

PRECISION AGRICULTURE: A PRACTICAL OVERVIEW SENATE AG AFFAIRS COMMITTEE FEBRUARY 8, 2022



ROBERT BLAIR
robert@threecanyonfarms.com

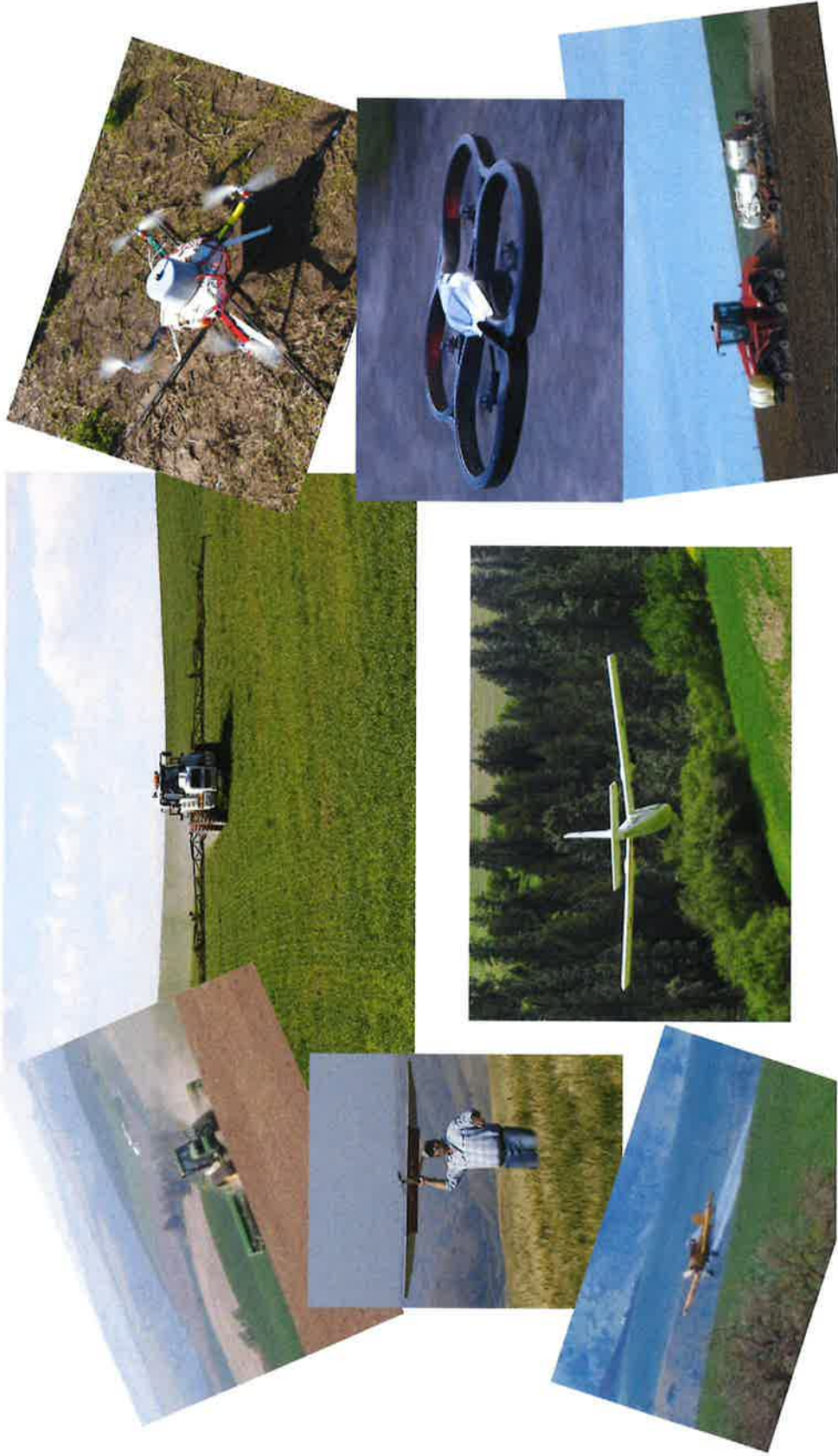
Five Generations



What is Precision Agriculture?

