PMDI

Precision Managed Drip Irrigation

By Doug Stanko

S5 FARMS

- My Family/Team
- Minimum Till Irrigation Farmer
- Farm in Bow River Irrigation District
- First new Pringle pivot
- Running 4 PMDI Systems

Trying to understand the best/economical way to irrigate

Win the pivot rut war

- Dry years sprinklers fall behind
- Make big ruts
- Big rains affect irrigation
- House plants are watered differently


PMDI System
1/2 inch Hose
Tie half to the pivot
Drag the rest on the ground


We start by bringing hoses off the outlets to the truss rods.


Manifolds wired to truss
Spacing are 15” to 18”

Attach 20’ solid hoses to the tees to get to the ground and behind the pivot

Attach drip hose

76’ at the end
3’ at the point

1 gallon/hour
Emitters every 6”

Manifold	15” Centers	1,300’	$0.09	$117
Solid Hose	1040 lines at 20’	20,800’	$0.09	$1,872
Drip Hose	700 gpm system	21,000’	$0.45	$9,450

Total Hose	Hose Cost
8 plus miles	$11,439

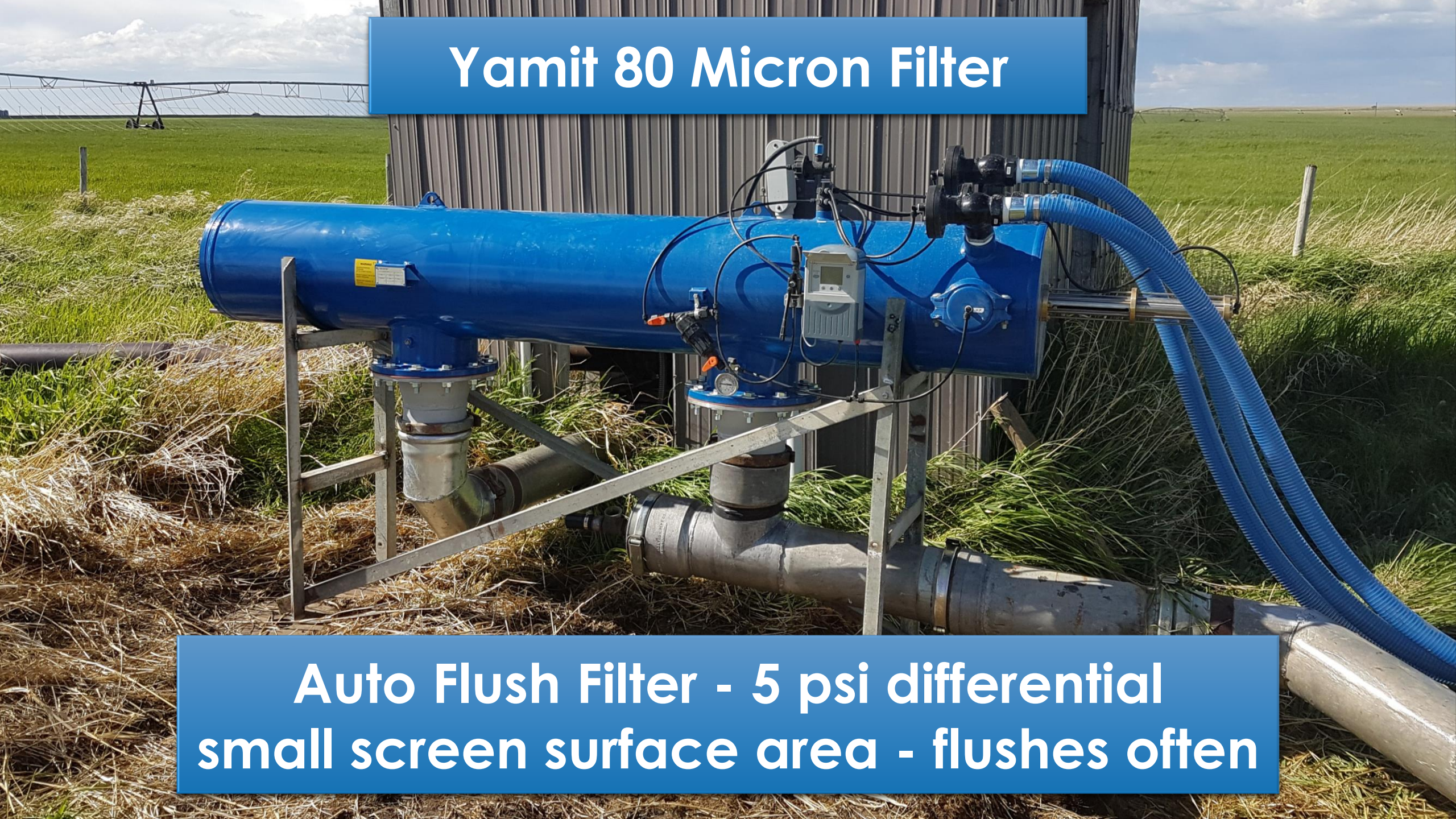
Wind bar holds hoses in place

Helps when reversing the pivot


NETAFIM

- Framed screen pressure compensating emitter
- Flushes easily
- Smooth outer surface
- 1 gallon/hour

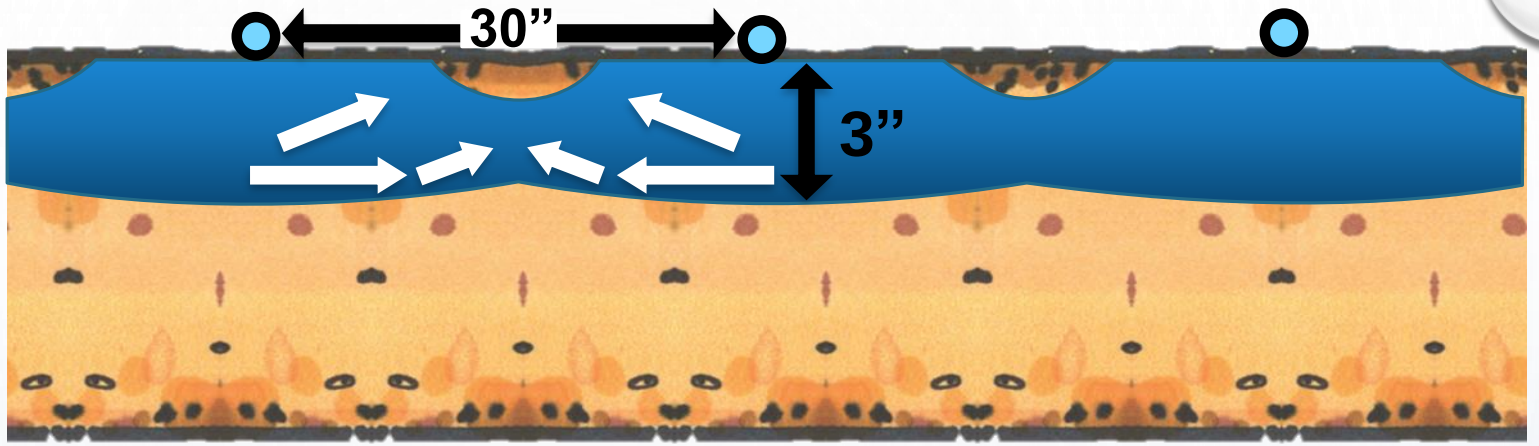
With no filtration anything goes
You can tap on hose to clean
Check hoses 2 to 3 times a year


Yamit 80 Micron Filter
Auto Flush Filter - 5 psi differential
small screen surface area - flushes often

