THE FORGOTTEN PRACTICES

THAT HELP SAVE WATER ON THE FARM

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Background

Many if not most water conservation efforts and programs concentrate on irrigation practices, improving irrigation system efficiencies, system conversions and all sorts of water management and monitoring methods.

Guess What?

There are many other practices (*often overlooked by growers)* that can help reduce irrigation water use and/or save water on the farm

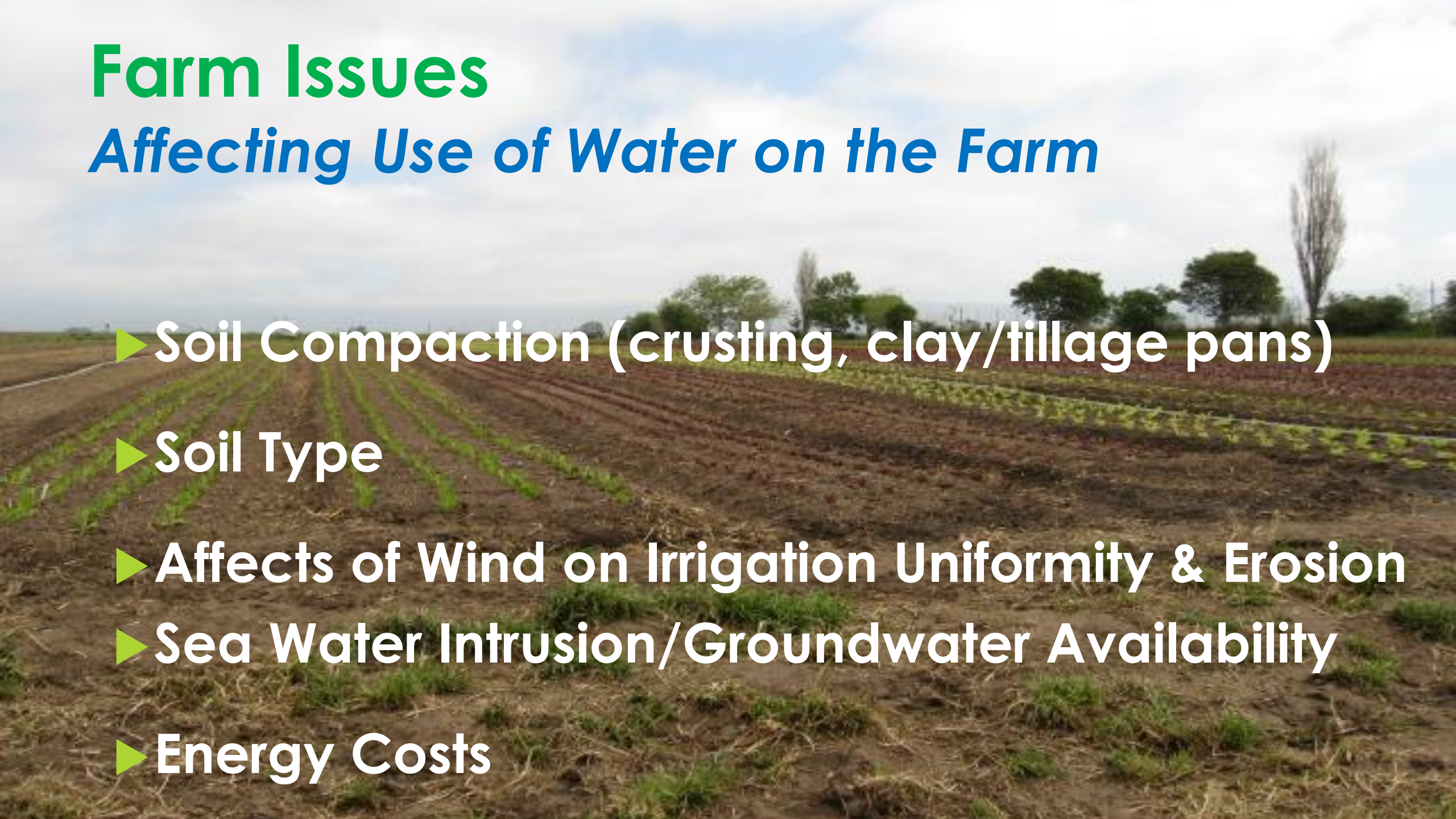
(especially when used together)

I like to refer to these practices as

"The Forgotten Practices"

Farm Issues

Affecting Use of Water on the Farm



- Soil Compaction (crusting, clay/tillage pans)
- Soil Type
- Affects of Wind on Irrigation Uniformity & Erosion
- Sea Water Intrusion/Groundwater Availability
- Energy Costs

Farm Issues

Affecting Use of Water on the Farm

- Soil Fertility
- Pest Control (applications involving water)
- Reduced Water Supply
- Site Challenges including Topography
- Runoff and Drainage
- Other (Water Quality, Species, etc.)

