

# A few thoughts about Nitrogen



Nitrogen applications should be field specific, or specific to areas of a field. In addition, the application should produce a measurable biological change and economic return for the producer while environmentally sound

# Fertilizer Application

- How much to apply
- When to make the application

- Source or carrier
- Method of application



# Single or split application

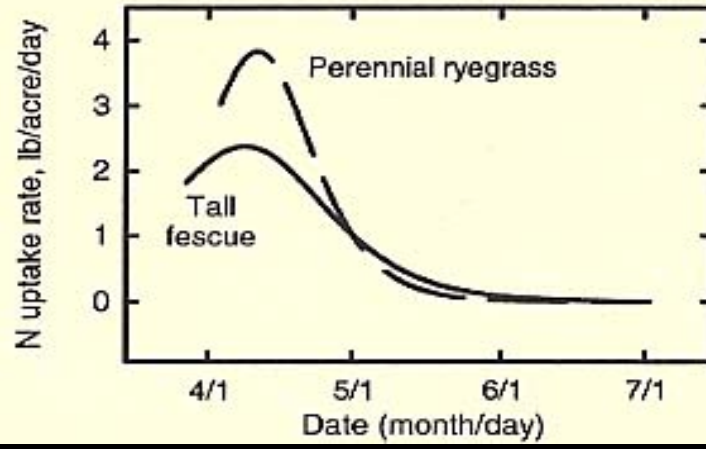
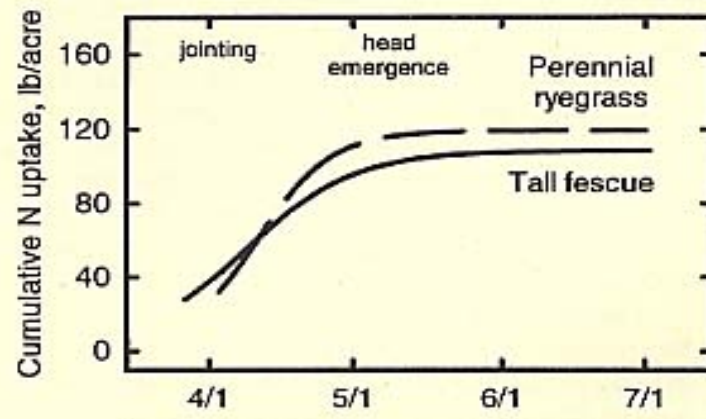
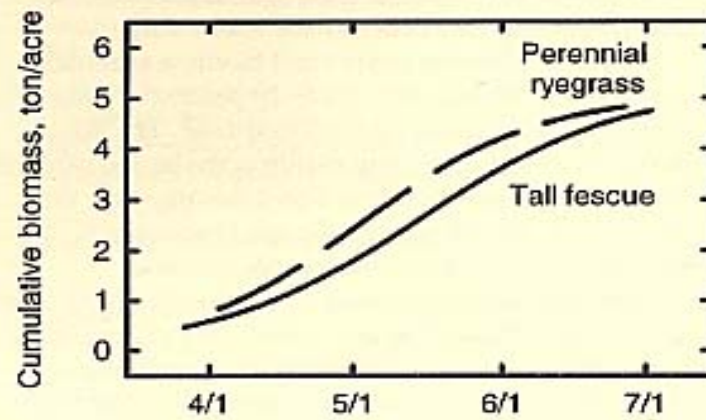
## Single

- Saves time
- Saves Money
- Possibility of N loss?



## Split

- Reduces loss?
- Even application
- "better" match plant needs?
- Less vegetative growth?



