

# Fertilizer Values: Saving Money by Using Manure

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# Presentation Outline

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- ▶ Benefits of manure
- ▶ Estimating manure value
- ▶ How to maximize this value



Utilizing manure to meet crop nutrient needs is beneficial for many reasons.

1. Good Source of Macronutrients (NPK)
2. Complete Nutrient Package (Ca, Mg, Zn, etc)
3. Improved Soil Quality (H<sub>2</sub>O & OM)
4. Reduces Soil Erosion Risk
5. Saves Money

# So what exactly is Manure's Value \$\$

*There are four primary factors that will vary what manure is worth.*

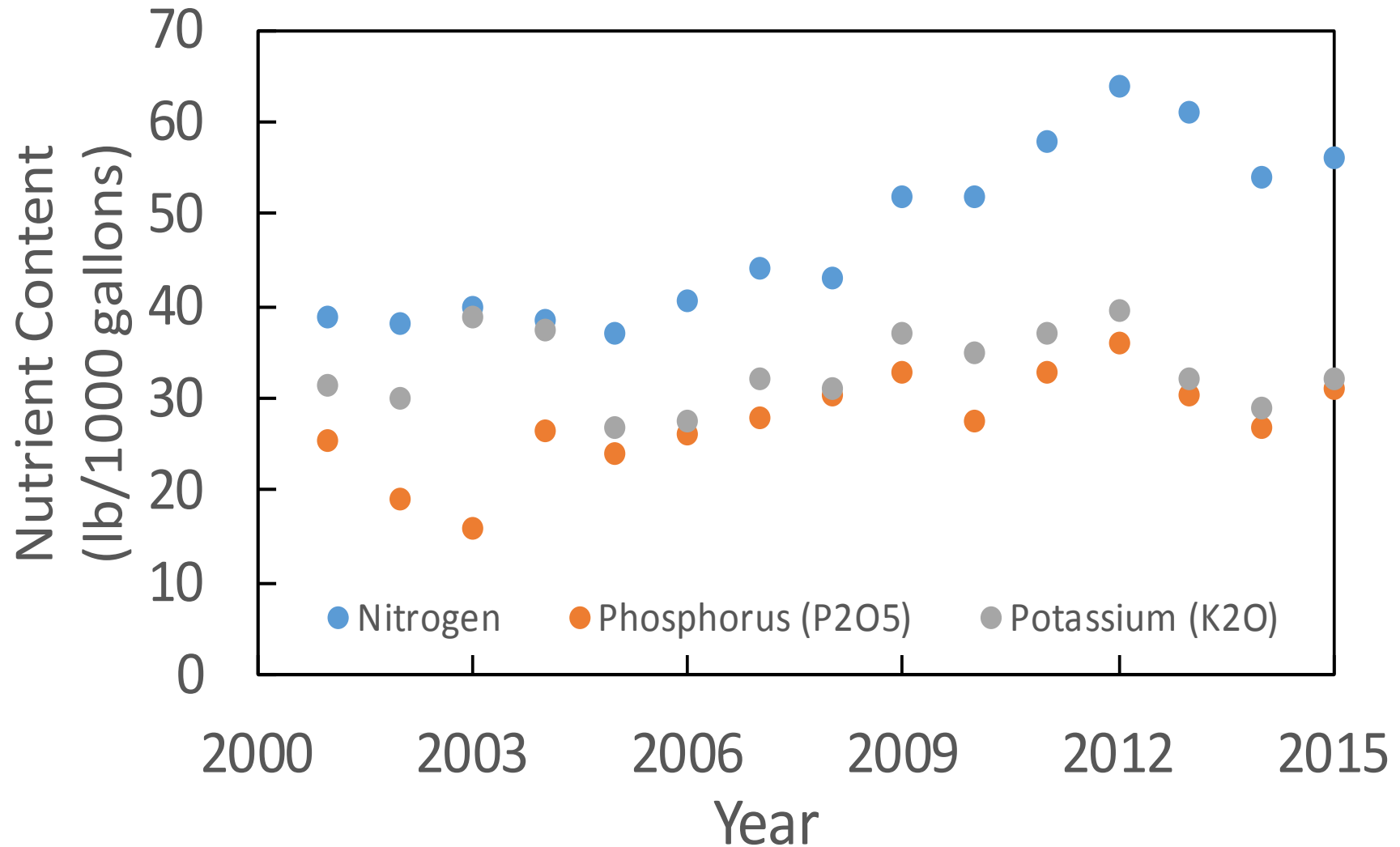
Nutrient Content

Nutrient Availability

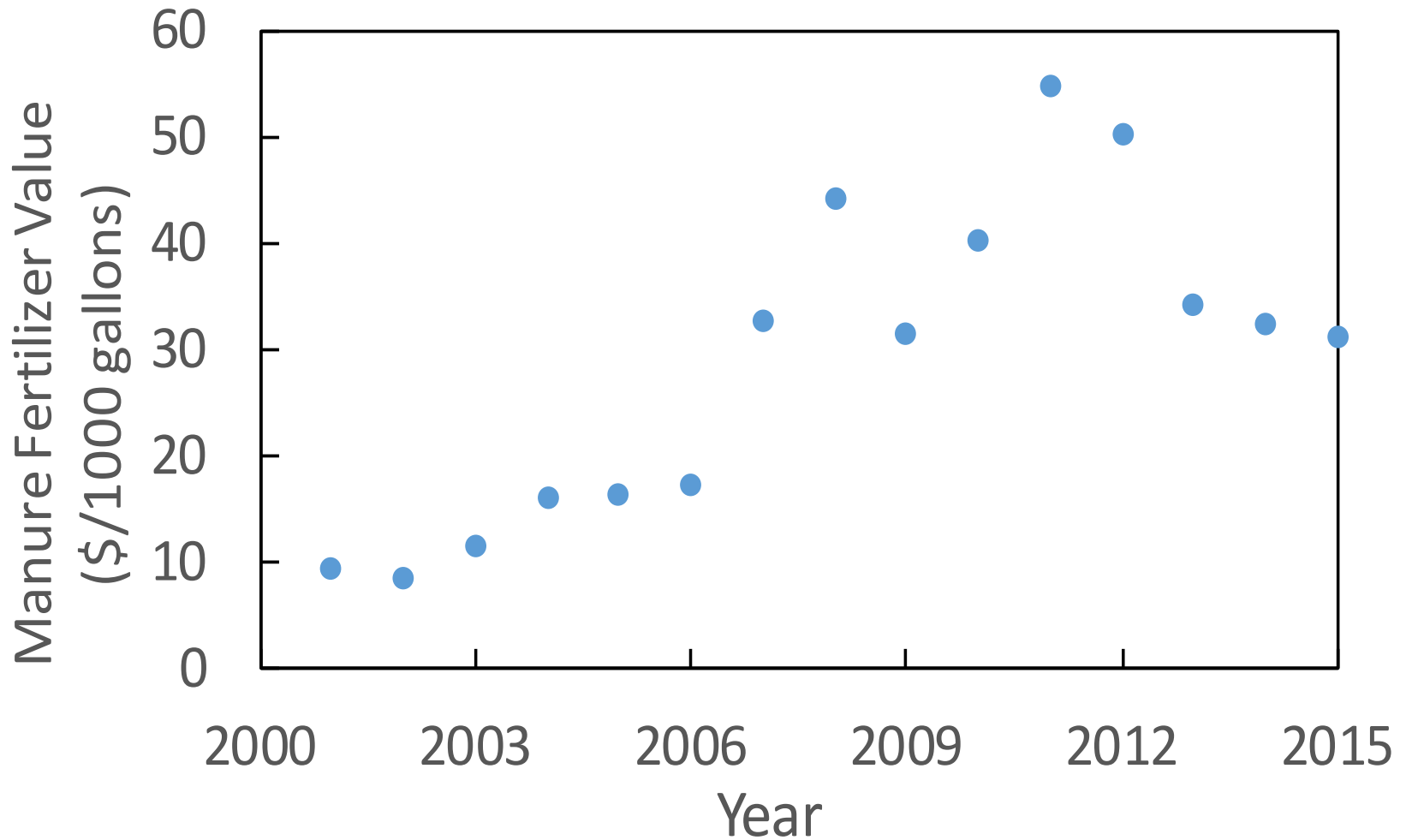
Method and Rate of Application

Value of Commercial Fertilizers

# Manure Value – Varied Greatly



# Manure Value – Varied Greatly





# Lets look at an Example

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- ▶ Assuming Double Wide Swine Finisher
- ▶ Manure Value \$34/1000 gals
- ▶ N – 47 lb/1000 gal (available)
- ▶ P – 23 lbs/1000 gal
- ▶ K – 33 lbs/1000 gal
- ▶ MRTN Rate = 200lb (central IL)

