Developing an Efficient Fertility System for High No-Till Yields and Profitability

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On Farm Research Coordinator
University of Wisconsin

Keys to No-Till Success

- *Adopt Precision Farming Technologies*
- *Manage Residue and Seed Placement*
- *Optimum Row Spacing & Population*
- *Fertilizer Sources, Placement and Timing*
- *Hybrid and Variety Selection*
- *Measure to Manage* ***On Farm Research***

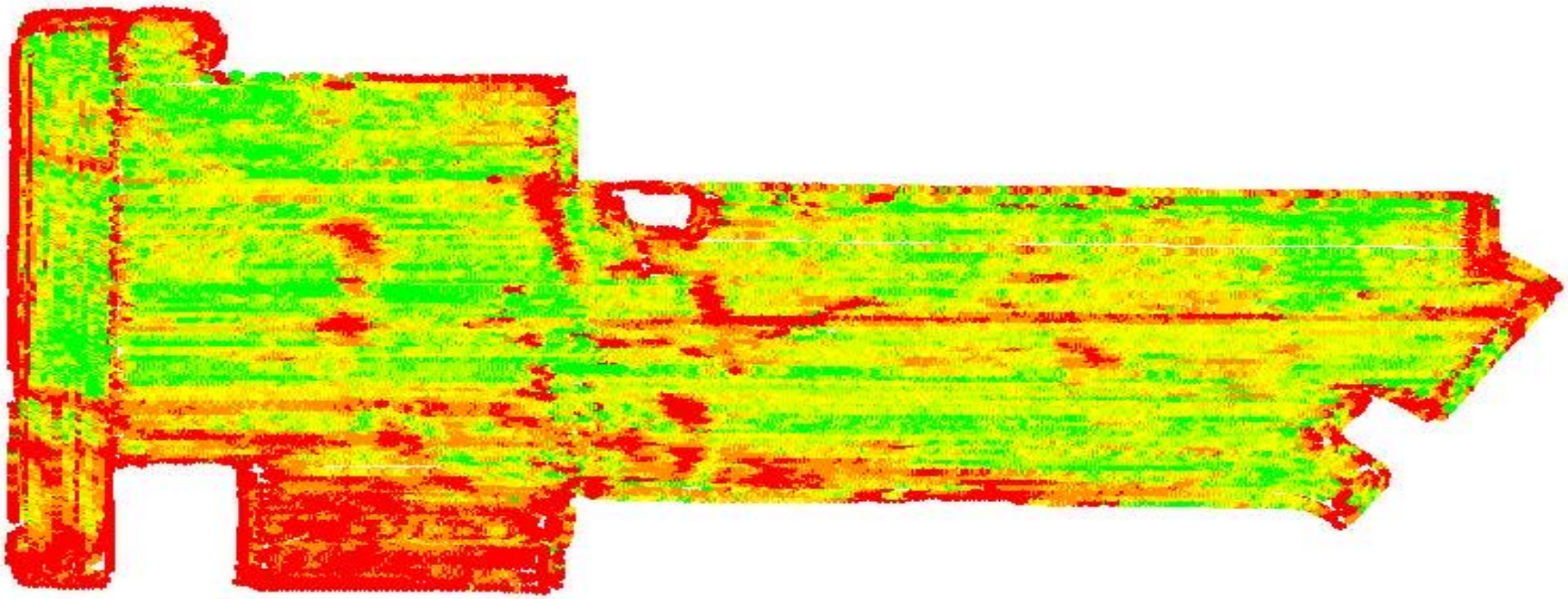
Precision Farming Opportunities

Ability to Measure → Measure to Manage

- *Guidance*
  - *Enhanced Seed Placement*
  - *Enhanced Nutrient Placement*
  - *Improved Field Efficiency*
  - *Reduced Compaction*
- *Measurement*
  - *Measure Yield by Pixel*
  - *Measure Soil Types and Nutrients by Pixel*
- *Variable Rate Application*
  - *Apply Nutrients and Seed by Pixel*
  - *Improve Efficiency & Profitability by Pixel*