Date (month/day)

# Spring Fertilizer N Rate

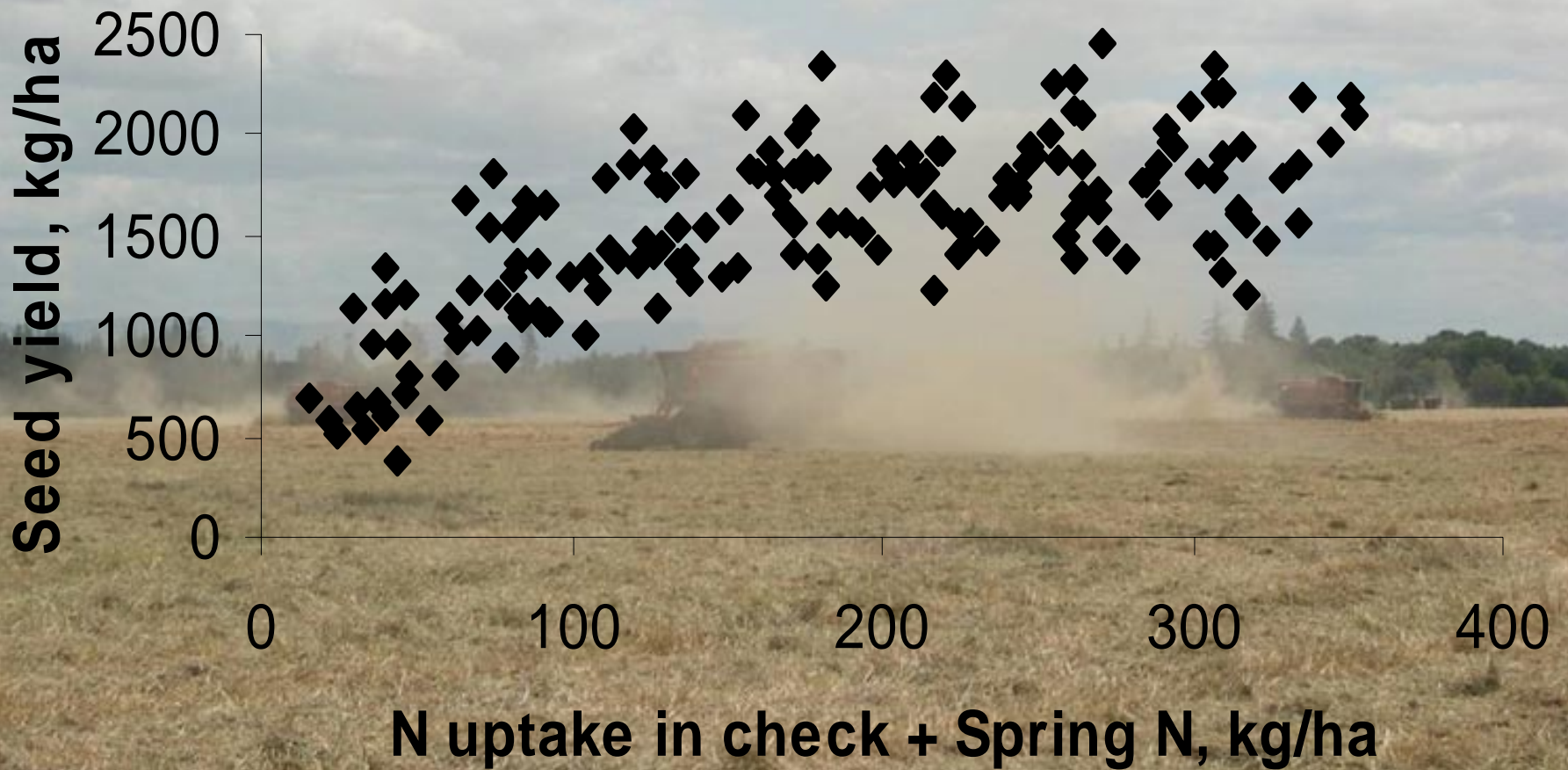
Crop Nitrogen Need

— Amount supplied by soil