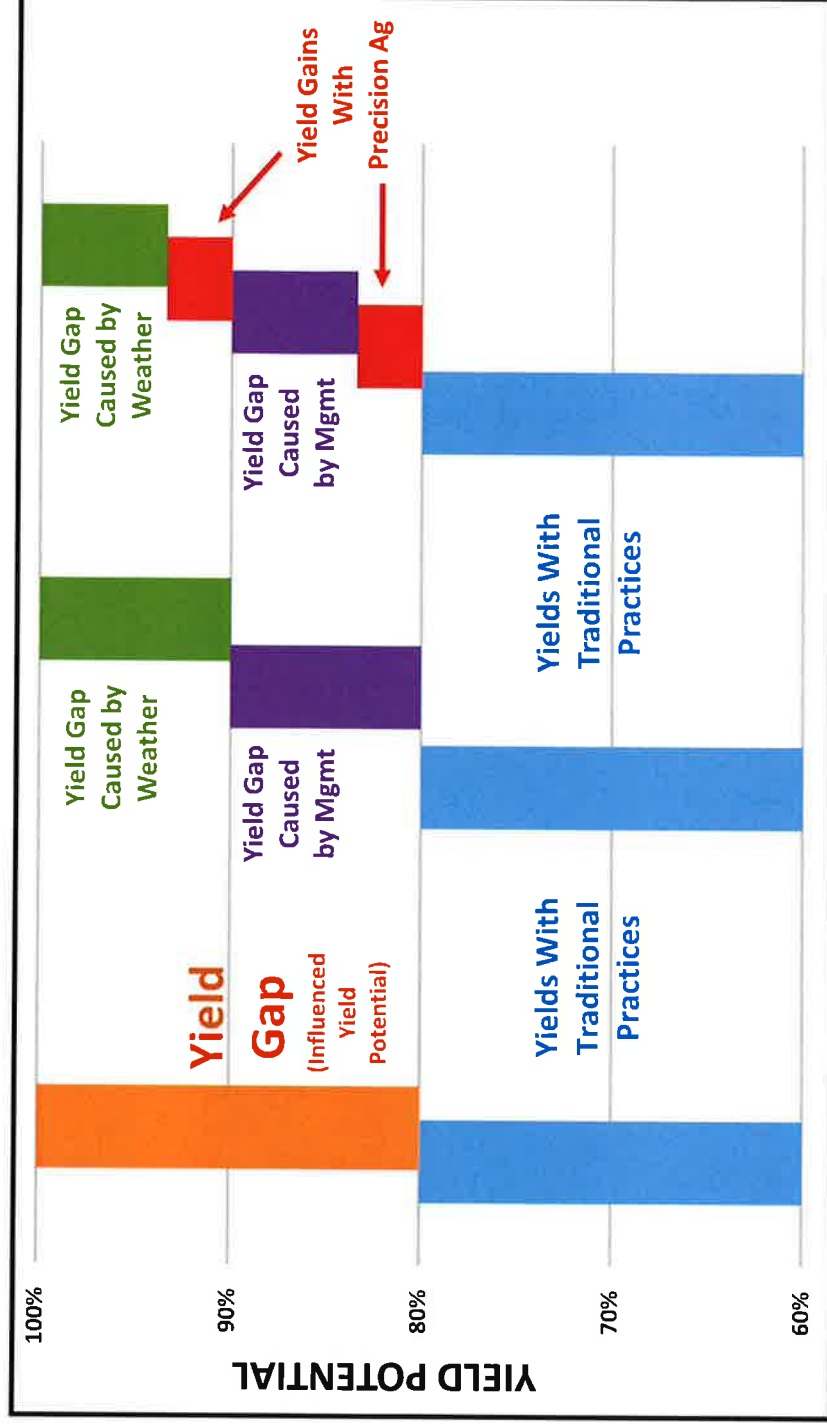
The use of technology to gather information to make better management decisions in order to reduce costs, increase profit, increase productivity, and reduce impacts on the environment.

Set a Goal for the Tech!



Precision Agriculture (PA) Impact

- **Estimated Yield Increase**
 - Using PA to close the Gap
 - Estimated yield gap ranges from 15%-30% of lost crop potential
 - Approximately 50% of yield gap is weather
 - Inefficient management is 50% of yield gap
- Based upon research, interviews, and experience, PA can reduce total yield losses caused by weather and management by 20% to 30% regarding "Yield Gap."