DAWN
DAWN
DAWN

Measure Yields




DGPS
Groundspeed
4.3 mph
Yield, Dry
72 bu/ac
Moisture
10.9 %
Flow, Dry
960 bu/h
Area
43.44 ac
Oct 10, 2015
5:21 pm
Run 1
0
26.4 ft
30.0
Moisture, Avg
12.2 %
Yield, Avg-Dry
59 bu/ac
Bushels, Wet
2577 bu
Flow, Avg-Dry
787 bu/h
Weight, Wet
154623 lb
Grower
JBL
Farm
BUSH
Field
NORTH
Task
15/10/10-12:44:25
Crop Type
Beans-Soybean
Temperature
68 °F
Run1
Run2
Run3
Run4
Run5
Run6

2007 Corn Plot

Leverich Farms

Extremely Dry in July and Early August

Brand	Hybrid	Mat	Rep 1 Yield	Rep 1 Moist	Rep 2 Yield	Rep 2 Moist	Rep 3 Yield	Rep 3 Moist	Average Yield	Average Moist	Field Data
Carharts	1889 RR	90	105.9	13.6	127.4	13.0	116.8	16.0	116.7	14.2	*Spread Fert April 16th*
Croplan	314 TS	92	115.5	14.4	131.3	13.3	144.3	13.5	130.3	13.7	*100 lb Potash*
Carharts	1857 RB	90	108.4	14.3	121.1	13.1	139.6	13.7	123.0	13.7	*100 lb AMS*
Carharts	1995 VT3	95	110.6	13.8	147.0	12.7	137.3	12.7	131.6	13.1	
Carharts	1956 RR	95	105.9	14.1	119.4	13.1	132.5	13.4	119.3	13.5	*Applied N on April 21st*
Croplan	364TS	96	121.5	14.4	139.3	13.6	153.1	13.7	138.0	13.9	*Anhydous Ammonia*
Croplan	3688 RB	96	125.6	14.1	166.1	13.6	164.5	13.4	152.1	13.7	*135 lb Nitrogen*
Croplan	3456 RB	96	135.8	14.6	159.3	13.6	150.3	13.7	148.4	14.0	
Midwest	69704 VT3	97	141.6	14.3	168.6	13.6	147.6	13.5	152.6	13.8	*Planted April 28th*
Pioneer	37Y13 RR	97	128.5	17.8	162.5	16.1	135.8	16.5	142.3	16.8	*Pop 31600 in 20" Rows*
Dairyland	9497 TS	97	129.5	14.6	129.1	13.8	131.9	14.0	130.2	14.1	*Popup 9 gal 10-34-0*
Dairyland	7196 RB	97	135.3	14.1	150.1	13.6	148.6	13.7	144.7	13.8	
Croplan	3824 TS	98	135.8	14.0	145.0	14.2	132.6	14.5	137.8	14.2	*Sprayed May 21st*
Midwest	69802	98	148.4	14.4	164.5	14.1	143.5	13.9	152.1	14.1	*1 qt Glyphosate*
Croplan	388 RRBT	99	153.5	12.6	177.0	14.1	168.6	13.7	166.4	13.5	*.75 qt Atrazine*
Pioneer	37F75	99	146.4	15.9	164.0	16.1	134.5	16.0	148.3	16.0	
Midwest	70103 TS	100	144.6	14.8	174.0	14.8	149.5	14.6	156.0	14.7	*Sprayed June 15th*
Carharts	1100 RB	100	151.5	14.7	173.4	14.5	142.4	14.3	155.8	14.5	*1 1/2 pt Glyphosate*
Carharts	1960 RB	100	136.4	15.2	156.3	15.1	137.1	14.6	143.3	15.0	
Dairyland	9201 TS	100	136.5	15.0	164.5	15.7	131.9	16.0	144.3	15.6	*Harvested Oct 27th*
Carharts	1100 VT3	100	148.5	14.4	156.6	14.2	140.4	14.2	148.5	14.3	
Dekalb	5139 TS	101	183.0	15.0	188.6	14.9	161.6	14.9	177.8	14.9	*Previous Crop*
Dekalb	5240 TS	102	177.0	14.5	170.1	14.3	145.8	14.4	164.3	14.4	*Soybeans on Rep1 & 3*
Dekalb	5259 VT3	102	169.4	15.2	154.0	13.8	149.6	13.9	157.7	14.3	*Corn on Rep 2*