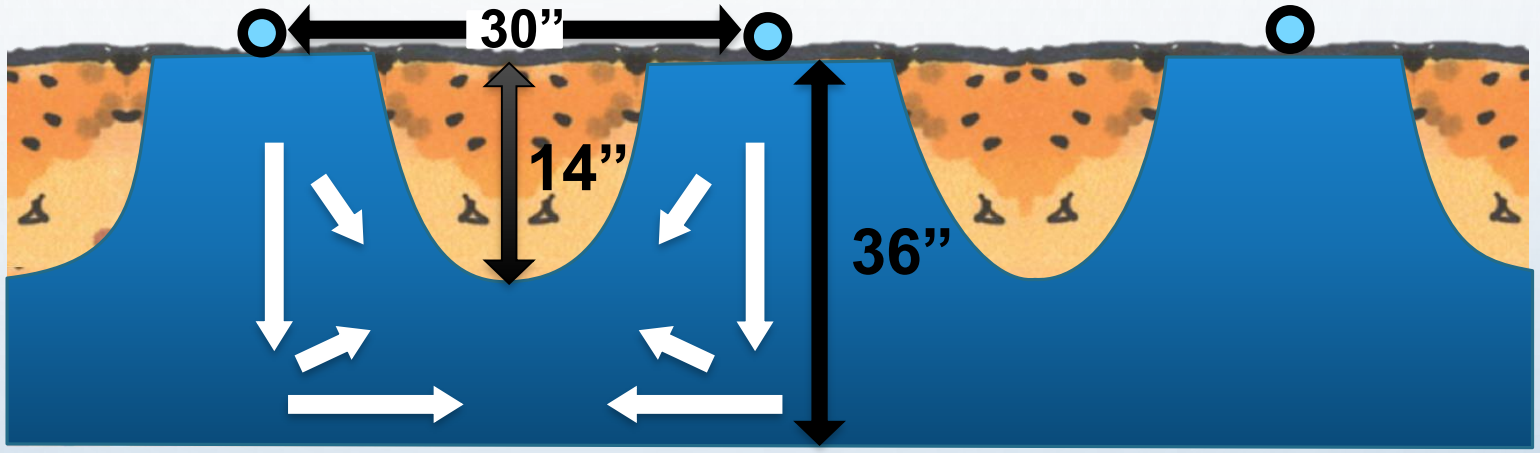

Clemons 1/32 inch Filter
Manual Flush Filter
5 times bigger screen surface area
Flush less often - 1/3 the price