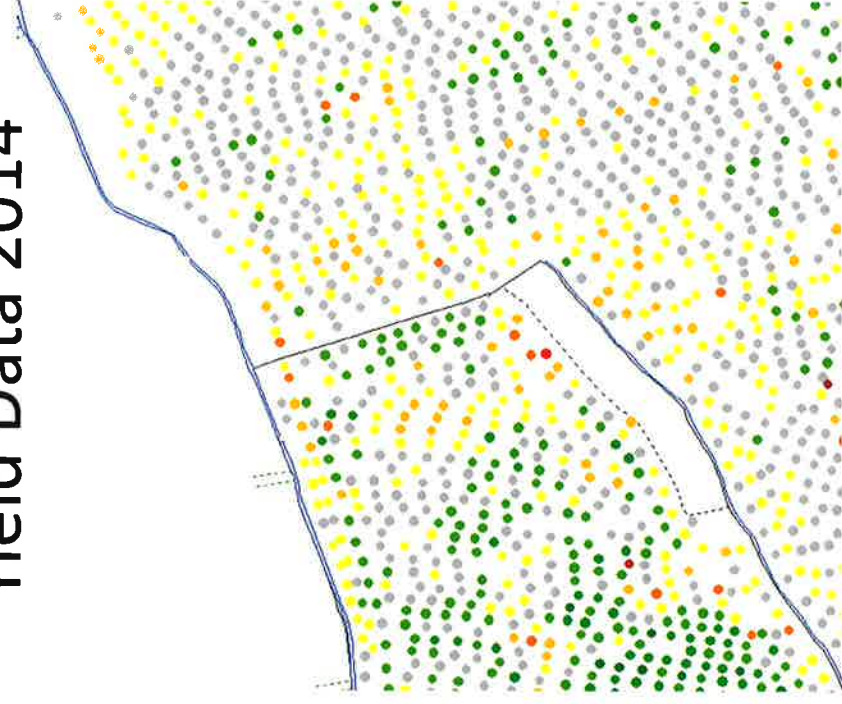
Courtesy of Robert Blair and
Three Canyon Farms

Larger Machines = Less Data

Yield Data 2004



Yield Data 2014



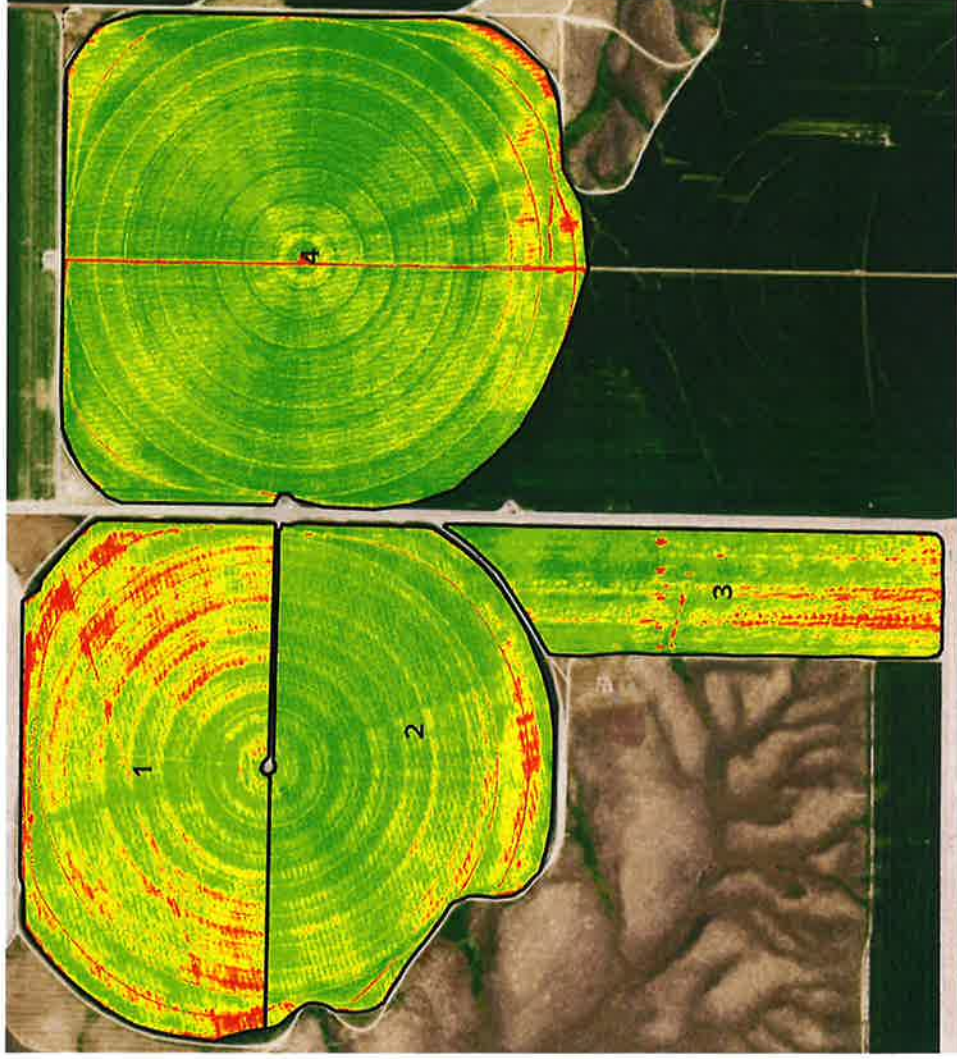
Soil Testing by Zone



What are the Spots?