## Manure Value per Barn

### Assumptions:

UREA = \$0.40

P2O5 = \$0.40

K2O = \$0.25

Finish Manure Value (\$34/1000 gal avg)	\$128	\$/acre
Application Rate	4,250	gal/acre
Value Per Gallon	\$0.030	\$/gal
Value of Barn (900k gallons)	\$27,000	\$/barn
Application Cost	(\$0.18)	\$/gal
Application Cost / Barn	\$16,200	\$/barn
<b>Total Manure Value</b>	<b>\$10,800</b>	<b>\$/Barn</b>



# A few industry trends

- Higher N content
  - More DDGS in diet
  - Lower water wastage
- Lower P content
  - More DDGS in diet
  - More phytase in diet
- Lower Application Rates

# Lots of Potential Value

- But are we capturing that value?
  - Getting it to the right field
  - At the right amount (NMP)
  - At the right time (soil temps)
  - Right way? (application equip)
  - Minimizing losses of N before and as we apply?
    - Tillage equipment, agitation
  - Other aspects of protecting water quality

# Not all Applicators are the same...

Make sure you are selecting an applicator that has the equipment to meet your expectations



# What do I mean by this?

- ▶ Can they hit your application rate?
- ▶ What type of tillage equipment do they have?
  - ▶ VTI, Dietrich, low disturbance, high disturbance
- ▶ Biosecurity, can they get your site done quickly?
- ▶ Are the professional?
  - ▶ Do they leave the site clean, provide documentation?

An easy way to maximize manures value is by selecting the right applicator.

# New Distributor Study from Iowa State University

- ▶ Concluded not all manure distributors can uniformly apply manure (tanks and dragline)
- ▶ Some produced over 50% difference from one shank to the next
- ▶ For more information look for Extension Publication AE 3600 from Iowa State University

# Uniformity of Applicators

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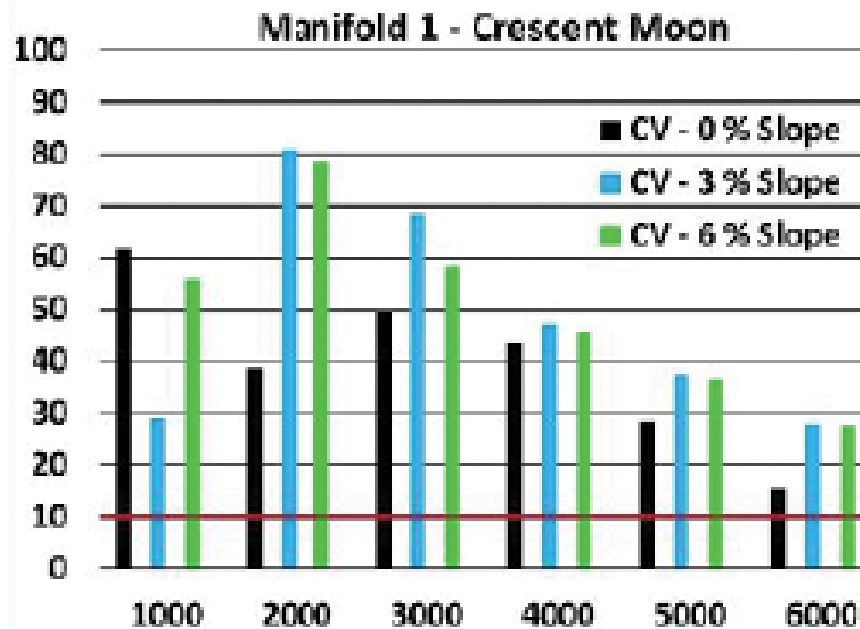


