Medicated Feed Additive and Serial Dilutor Calculator Guide

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The medicated feed additive and serial dilutor calculator is an educational tool to demonstrate calculating the quantity of a medicated feed additive for a feed group and applying a one, two, or three step dilution to achieve a more manageable feed mixing and delivery rate.

Step 1. Enter the target medicated feed intake and rate (radio button) as either mg/animal or mg/lb weight.

Step 2. Enter the number of animals in the feeding group.

Step 3. Enter the average weight of the animals in the feeding group.

Step 4. Enter the target daily supplemental feed rate per animal.

Step 5. Enter the mixed feed batch size in pounds. This value may be represented by different values. For example, this value may represent a one ton batch or this value can be modified until the number of days feeding per batch reaches a target such as figuring the medicated feed mix for one week of feeding.

Step 6. Enter the concentration of the medicated feed additive as stated on the label.

Step 7. Up to 3 serial dilutions are available (Dilute 1, Dilute 2, and Dilute 3). For dilute 1, enter the pounds of concentrated medicated feed from the bag to be mixed with a non-medicated feed of similar particle size to achieve the first level of dilution. A one-to-one dilute for example will reduce the medicated feed concentration by 50%. For Dilute 2, the medicated feed from Dilute 1 is further diluted with a non-medicated feed to achieve an even more diluted form of a medicated feed mix. The Dilute 2 mix can be further diluted to achieve Dilute 3 mix. Subsequent dilution amounts of a medicated feed should not exceed previous dilution total. An error message will appear if this occurs. For example, if the total amount of Final Dilute 1 is 2 pounds and 3 pounds is entered for Amount of Dilute 1 in the Dilute 2 section, an error will appear.

Step 8. Use the mixing summary to determine which option (Option 1 full strength), Option 2 (Dilute 1), Option 3 (Dilute 2), or Option 4 (Dilute 3) is most practical to blend or top dress with the final non-medicated feed for daily feeding.
Step 9. Use the unit converter to convert medicated feed options from pounds to either ounces or grams for weighing and mixing.

Example. The objective is to provide **200 mg per animal** of a medicated feed additive to **60** stocker steers weighing **550 pounds** that will be supplemented at **5.5 lbs supplement per calf**, daily. The label of the medicated feed purchased indicates **90 grams (g)/lb** active ingredient.

The first output below illustrates the results when **Target batch mix size = 330 lb** and **Number of days feeding per batch = 1 days**. Dilution set for Dilute1, 2 and 3 was 1lb : 2lb. Total amounts of Dilute 1, 2 and 3 available would be 3, 9 and 27 lbs. Based on the results, a three step dilution may be most practical for the producer that does not have a larger mixer and plans to top-dress the medicated feed mix onto the remaining daily ration. The mixing summary indicates that 3.6 lbs daily of dilute 3 should be fed to deliver the correct amount of medicated feed. Also note that 3.6 lbs/d of dilute 3 will provide 7.5 days of medicated feeding (27 ÷ 3.6 = 7.5)

The second output below illustrates the results when **Target batch mix size = 6000 lb** or **3 tons**. This is enough feed for 18 days. A livestock producer with a large commercial grinder/mixer or mixer wagon may find that using the full concentrated medicated feed or the first dilution rate would be sufficient.
## Medicated Feed Additive and Serial Dilutor Calculator

The purpose of this calculator is to dilute a concentrated form of a medicated feed for increased accuracy of mixing.

### Inputs
- **Target medicated feed intake**: 200 mg/animal
- **mg/lb weight**

### Herd and Feed Inputs
- **Number of animals in the feeding group**: 60 animals
- **Average size of animals in the feeding group**: 520 lbs/animal
- **Target daily medicated feed intake**: 200 mg/animal
- **Dose per unit of weight**: 0.364 mg/lb weight
- **Target daily supplemental feed rate**: 5.3 lbs/animal
- **Total daily supplement feed for the group**: 330 lbs/day
- **Target batch mix size**: 6000 lbs
- **Number of days feeding per batch**: 10.7 days
- **Concentration of Medicated Feed Article**: 90 g/lb

### Dilute 1
- **Amount of concentrated medicated feed**: 1 lb
- **Amount of non-medicinal feed supplement for dilution**: 1 lb
- **Concentration of Final Dilute 1 Medicated Feed**: 45 g/lb

### Dilute 2
- **Amount of Dilute 1 Medicated Feed**: 1 lb
- **Amount of non-medicinal feed supplement for dilution**: 1 lb
- **Concentration of Final Dilute 2 Medicated Feed**: 22.5 g/lb

### Dilute 3
- **Amount of Dilute 2 Medicated Feed**: 1 lb
- **Amount of non-medicinal feed supplement for dilution**: 1 lb
- **Concentration of Final Dilute 3 Medicated Feed**: 11.25 g/lb

### Mixing Summary
- **Calculated concentration of medicated feed per batch**: 35.363636 lbs
- **Amount that would be needed per 6000 lb batch mix**
  - **Medicated feed options**
    - **Option 1**: Fully concentrated medicated feed article
      - **Medicated feed lbs**: 2.42
      - **Non-medicated feed lbs**: 999.58
      - **Total feed lbs**: 6000
    - **Option 2**: Dilute 1 medicated feed mix
      - **Medicated feed lbs**: 4.85
      - **Non-medicated feed lbs**: 995.15
      - **Total feed lbs**: 6000
    - **Option 3**: Dilute 2 medicated feed mix
      - **Medicated feed lbs**: 9.70
      - **Non-medicated feed lbs**: 990.30
      - **Total feed lbs**: 6000
    - **Option 4**: Dilute 3 medicated feed mix
      - **Medicated feed lbs**: 19.30
      - **Non-medicated feed lbs**: 980.61
      - **Total feed lbs**: 6000

Choose the number of dilutions for a final mix option that is most practical.

### Unit Converter
- **0.12 lbs** = 2,120 = 59.8

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