Self Flushing

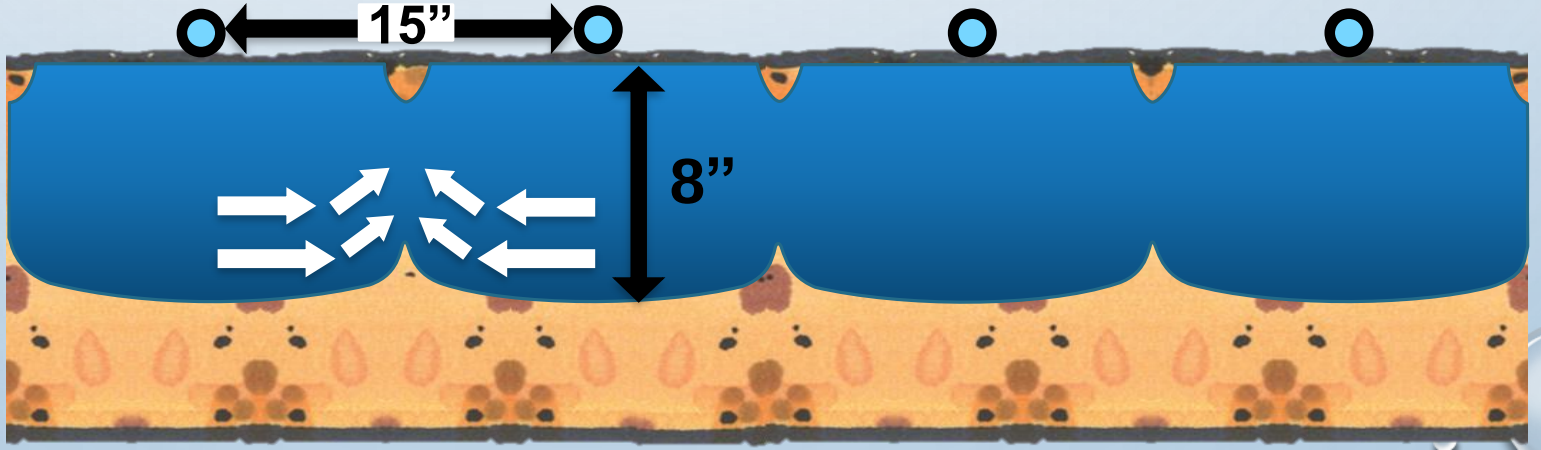
Application Rate 0.3 inch

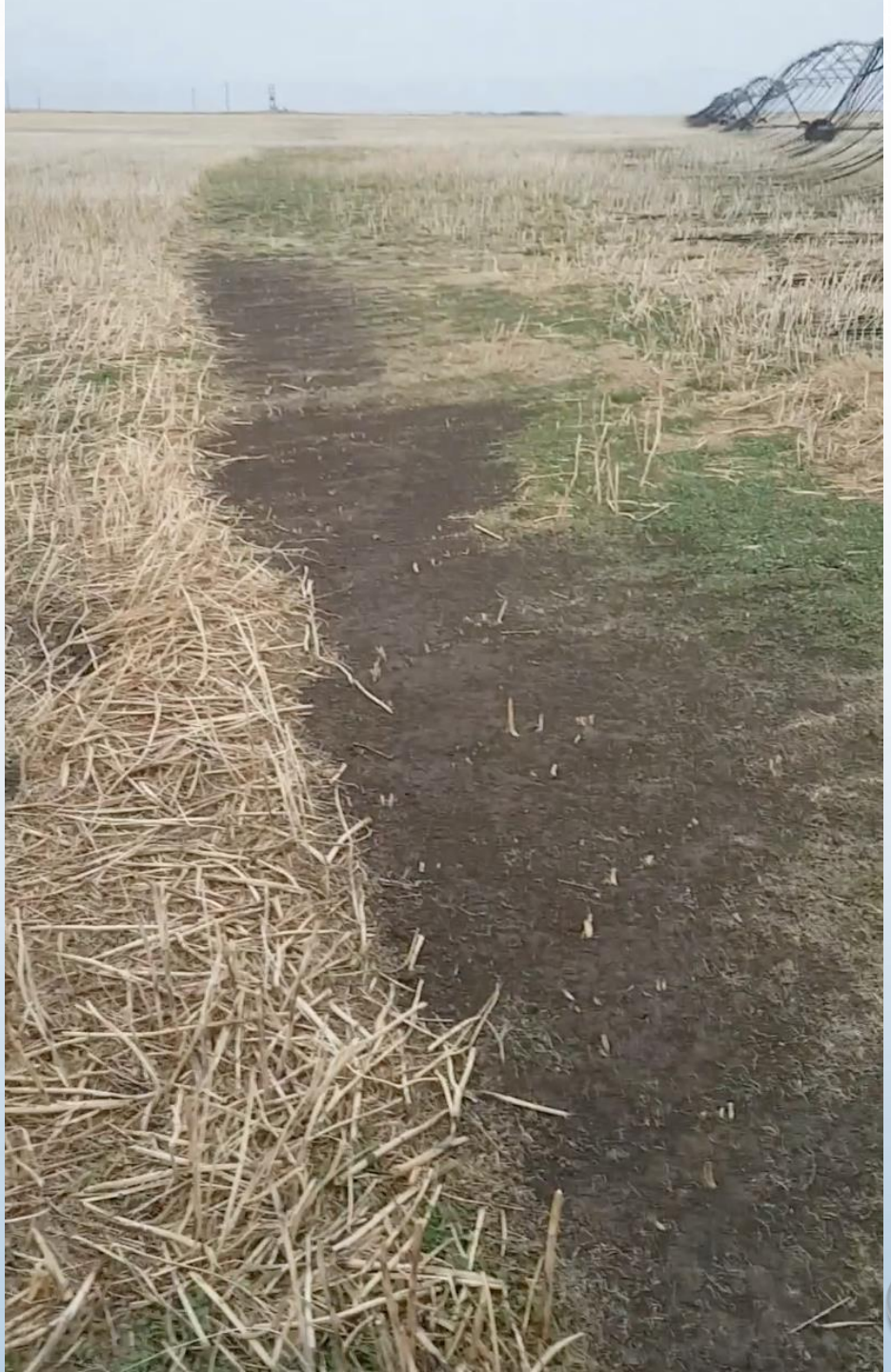


Application Rate 1.0 inch



Application Rate 0.6 inch





Disadvantages

- OVERALL COST
- WATER FILTRATION
- COYOTE DAMAGE
- HANGING THE HOSES FOR WINTER
- WHIPPING HOSES IN THE WIND WHEN PIVOT IS OFF
- PARKING THE PIVOT TO SWATH

Advantages

- WATER EFFICIENCY
  - HIGH WATER EFFICIENCY WHEN WATERING ON WINDY OR HOT DAYS
  - BETTER WATER INFILTRATION
  - EVEN WATERING IN ALL TERRAIN = LESS NEED FOR VRI
  - LESS WATER REQUIREMENT
- SOIL STRUCTURE COMPROMISED LESS
- LESS WATERING = LOWER ENERGY COST
- BETTER WATER MANAGEMENT FOR THE POSSIBILITY OF MORE WATER RIGHTS
- FERTIGATION EFFICIENCIES
- PIVOT RUNNING ON DRY GROUND
- WATERING DURING FLOWERING
- BETTER OVERALL PLANT HEALTH


Questions?


May 25, 2017
30-50 km winds
25°C