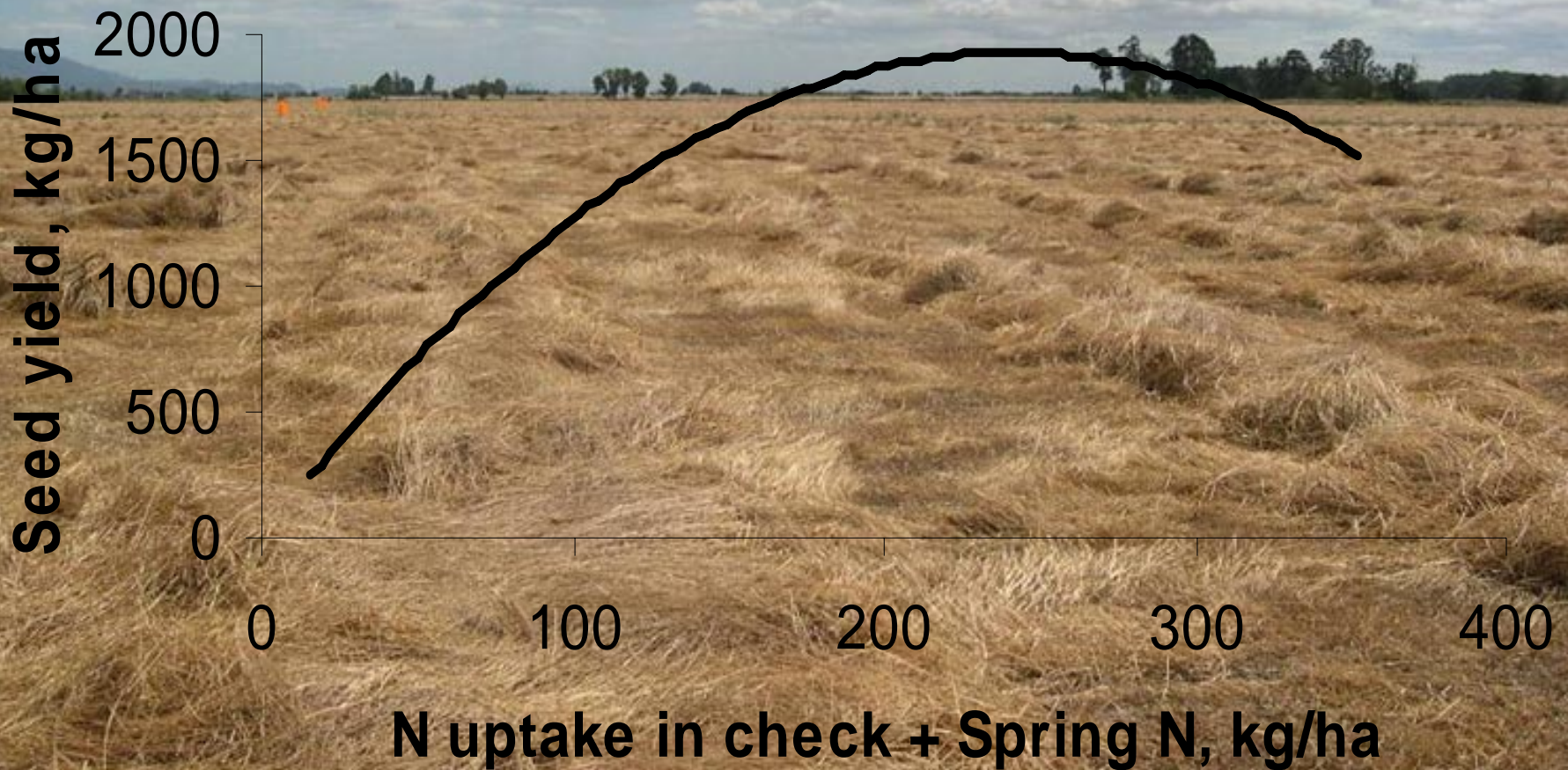
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Spring Fertilizer N Rate

