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.

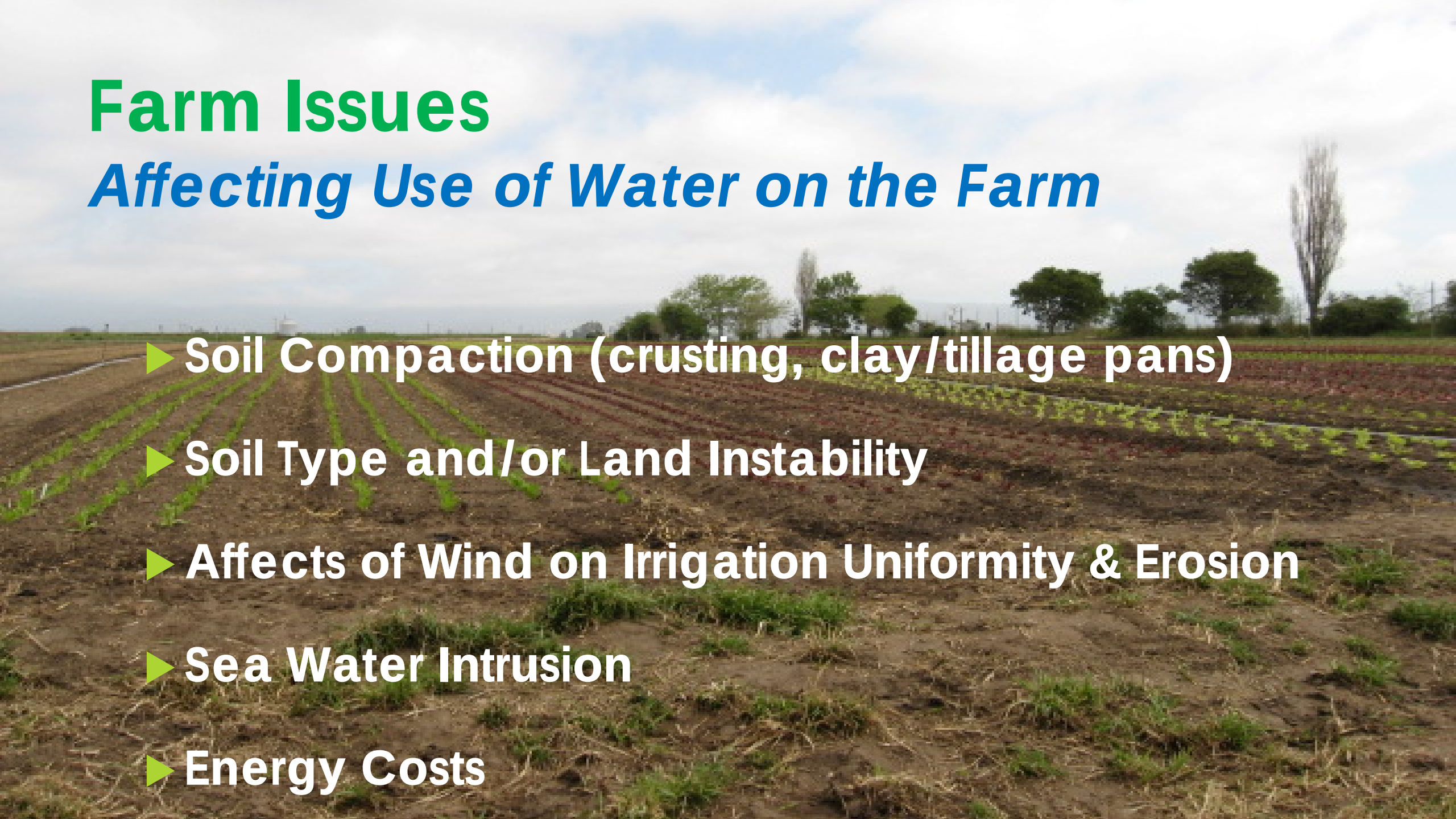
Guess What?

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 and/or Land Instability
- Affects of Wind on Irrigation Uniformity & Erosion
- Sea Water Intrusion
- Energy Costs

Farm Issues

Affecting Use of Water on the Farm

- Fertility Management Costs
- Crop Pests
- Reduced Water Supply
- Site Challenges including Topography
- Runoff and Drainage
- Other (Food Safety, 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 or Reduce Tillage
- Land Smoothing/Leveling
- Mulching

Management Practices

That Help Save Water

- Switch to a Lower Water Using or Non-Irrigated Crop or Crop Variety
- Match Crop with Soil, Terrain and Micro-climate
- Timely Monitoring and 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 improve water infiltration and retention resulting in higher water holding capacity, less runoff and chance of 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

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 site*
- Improve Uniformity by Reducing Effects of Wind

Note: Select Drought Tolerant Plants

Structural Practices

That Help Save/Produce Water

- Water/Waste Treatment/Purification
- Subsurface Drainage
- Tail Water Recovery
- Diversions
- Underground 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 to compliment one another even more water can be saved or produced 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

- *Protect & Improve* Soil Health & Fertility
- *Improve* Crop Quality & Production
- *Reduce* Erosion & Related Expenses
- *Reduce* Food Safety Concerns
- *Reduce* Operating Costs (energy, fertilizer…)

The Forgotten Practices

Other Benefits

- Improve Aesthetics of Farm & Property Values
- Regulatory Compliance
- Help Insure Agricultural Sustainability
- Reduce Liability & Neighbor Complaints; Improve Worker Safety; Reduce Maintenance Costs…

The Forgotten Practices

Technical & Financial Assistance

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

For More Information

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