

# BFNMP\$: A Tool for Estimating Feedlot Manure Nutrients and Economic Implications




---

---

---

---

---

---

---

---

## BFNMP\$

- Beef Feed Nutrient Management Planning Economics program
- <http://go.unl.edu/bfnmp>
- <http://beef.unl.edu/reports>
  - 2006 pg. 98
  - 2008 pg. 59
  - 2009 pg. 89
  - 2012 pg. 104




---

---

---

---

---

---

---

---

**BFNMP\$ Steps**

- Step 1. Enter Manure Management Facility/System Information.
  - Step 1.1 Manure Management Facility/System
- Step 2. Enter Beef groups to estimate manure excretion.
  - Step 2.1 Beef Characteristics
- Step 3. Enter manure management factors and view excretion and
  - Step 3.1 Manure Management
- Step 4. Enter cropping system information and review land requirements.
  - Step 4.1 Crop/Soil

The flowchart shows the following sequence: **Animal Ration and Performance** leads to **Manure Characteristics**, which leads to **Crop Rotation and Application Rate**.

---

---

---

---

---

---

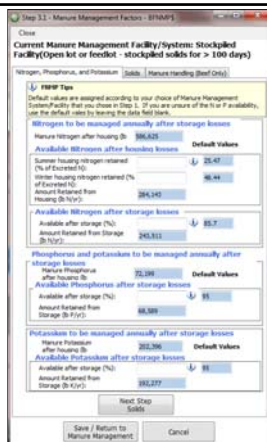
---

---



• Step 2: Manure Management

- Open lot
- Stockpiled for >100 days
- Immediate incorporation
- **Vary N volatilization**



---

---

---

---

---

---

---

---

---

---

---

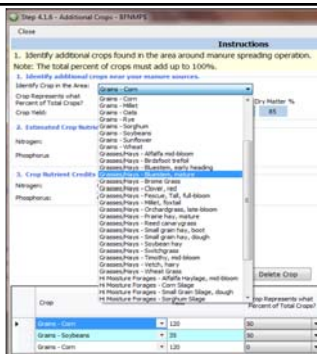
---

---

**BFNMP\$**

- Step 3: Crop Management
  - 80 acre fields
  - 50% in crops and available to feedlot

- Corn-soybean rotation
  - Corn yield 157 bu/acre
  - Soybean yield 42 bu/acre



---

---

---

---

---

---

---

---

---

---

---

---

---

**BFNMP\$**

• Step 3: Crop Management

- Fertilizer Prices
  - \$0.55/lb N (\$0.25/lb urea)
  - \$0.67/lb P (\$0.30/lb P<sub>2</sub>O<sub>5</sub>)
  - \$0.53/lb K (\$0.32/lb K<sub>2</sub>O)
- Values all nutrients in manure, all utilized
  - Application rate



---

---

---

---

---

---

---

---

---

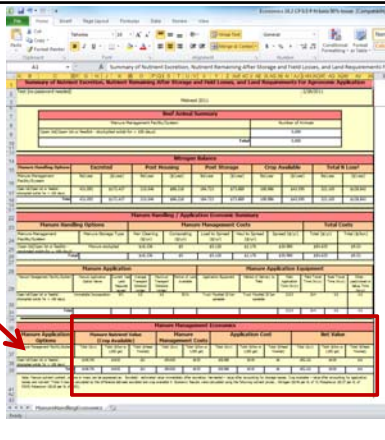
---

---

---

---

- Inputs
  - Animals
  - Manure
  - Crops
  - Equipment
- Outputs
  - Nutrients
  - Land for Application
  - Time and Economics




---

---

---

---

---

---

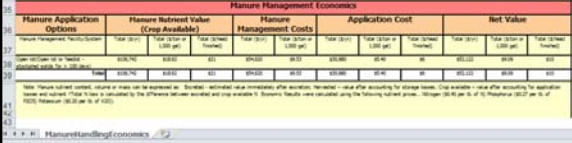
---

---

---

---

## Output



- Results
  - Per animal
  - Per ton manure
- Nutrient Value
- Costs
- Net Value

---

---

---

---

---

---

---


---

---

---

## Impact of Diet

- Grain based, traditional diet
  - 13.3% CP
  - 0.3% P
  - Vasconcelos and Galyean, 2007
- 40% Distillers Grains diet
  - 18.7% CP
  - 0.5% P
  - Vander Pol et al., 2006




---

---

---

---

---

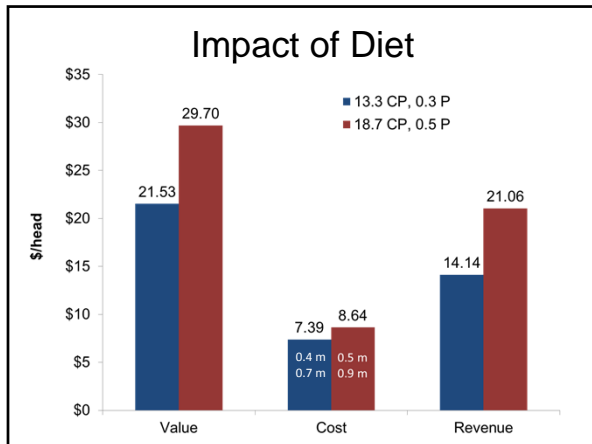
---

---

---

---

---




---

---

---

---

---

---

---



---

---

---

### Impact of N volatilization

- Summer
  - 70% N volatilization
- Winter
  - 50% N volatilization
- Intensive manure management
  - 20% N volatilization
  - ongoing research