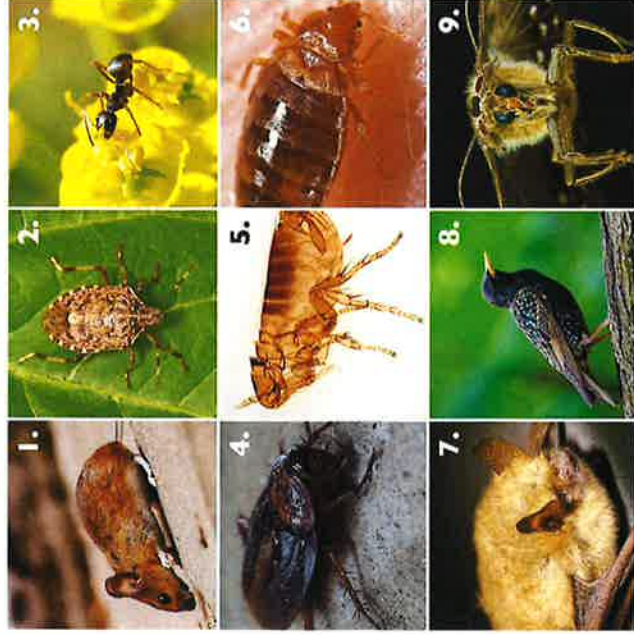
Potatoes



NDVI Value	Field 1		Field 2	
	Acres	%	Acres	%
-1 - 0.2	5.73	8%	1.32	2%
.2 - .4	10.7	14%	2.93	4%
.4 - .6	25.61	34%	10.17	14%
.6 - .8	33.17	44%	49.45	69%
.8 - 1	0.36	0%	7.71	11%

Field 3		Field 4	
Acres	%	Acres	%
1.74	5%	2.77	2%
2.81	8%	3.78	3%
7.06	20%	15.2	10%
21.21	60%	91.93	62%
2.33	7%	34.78	23%