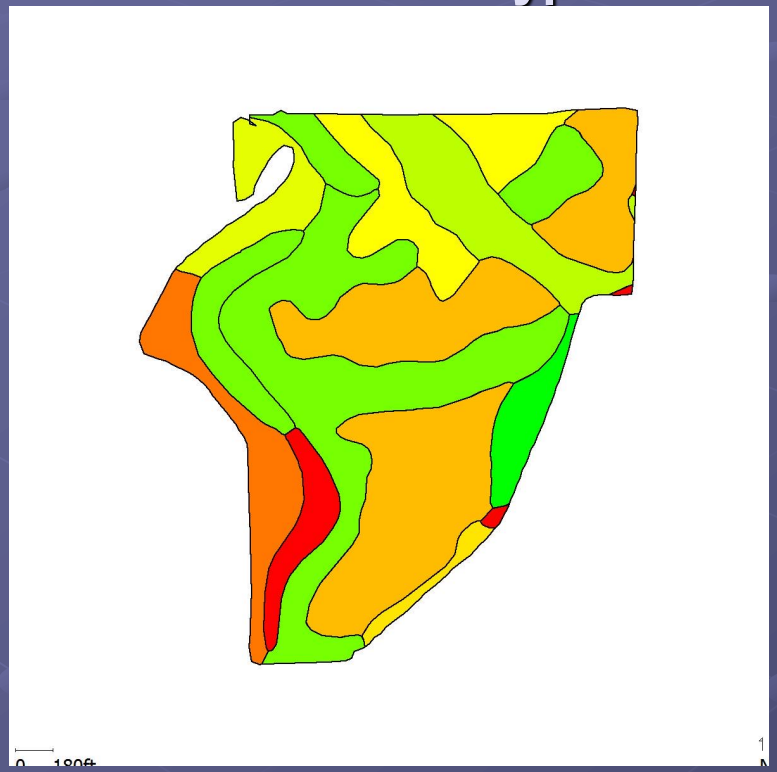
Sheet1 / Sheet2 / Sheet3 /

Develop Your Fertility System

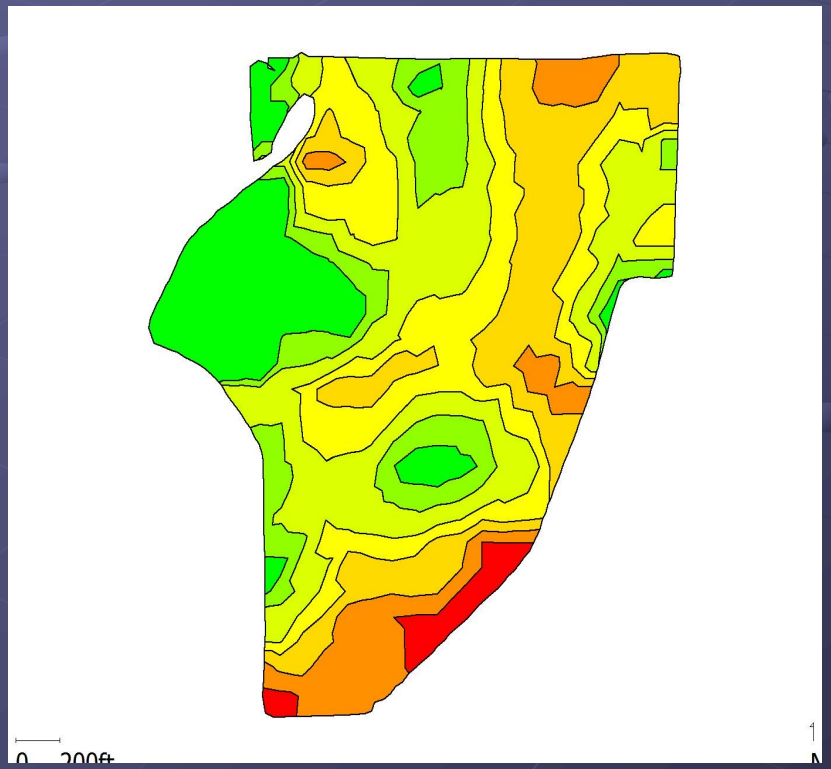
- *Soil Types and Textures*
- *Soil Sampling Points and Zones*
- *Fertility Needs and Nutrient Use*
- *Timing and Placement of Nutrients*
- *Equipment and Precision Ag Tools*