Figure 4a

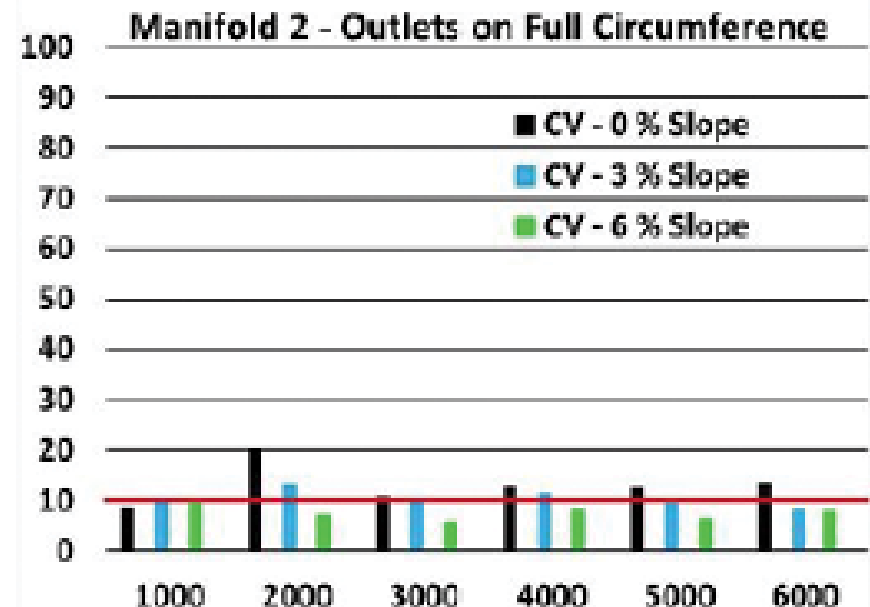
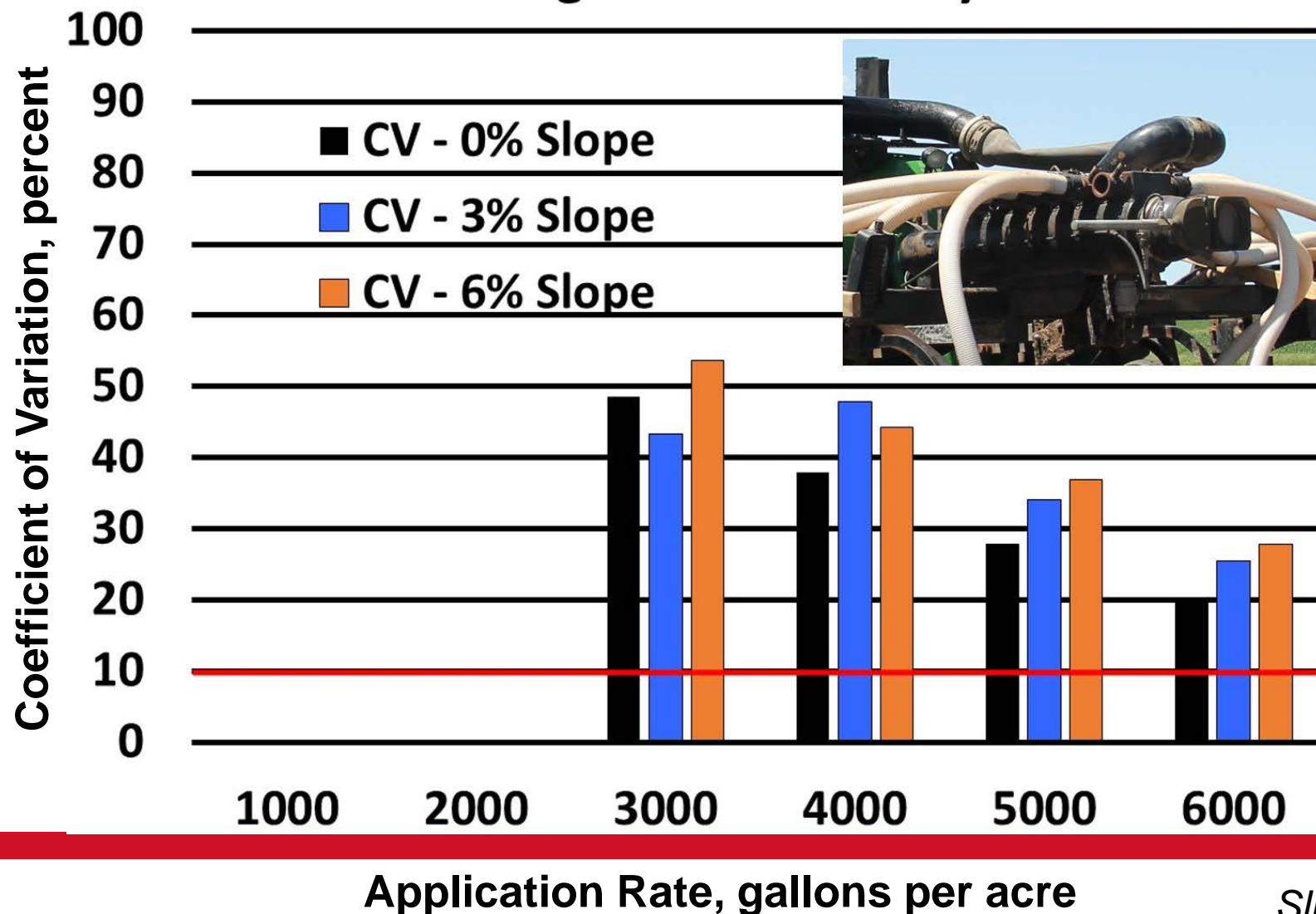