Three Types of Pests



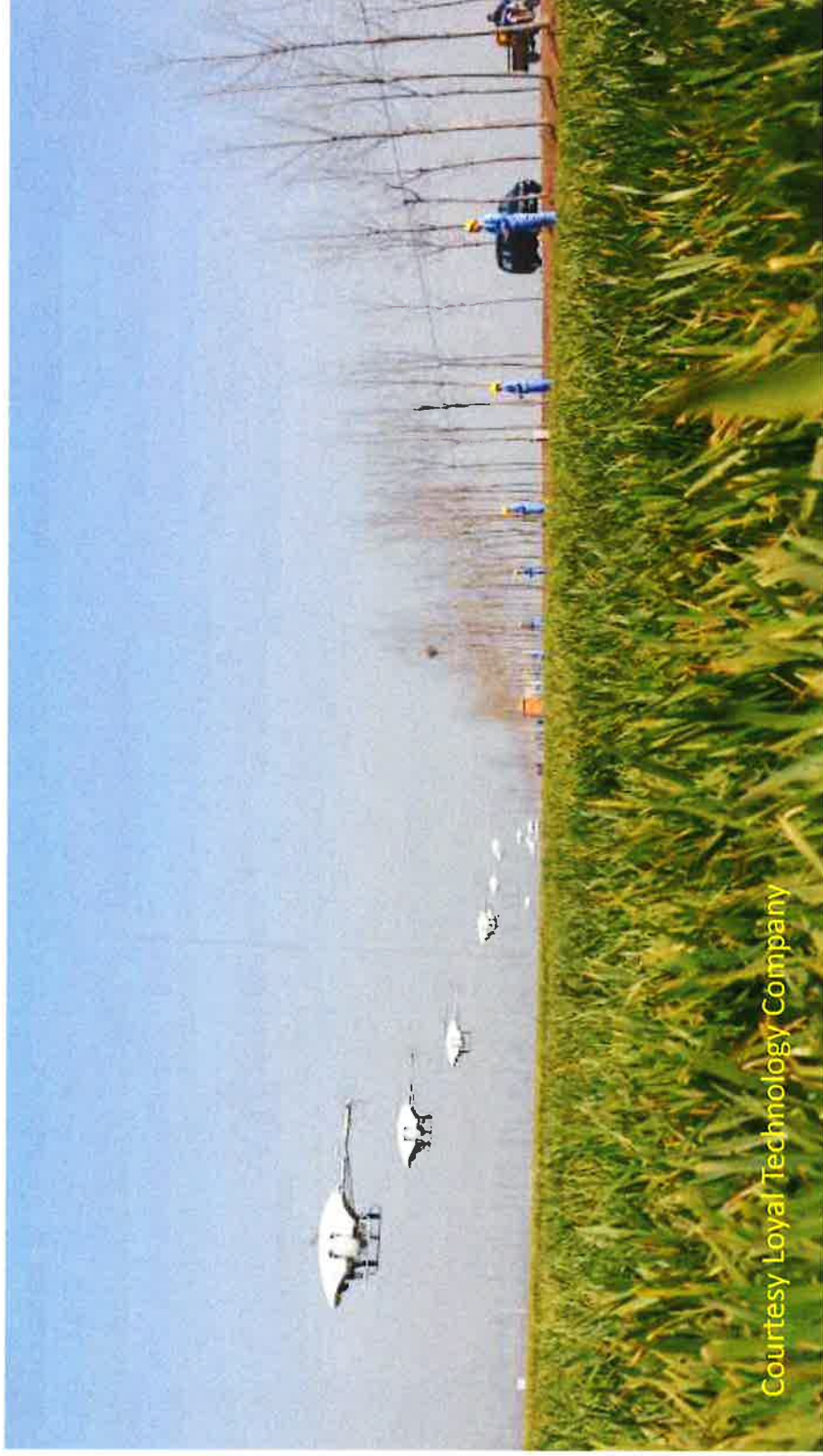
Chemical



Smarter Weed Management

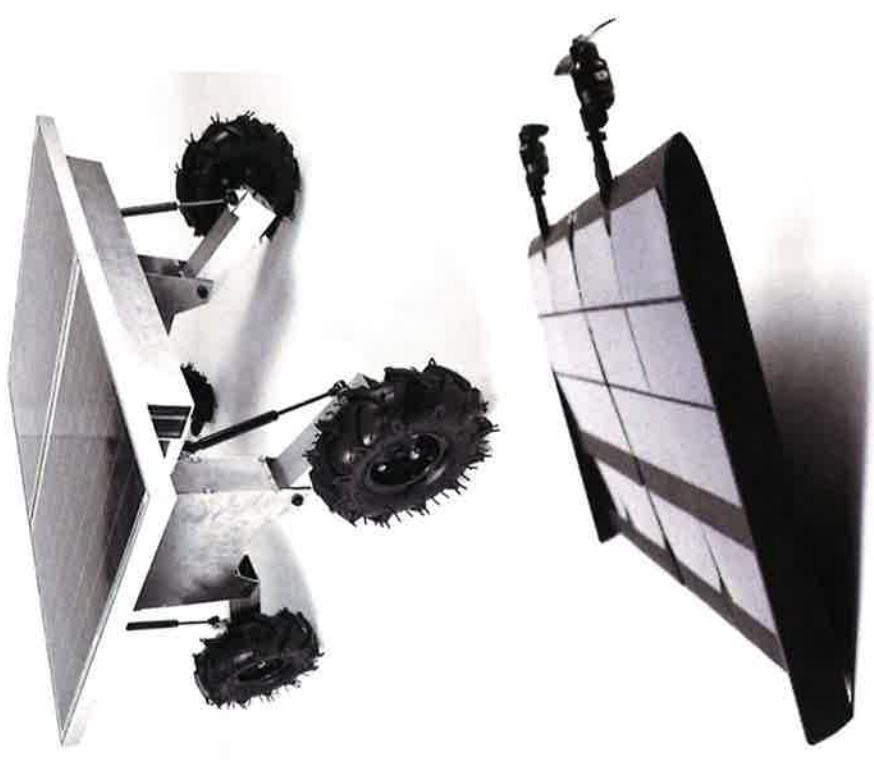


Whole Field Spraying



Courtesy Loyal Technology Company

Solar Powered Autonomous Robot



Weed Control Results



AFTER APPLICATION



SIX HOURS
LATER



TWO DAYS
LATER

Difficult Terrain



Takeaways

1. **R**esearch all tech & talk with experts
2. **U**nderstand the benefits
3. **S**et Goals
4. **S**ustainability is important to society
5. **E**volve and do not stand still
6. **P**recision Ag is not going away
7. **HAVE FUN!**



“We’ve Always...”



How..
to work your horses
more profitably...