Measure Soil Types and Textures

Soil Type



Soil OM



Develop Your Fertility System

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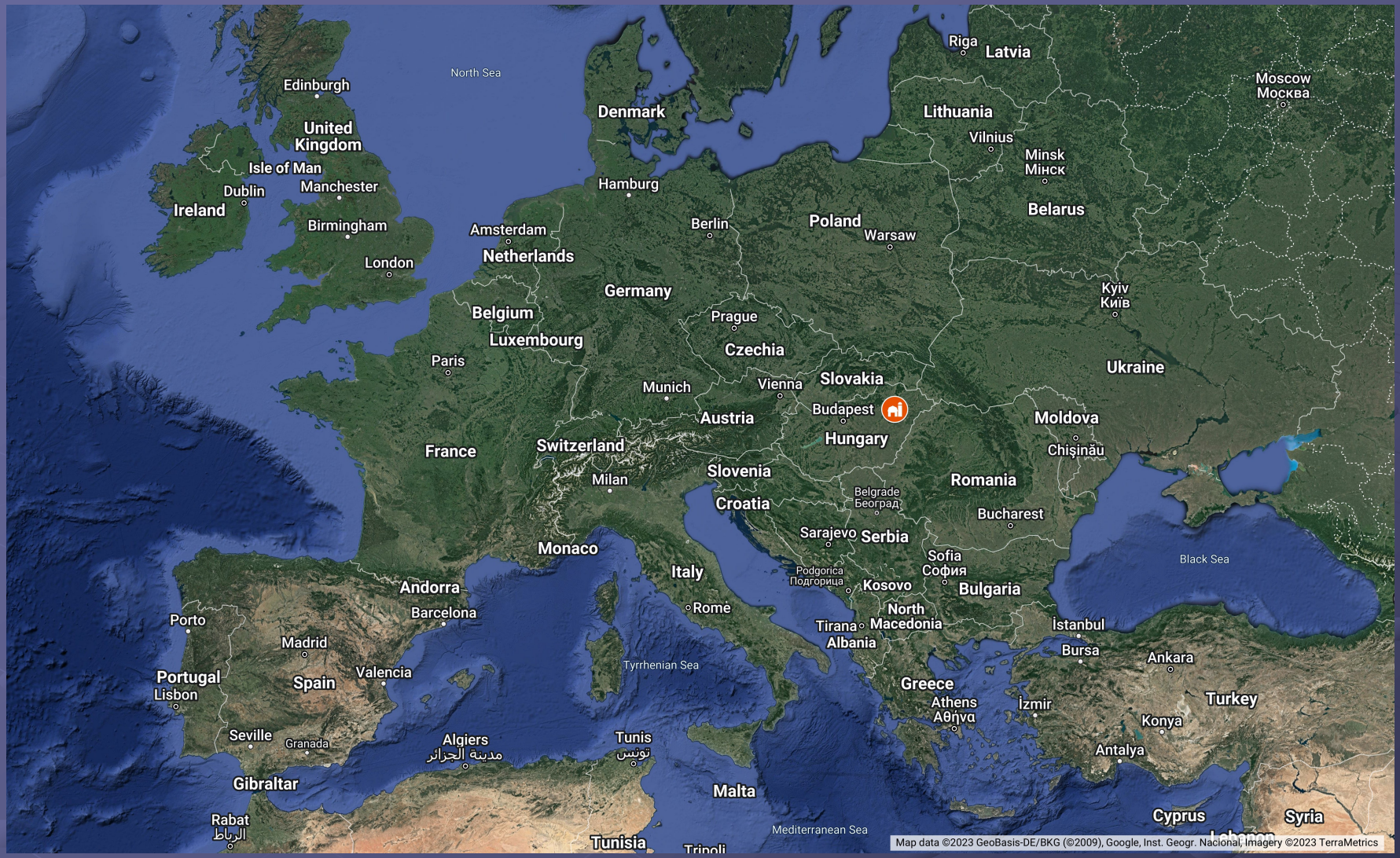
- *Timing and Placement of Nutrients*
- *Equipment and Precision Ag Tools*

