

# MARCARL FARMS VAN WERT, OHIO

Tom Bauer  
3rd Generation Farmer

# Gypsum History

- ▣ Acres farmed – 2400
- ▣ 1989 – Started No-Till
  - Trouble getting a stand
  - Poor drainage – water would pond after rain
- ▣ 1989-1995 applied 2 ton/acre High Cal Lime
  - Wanted to increase Ca:Mg ratio to improve No-Till soil conditions
  - Elevated base saturation Ca from 50% to 60-65% in 6 years
  - 6 years - TOO LONG
- ▣ Started investigating Gypsum in 1993
  - Applied to toughest soils (Hoytville Silty Clay)
- ▣ 1996 Dr. Norton publishes “Impact of Gypsum on Soils”
  - Increase soil calcium to increase rain water soil penetration
  - Recommends 35# Gypsum per 1” of rainfall
- ▣ 1996 – present
  - Apply 1 ton +/- per acre to all soils

# Why Gypsum?

## MARCARL FARM – LONG TERM GYPSUM FIELD

- ▣ Dramatically improved water infiltration



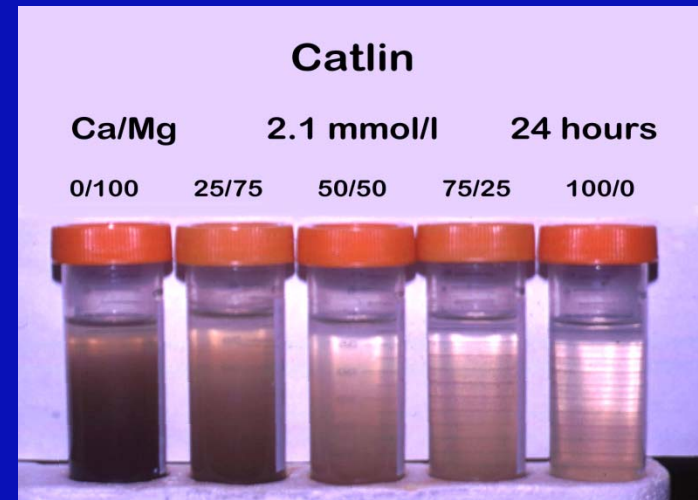
## NEIGHBORING FARM – NO GYPSUM

- ▣ Unacceptable water infiltration



# Why Gypsum?

- ▣ Increased Ca base saturation from 50% to 70%+ in 3-4 years
- ▣ Improved soil structure
  - Better planting conditions
  - Better root environment
  - More oxygenated water into the root zone
  - Minimized crusting
  - More uniform emergence



# Lime Recommendation



**PIMS** PERSONAL INFORMATION  
MANAGEMENT SYSTEM

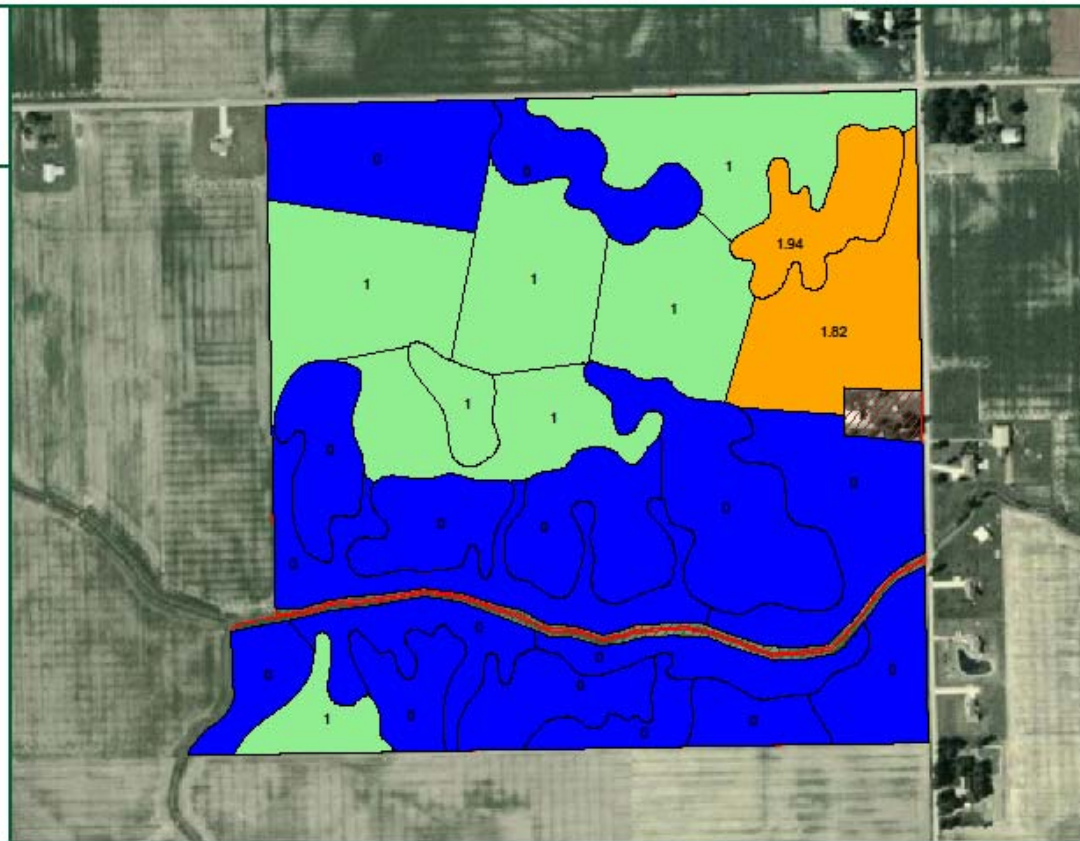
2008 Lime Recommendation

Client: Marcarl Farms, Inc

Ag Spectrum Tilled  
Ca Per Ton of Lime: 640.00  
Total Product: 82.23086169 tons  
Applied Acres: 68.5101408  
Total: 161.54 ac, Tillable: 157.64