---

---

---

---

---

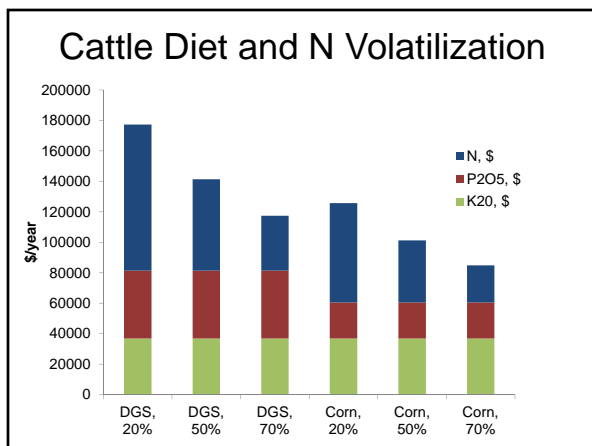
---

---

---

---

---




---

---

---

---

---

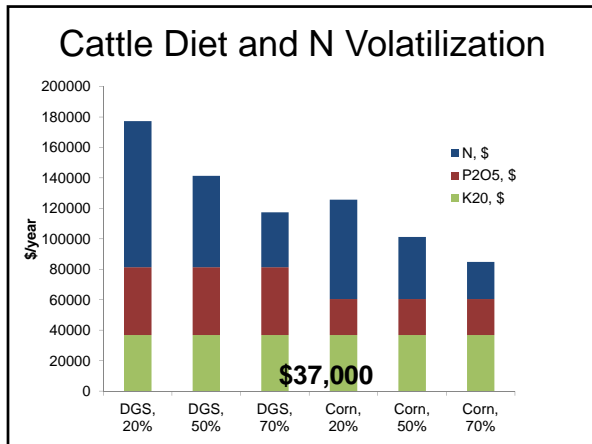
---

---

---

---

---




---

---

---

---

---

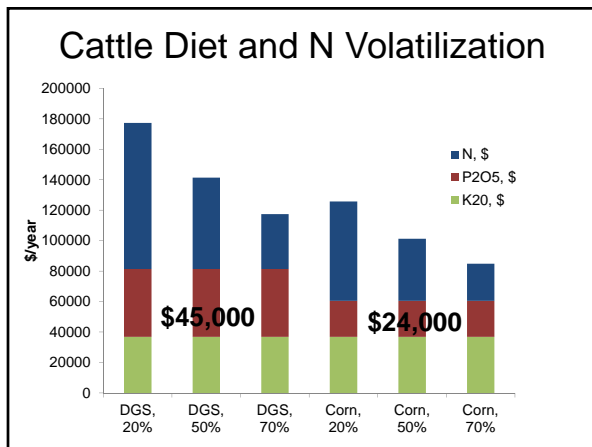
---

---

---

---

---




---

---

---

---

---

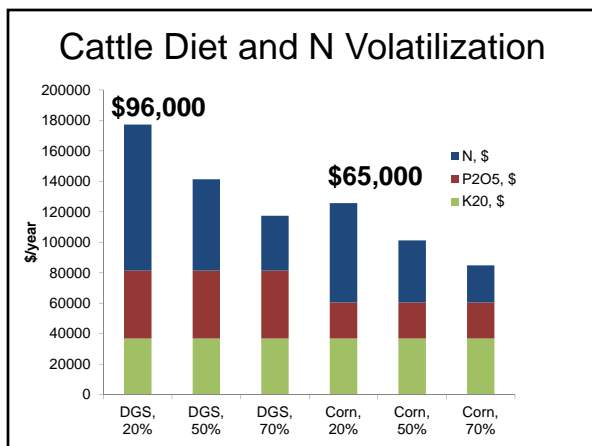
---

---

---

---

---




---

---

---

---

---

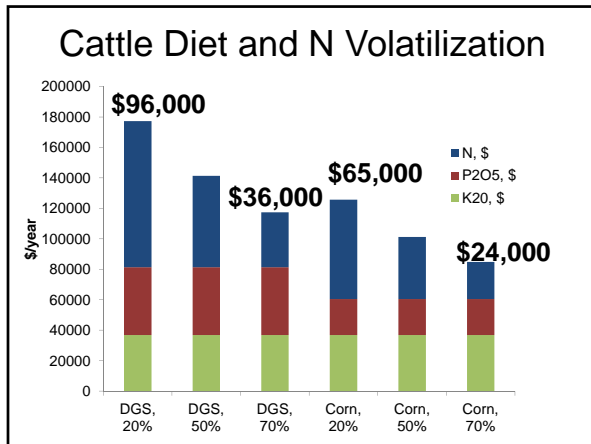
---

---

---

---

---




---

---

---

---

---

---

---

---

- ### Conclusions
- Impact of Diet
    - 40% Distillers Grains diet increased manure value by \$8.17/head
    - Increased revenue by \$6.92/head
    - Increases manure costs, but increases value at a greater rate
  - Impact of N volatilization
    - Difference between 70% and 20% N Volatilization is \$61,784
  - Decisions affecting Nutrient Management
    - BFNMP\$ tool

---

---

---

---

---

---

---

---