



## **Appendix D**

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### Pasture Nutrient Levels

Nutrient overloading can occur from cows grazing and loafing in pastures that are too small or not managed properly. Approaches to pasture management that include using nutrients at agronomic rates will help prevent nutrient overloading. Completing the calculations on the following page will help you balance the nutrients produced by grazing cows with the amount of nutrients needed for forage production.

**Step 1: First, calculate the number of animal units (AU) on the pasture for one day.**

- a. Total number of heifers \_\_\_ H body weight \_\_\_ ) 1000 = \_\_\_ AU
- b. Total number of milking and dry cows \_\_\_ H body weight \_\_\_ ) 1000 = \_\_\_ AU
- c. Total number of calves \_\_\_ H body weight \_\_\_ ) 1000 = \_\_\_ AU
- d. Add AUs from line a, b, and c. \_\_\_ = Total number of AUs
- e. Total number of AUs \_\_\_ H percent of the day on pasture \_\_\_ = \_\_\_ Number AU per day.

**Step 2: Second, estimate the "as excreted" value of manure nutrients<sup>1</sup>.**

- f. Total number of AU per day (line e) \_\_\_ H 85 = \_\_\_ total pounds manure per day
- g. \_\_\_ pounds manure per day H 0.41 lbs N per day = \_\_\_ lbs N per day
- h. \_\_\_ pounds manure per day H 0.06 lbs P per day = \_\_\_ lbs P per day
- i. \_\_\_ pounds manure per day H 0.25 lbs K per day = \_\_\_ lbs K per day

**Step 3: Next, estimate nutrients available per season.**

- j. Lbs N per day (line g) \_\_\_ H \_\_\_ days on pasture = \_\_\_ total N per season
- k. Lbs P per day (line h) \_\_\_ H \_\_\_ days on pasture = \_\_\_ total P per season
- l. Lbs K per day (line i) \_\_\_ H \_\_\_ days on pasture = \_\_\_ total K per season

**Step 4: Estimate total available nutrients per acre for the season.**

- m. Total from line j \_\_\_ ) acres in pasture \_\_\_ = \_\_\_ total lbs N per acre per season
- n. Total from line k \_\_\_ ) acres in pasture \_\_\_ = \_\_\_ total lbs P per acre per season
- o. Total from line l \_\_\_ ) acres in pasture \_\_\_ = \_\_\_ total lbs K per acre per season

**Step 5: Calculate the total nutrient needs for your pasture.** (Calculations in Appendix F will provide you with the information to complete this step.)

- p. Expected yield per acre \_\_\_ H \_\_\_ lbs N required per acre = \_\_\_ lbs N per acre
- q. Expected yield per acre \_\_\_ H \_\_\_ lbs P required per acre = \_\_\_ lbs P per acre
- r. Expected yield per acre \_\_\_ H \_\_\_ lbs K required per acre = \_\_\_ lbs K per acre

**Step 6: Determine nutrient balance for your pasture.**

- s. Nutrients needed per acre (from Step 5) - nutrients available per acre (from Step 4).

<sup>1</sup>Adapted from SCS Agricultural Handbook (Grusenmeyer)