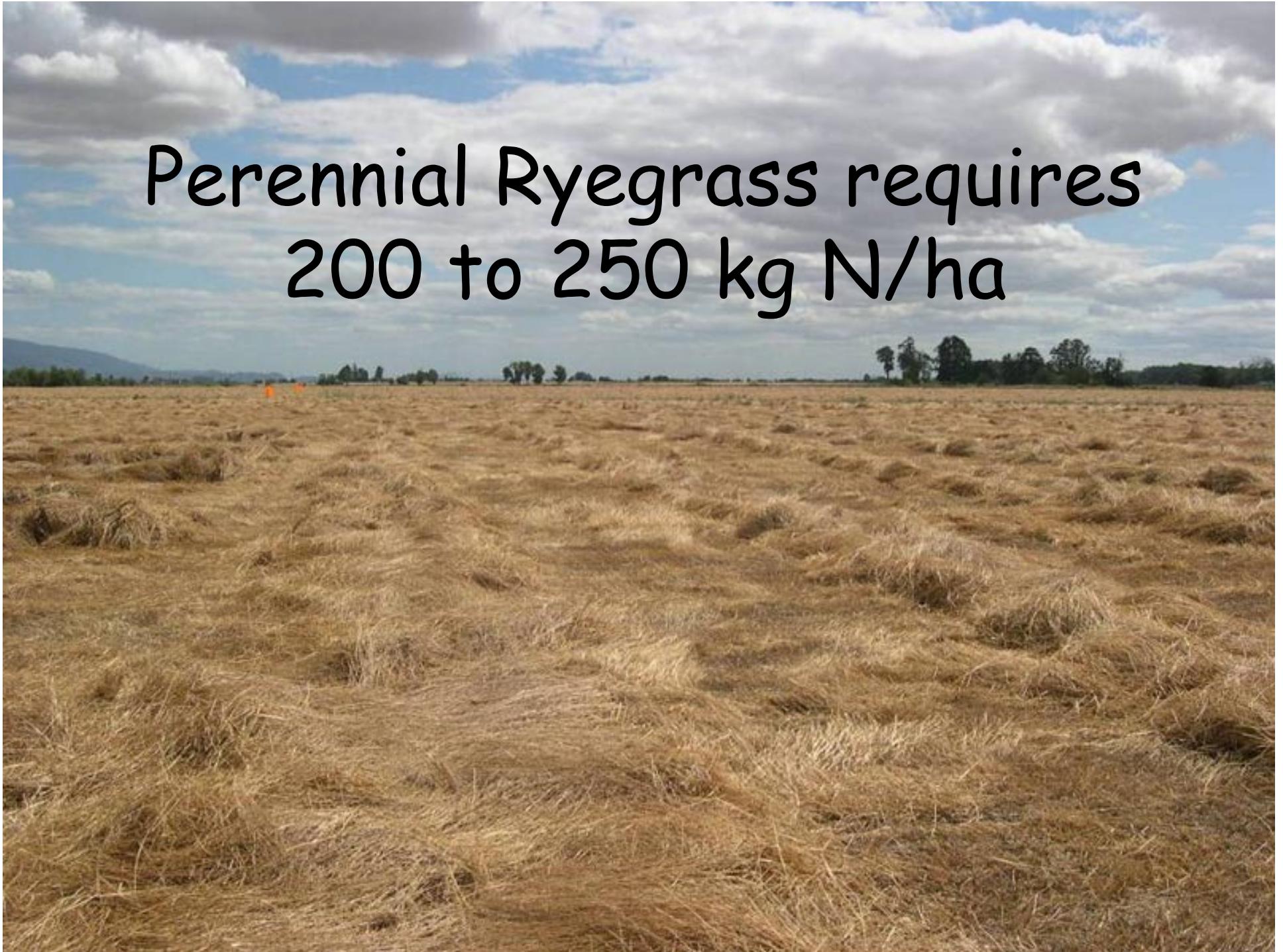
# N Needed for Perennial Ryegrass seed production



