Farming Smarter, Not Harder

John Peters
Wilbur-Ellis Co.
What I will be covering today.....

• Willamette Valley Background
• Crop and Acre Statistics
• Definition of Smarter Farming
• YieldVision™
• 4Rs Recap
• Hops Nutritional Program
• Hazelnut Nutritional Program
Willamette Valley
Oregon
Willamette Valley, OR

- Number of farms: 18,114
- Land in farms: 1.7 million acres
- Irrigated land: 235,676 acres
- Non-irrigated land: 1.46 million acres
- Mediterranean climate
- Average rainfall per year: 40 inches
Willamette Valley, OR

- 70% of OR’s population live in the Willamette Valley
- 200+ crops grown in this rich diverse valley

- Between the 1997 and 2017 census, OR had lost about 2M acres of farm land.
  - Roughly 85K a year with the WV representing over half of those lost acres.
What are the 4Rs

RIGHT SOURCE  RIGHT RATE  RIGHT TIME  RIGHT PLACE

MAXIMIZE THE POWER OF N
4Rs Brews Success for Sodbuster Farms

Grower: Doug Weathers, Sodbuster Farms, Salem, OR
Crop Advisor: John Peters,
Wilbur-Ellis Company, Salem, OR
MAXIMIZE THE POWER OF N
MAXIMIZE THE POWER OF N
MAXIMIZE THE POWER OF N
MAXIMIZE THE POWER OF N
MAXIMIZE THE POWER OF N
Smart farming means efficient agriculture. The concept of smart farming encompasses many different technologies that can be used individually, or together, to increase the efficiency of agricultural operations. ... Smart farming is making a difference to agricultural businesses of all sizes. Nov 1, 2011

Smart farming means efficient agriculture[AGRI PRESS BENELUX]
www.agripressworld.com/start/artikel/458796/en
**What is smart farming?**

**Smart Farming** is a farming management concept using modern technology to increase the quantity and quality of agricultural products.

**Smart Farming is key for the future of agriculture | FAO**


Search for: What is smart farming?

**Why do we need smart farming?**

It helps in automated farming with the collection of data for further analysis to provide the operator with accurate information for better decision making to gain high quality output of the product. ... The goal of [smart agriculture](https://www.fao.org/family-farming/detail/en/c/897026/) research is to ground a decision making support system for farm management.
MAXIMIZE THE POWER OF N
FARMING
(Farm-ing) n.
The art of losing money while working 400 hours a month to feed people who think you are trying to kill them.
What is YieldVision™?

Wilbur-Ellis is committed to generating the highest return on investment for growers through YieldVision™, a program focused on maximum yield, driven by our agronomists’ expertise and validated by proprietary local research.
Components of YieldVision™

Strategic components of YieldVision™ include:

- AgVerdict® and precision technology
- Variety Selection
- Cultural practices
- Nutrition – complete with all aspects
- Insect control
- Herbicide selection
- Fungicide rotations
- Bio-stimulants

YieldVision™ MUST be the combination of all these components.
Hop Case Study
MAXIMIZE THE POWER OF N
MAXIMIZE THE POWER OF N
Veris

MAXIMIZE THE POWER OF N
K Grid
MAXIMIZE THE POWER OF N
Use our online lab test ordering system to quickly submit your samples for testing. Once you have filled out our simple online worksheet, our system will automatically generate a packing slip along with printable sample and shipping labels.

When your tests are complete, we will send you an email alert. All of your results will be available for you to view online.
Probe Schedule – Moisture Monitoring

Heat Warning! WU forecasts a temperature of 99F for Tue, 01 Aug

| Block          | Age | Signal | Battery | Days  | Deficit | Deficit (h) | %FC | B | T | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|----------------|-----|--------|---------|-------|---------|-------------|-----|---|---|----|----|----|----|----|----|----|----|-----|
| Field-1-alf    | 13m | 22     | 4.22    | 6.7   | -0.2 in | 0            | 105 |   |   |    |    |    |    |    |    |    |    |    |    |
| Field-2-hay    | 1h  | 1m     | 4.2     | 2.5   | 0.4 in  | 0            | 85  |   |   |    |    |    |    |    |    |    |    |    |    |
| Pivot-3-alf-2017 | 1h | 7m     | 4.22    | 0.5   | 0.1 in  | 0            | 93  |   |   |    |    |    |    |    |    |    |    |    |    |
MAXIMIZE THE POWER OF N
MAXIMIZE THE POWER OF N
NDVI: What and Why

• The **Normalized Difference Vegetation Index (NDVI)** is a numerical indicator that uses the visible and near-infrared bands of the electromagnetic spectrum, and is adopted to analyze remote sensing measurements and assess whether the target being observed contains live green vegetation or not.

• After we analyze the data, we create smart sampling zones in order to collect soil samples. Tissue sampling will happen at key timings as well.

• This will allow us to have a better understanding of what is going on in the orchard.
Setting Smart Sample Zones
Potassium Smart Sample Results

K(ppm) Soil

K(%) Tissue
**Rx VRT Map K**

**0-0-40 Urea at 80% Burn - Fertilizer Application (lb/ac)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Application Rate</td>
<td>45.50 lb/acre</td>
</tr>
<tr>
<td>Maximum Application Rate</td>
<td>93.30 lb/acre</td>
</tr>
<tr>
<td>Average Application Rate</td>
<td>67.39 lb/acre</td>
</tr>
<tr>
<td>Application Area</td>
<td>34.71 acres</td>
</tr>
<tr>
<td>Average Field Rate</td>
<td>67.39 lb/acre</td>
</tr>
<tr>
<td>Total Area</td>
<td>34.72 acres</td>
</tr>
<tr>
<td>Total Product</td>
<td>2385.70 lb</td>
</tr>
<tr>
<td>Total Product Bulk</td>
<td>11.69 ton(s)</td>
</tr>
<tr>
<td>Product Cost / Bulk</td>
<td>$ 0.00</td>
</tr>
<tr>
<td>Total Product Price</td>
<td>$ 0.00</td>
</tr>
</tbody>
</table>
Phosphorous Smart Sample Results

P1 Bray(ppm) Soil

P(%) Tissue
Rx VRT Map P

Minimum Application Rate: 175.00 lb/acs  Total Area: 34.72 acres
Maximum Application Rate: 300.00 lb/acs  Total Product: 8664.65 lb
Average Application Rate: 248.61 lb/acs  Total Product Bulk: 4.33 ton(s)
Application Area: 34.71 acres  Product Cost / Bulk: $ 0.00
Average Field Rate: 248.61 lb/acs  Total Product Price: $ 0.00
Variable Rate Fertilizer Spreader
MAXIMIZE THE POWER OF N
In Summary.....

Utilizing the 4R approach & precision ag technology has shown to benefit our customers time and time again!

We’ve seen increased nutrient levels in the plants, which have led to increased yield for our customers.
Thank You For
Listening