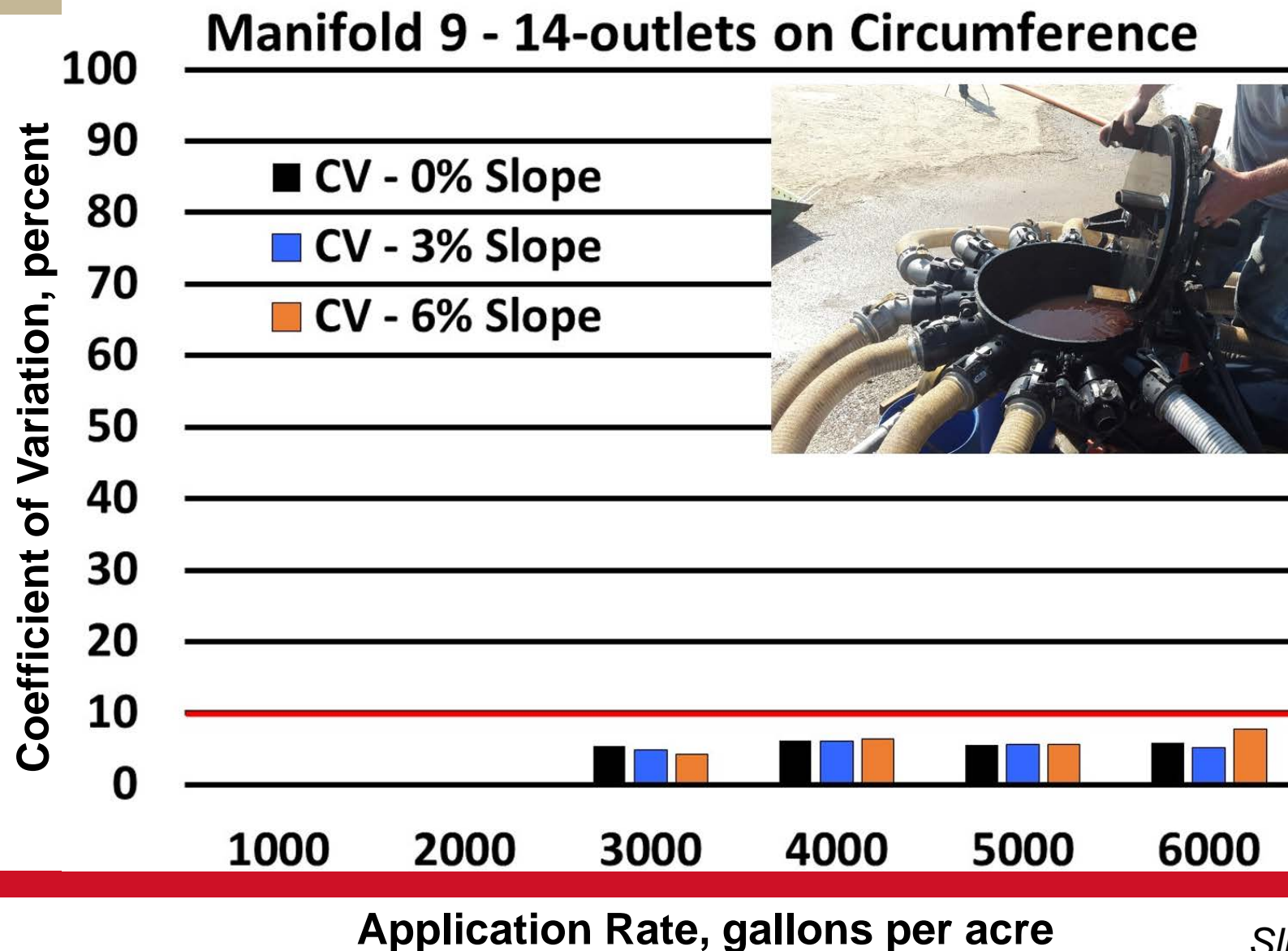
Figure 4b





## Manifold 8 - Rectangular Box on a Cylindrical Drum





# What if you have a cover crop?

- ▶ How much disturbance is too much?
- ▶ Depends on the cover crop and conditions during application.
  - ▶ Cereal rye usually recovers well from disturbance
  - ▶ Other species, like legumes and brassicas are not as likely to survive this kind of disturbance very well or as likely to work in a manured system.



# Manure application with cover crops



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# Questions?

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