacing worn out nozzles and parts.
- Loss of acreage for production.
- Tires getting stuck, problems with the drivetrain.
Types of sprinklers for center pivots

- Above canopy sprays.
- Bubbler and in-canopy sprays.
- Low pressure impacts-less than 40 psi at the sprinkler.
- Medium to high pressure impacts-greater than 40 psi at the sprinkler.
Low Energy Precision Application (LEPA)

• LEPA involves discharging water from bubbler nozzles on drop tubes located 2-4 in above the soil surface.
• Has very low pressure requirements.
• LEPA is best used when converting from flood irrigation and when there is high wind and evaporation losses.
• It can be used with low capacity water supplies but should be used on fields with less than 1% slope.
• It is used most often with row crops and furrow diking.
Sources