The Forgotten Practices

That Help Save Water

- Management
- Vegetative
- Structural
- Combination

Management Practices

That Help Save Water

- Seasonal & Permanent Fallowing
- Crop Rotation
- Row Arrangement/Field Lay-out
- No Till or Reduced Tillage
- Land Smoothing/Leveling
- Mulching

Management Practices

That Help Save Water

- Switch to a Lower Water Using Crop or Non-Irrigated Crop
- Match Crop with Soil, Terrain and Micro-climate
- Monitoring and Timely Maintenance
- Other Soil Health Management Practices
  - Composting, Crop Residue Use, Soil Fertility Mgt., etc.

Management Practices

How Management Practices Help Save Water

- Management practices improve soil health.

  Healthy soils use less water. Soils higher in organic matter generally have better infiltration & water holding capacity

- Practices that limit soil disturbance and retain crop residue improve soil moisture retention and reduce top soil loss

- Practices that build soil aggregates and put pore spaces back into the soil improves water infiltration and retention resulting in higher water holding capacity, lessens runoff, and reduces the hazard of top soil loss from erosion

Vegetative Practices
That Help Save Water

- Cover Crops
- Furrow Bottom Seeding
- Permanent Cover
- Road Seeding

Vegetative Practices
That Help Save Water

- Windbreaks
- Hedgerows
- Critical Area Plantings
- Buffer and Filter Strips
- Bio Swales and Grass Waterways

Vegetative Practices

How Plants Help Save Water

- Increase Infiltration
- Reduce & Slow Runoff
- Prevent Erosion of Top Soil
- Reduce Evaporation
- Improve Water Quality Supplies

Vegetative Practices

How Plants Help Save Water

- **Improve Soil Structure and Reduce Compaction**
- **Increase Organic Matter**
- **Can Improve Soil Water Holding Capacity ***

  **Note: Depends on the site*

- **Improve Uniformity by Reducing Effects of Wind**

Note: Select Drought Tolerant Plants when possible

Structural Practices
That Help Save/Produce Water

- Water/Waste Treatment/Purification
- Subsurface Drainage
- Tail Water Recovery
- Diversions
- Underground Pipe Outlets
- Spring Developments

Structural Practices

That Help Save/Produce Water

- Recharge Basins
- Sediment Basins
- Irrigation Ponds & Reservoirs (Tanks & Liners)
- Water Harvesting Systems
  - *Offset/reduce or eliminate use of well water & demand on groundwater supply*

And (of course) various irrigation system improvements

Structural Practices

How Structures Help Save/Produce Water

- Capture & store rainwater and runoff
- Convey or redirect runoff & irrigation water
- Retain or detain storm water runoff & reduce erosion
- Spread or dissipate water to increase soil infiltration
- Recycle & reuse tail water or storm water runoff
- Helps keep clean water clean so that it can be reused

Combining Practices

To Help Save/Produce Even More *Water*

When management, vegetative and structural practices are installed together even more water can be saved on the farm such as:

- **Plant a soil building cover crop in a seasonally fallowed crop rotation**
- **Install a windbreak along with row arrangement and/or land smoothing to improve irrigation uniformity and reduce soil erosion**

Combining Practices

To Help Save/Produce Even More *Water*

- **Change to a lower water using crop**, match the crop to the soil, and install a storm water retention or detention basin
- **Use the natural landscape** and site drainage characteristics along with row arrangement and field lay out to reduce irrigation water use
- **Improve water holding capacity** with reduced tillage, crop residue use and mulching/composting

The Forgotten Practices

Other Benefits

- Protects & Improves Soil Health & Fertility
- Improves Crop Quality & Production
- Reduces Erosion & Related Expenses
- Enhances Beneficial Wildlife Values
- Reduces Operating Costs (energy, fertilizer…)

The Forgotten Practices
Other Benefits

- Improves Aesthetics of Farm & Property Values
- Regulatory Compliance
- Helps Insure Agricultural Sustainability
- Reduces Liability & Neighbor Complaints; Improves Worker Safety; Reduces Maintenance Costs, etc.

The Forgotten Practices

Technical & Financial Assistance

- NRCS Conservation Planning & Practice Design
- Environmental Quality Incentive Program-EQIP & Other Farm Bill Incentive Programs
- Resource Conservation Districts & Other Conservation Partner Assistance

For More Information

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