#### Lime App Rate

-  0 tons
-  0.10 tons - 0.49 tons
-  0.50 tons - 1.00 tons
-  1.01 tons - 1.50 tons
-  1.51 tons - 2.00 tons
-  2.01 tons - 3.00 tons

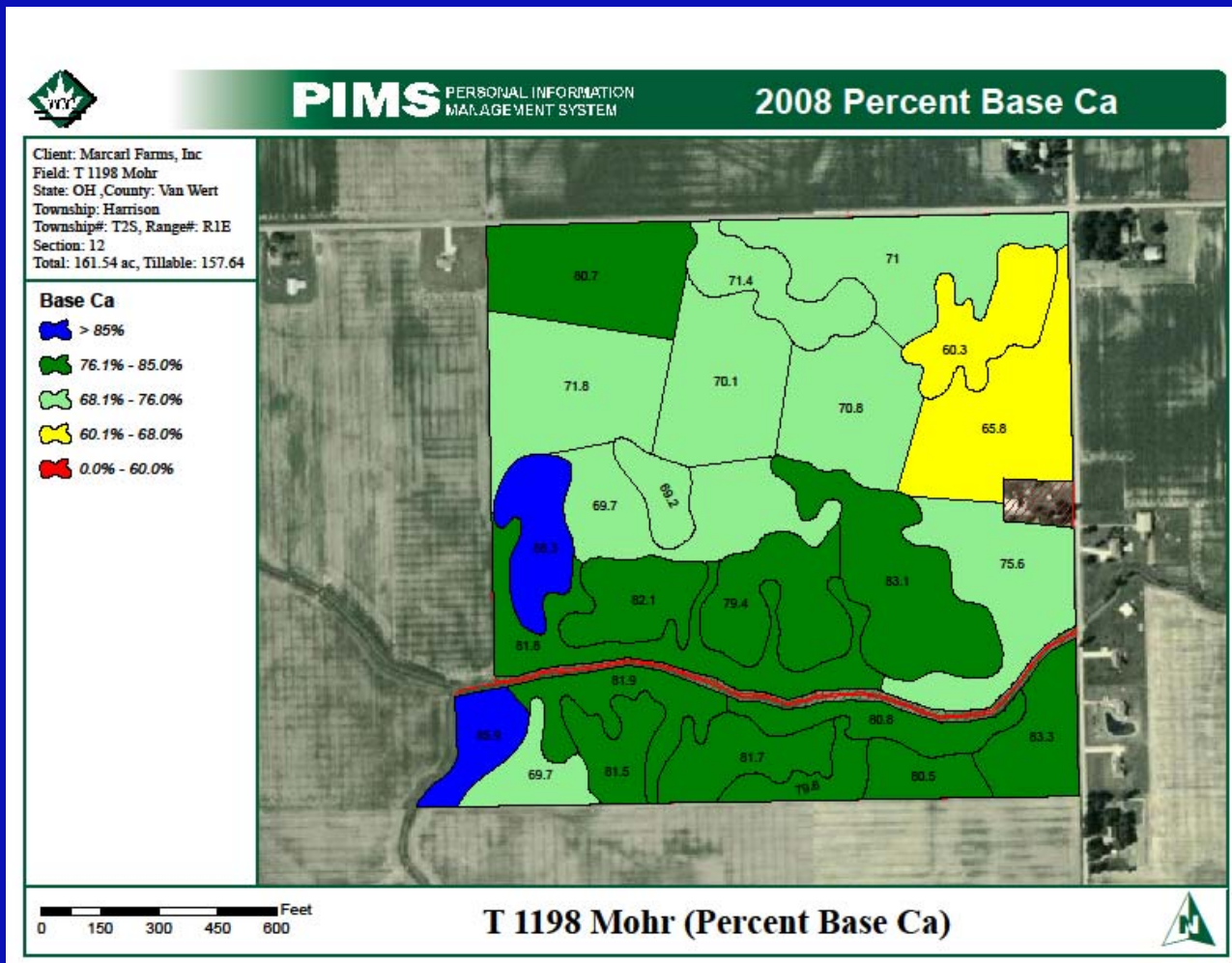


0 150 300 450 600 Feet

T 1198 Mohr (Lime Recommendation)



# Percent Base Ca



# Gypsum Benefits to MarCarl Farms

- ▣ More effective than High Cal Lime
  - Increase Ca:Mg ratio faster
  - No need for separate sulfur application
- ▣ Improved toughest soils
  - Blount soil yields comparable with best soils
- ▣ Improved soil condition
  - More oxygenated water into the root zone
  - Minimal standing water
  - Less surface seal