Thoughts from Hungary

Janos Forgacs

Crop production BS
Plant Protection MS („Plant doctor”)
Precision Agriculture Engineer MS


North Sea
Edinburgh
United Kingdom
Isle of Man
Dublin
Ireland
Manchester
Birmingham
London
Amsterdam
Netherlands
Hamburg
Denmark
Berlin
Poland
Warsaw
Riga
Latvia
Lithuania
Vilnius
Minsk
Мінск
Moscow
Москва
Belarus
Germany
Belgium
Luxembourg
Paris
Prague
Czechia
Munich
Vienna
Slovakia
Budapest
Austria
Hungary
Switzerland
France
Milan
Slovenia
Croatia
Kyiv
Київ
Ukraine
Moldova
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Romania
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Greece
Athens
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Turkey
Konya
Antalya
Seville
Granada
Algiers
مدينة الجزائر
Tunis
تونس
Gibraltar
Malta
Rabat
الرباط
Tunisia
Tripoli
Mediterranean Sea
Cyprus
Syria
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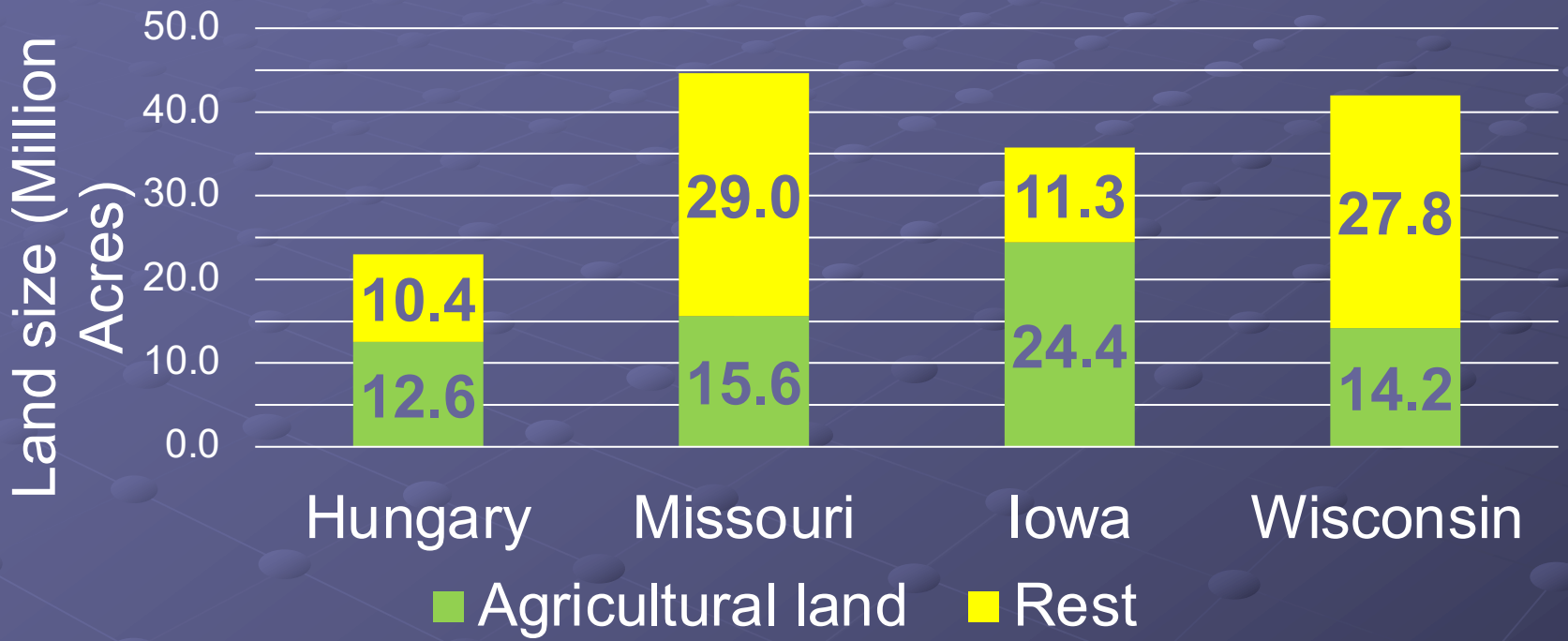
Basic infos