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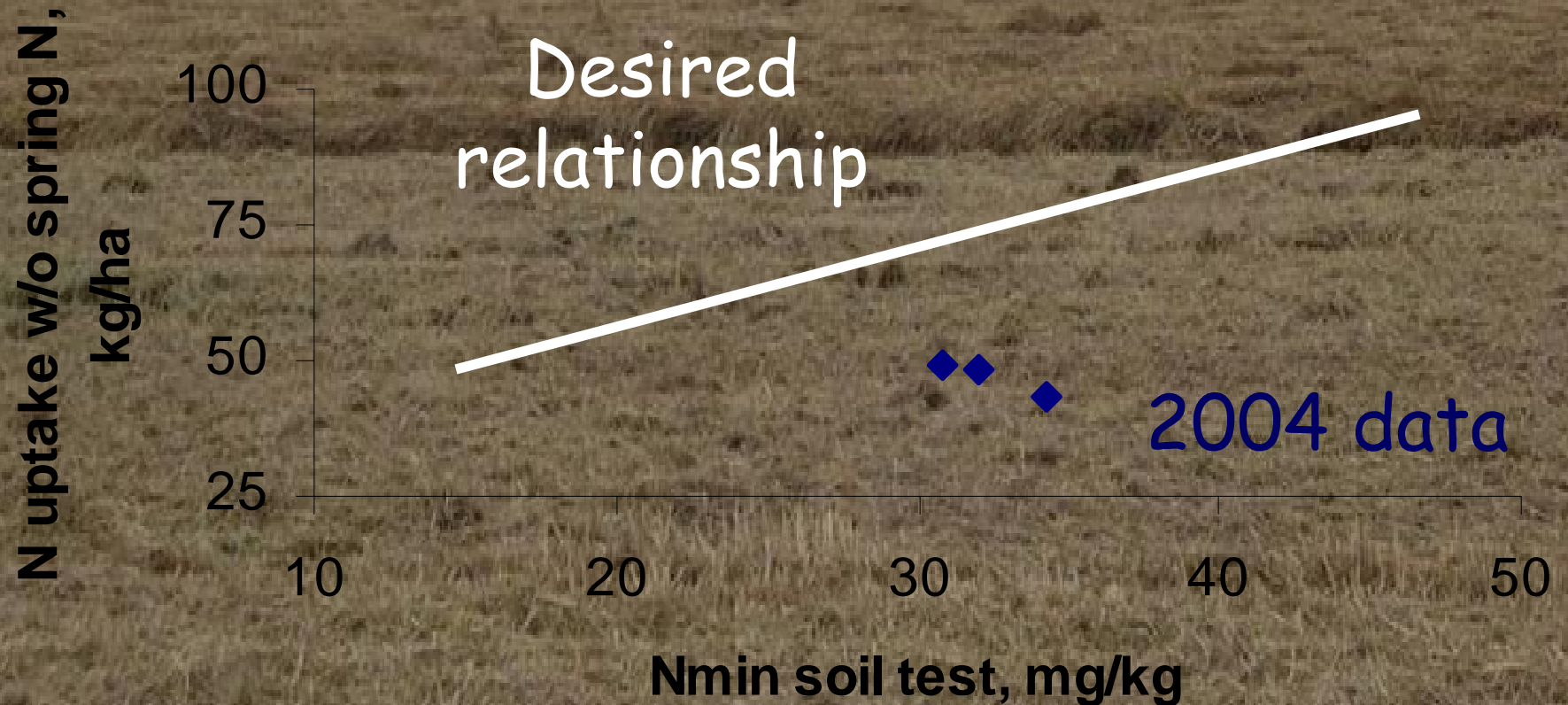
Perennial Ryegrass requires  
200 to 250 kg N/ha



# Perennial Ryegrass Nitrogen "Budget"

Site	N Need	N in Crop	Predicted Spring N Rate	N Rate Maximum Yield
			----- kg/ha -----	
1	250	48	202	135
2	250	55	195	200
3	250	54	196	200

# Nmin soil test and soil supplied N for perennial ryegrass



# N needed by perennial ryegrass (250 kg/ha)

- Amount of  $\text{NO}_3\text{-N}$
- Amount of  $\text{NH}_4\text{-N}$
- Amount of N in crop @ Nmin sampling
- Amount of N provided during growing season as measured by Nmin soil test

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Spring N rate



Average End of Season  
Soil Nitrate-N from Perennial  
Ryegrass Plots in Surface Foot of Soil

**Spring N Rate**

**NO<sub>3</sub>-N**

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----- **lb/a** -----

**0**

**5**

**135**

**10**

**270**

**20**

Average End of Season Soil Nitrate-N from  
Tall Fescue Plots in Surface Foot of Soil

**Spring N Rate**

**NO<sub>3</sub>-N**

----- **lb/a** -----

**0**

**10**

**135**

**15**

**270**

**30**

# N Needed for Perennial Ryegrass seed production

