



Fertilization

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• Understanding crop needs

Crop	Nitrogen	Phosphorus	Potassium
Lettuce	70	15	110
Cucumber	50	15	60
Taro	350	150-200	500-600
Watermelon	170	25	150

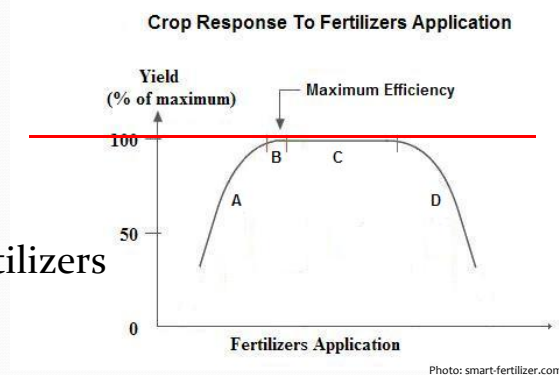


• Crop nutrition considerations

- Complete or individual fertilizers
- Soil or foliar applications
- Granular or water soluble
- Conventional vs. organic inputs
- More vs. less
- Cost factor

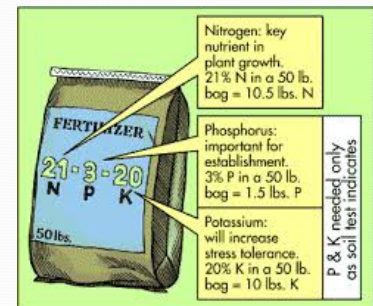
• Understand nutrient composition of fertilizers

- NPK is not in abundance in certain soil systems
 - Most frequently applied nutrients
 - Applied in larger quantities than other crop nutrients
- Minor elements are essential for plant growth



• Calculating fertilizer rates

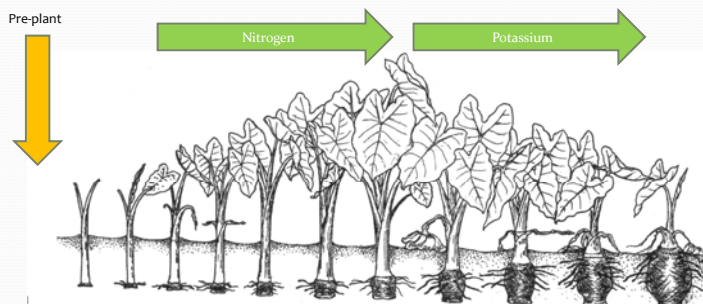
- Example:
- If you want to apply 50 pounds of N /acre using urea (46-0-0)
- $X \text{ (amount of urea)} \times 46\% = 50 \text{ pounds of N}$
- $X = 50 \text{ pounds of N} / 46\%$
- Solution: 109 pounds of Urea to apply 50 pounds of N / acre



• Frequency of applications

- Frequent applications vs. lump sum

• Timing fertilizers with crop type



Penn State Pointers ► Choosing Fertilizers... Buying Quality, Not Quantity

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- 1 Don't buy fertilizer based strictly on price. A fertilizer's value depends on the total amount of nutrients it contains.
- 2 The 'grade' is the percentage of nutrients always listed on the bag in this order: nitrogen, phosphate and potash.
- 3 Be sure the mix is right for the crop you're growing. Have your soil tested to help you buy the proper fertilizer.
- 4 The weight of the bag helps in determining value. For example, this bag contains 8 pounds of nitrogen, 4 pounds of phosphate, 4 pounds of potash and 64 pounds of filler and carriers for the nutrients.

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