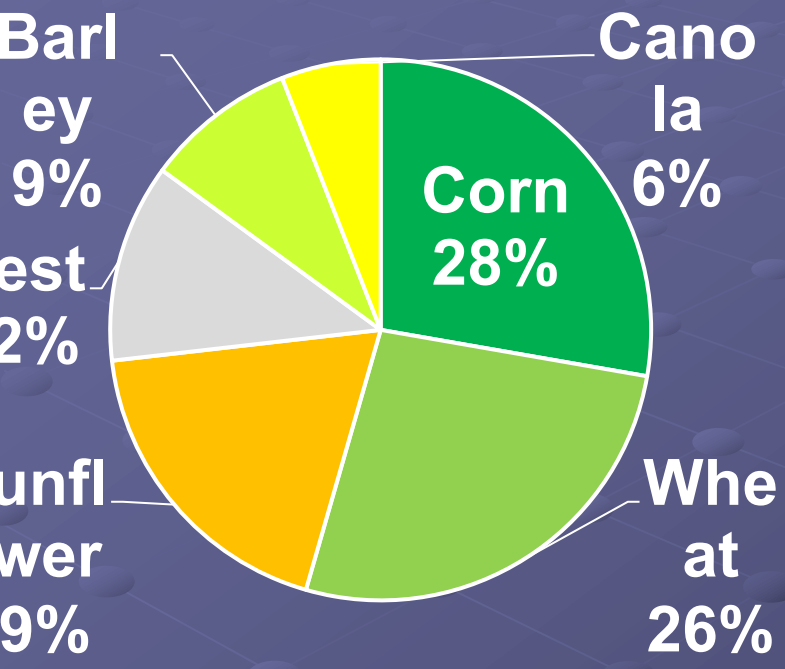
- 9,7 Million People
- In the Soviet Union (CCCP) End of WW2 - 1990. March 10.
- Part of the European Union since 2004. May 1.

- Avg. Annual precipitation
  20-24 inches
- Avg. Temperature
  50 F

Land comparison



Crops in Hungary



Diesel Prices

- Last 5 years around

3,5 – 4,2 USD/Gallon

- Right now

7,9 USD/Gallon

Subsidy
45 $/ acres
75 $/ acres
(with high strict rules)