Medicated Feed Additive Serial Dilutor Calculator Guide

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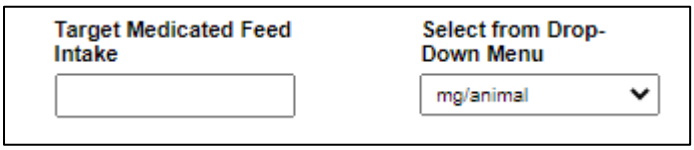
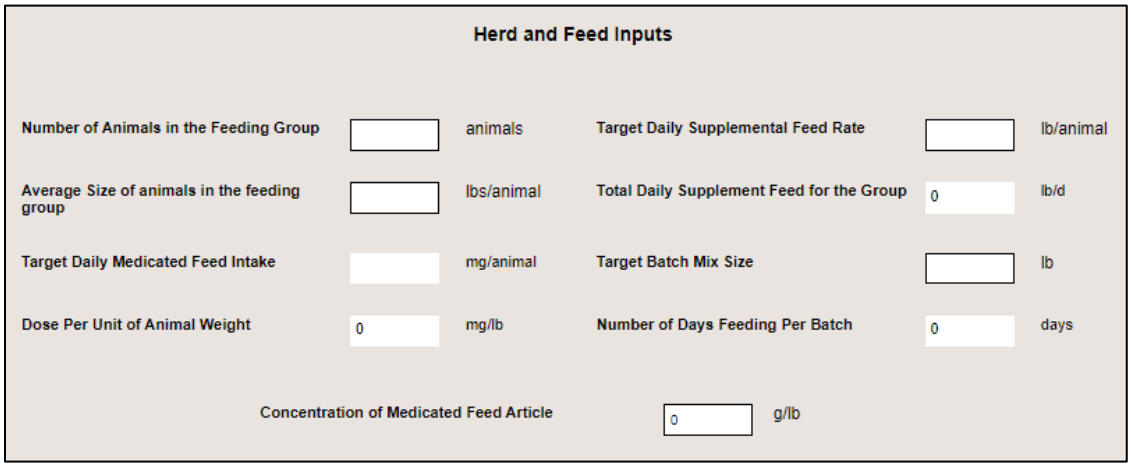
The **Medicated Feed Additive Serial Dilutor Calculator** is an educational tool for calculating the quantity of a medicated feed additive for a feed group and applying a one, two, or three step sequential dilution to achieve a more manageable feed mixing and delivery rate.

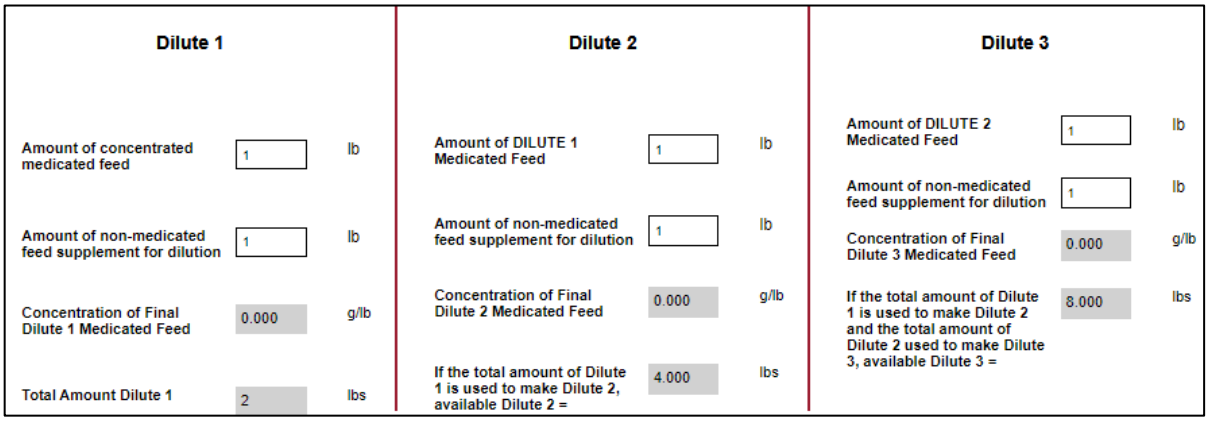
1. Enter the Target Medicated Feed Intake and rate (Drop-Down Menu) as either mg/animal or mg/lb weight.



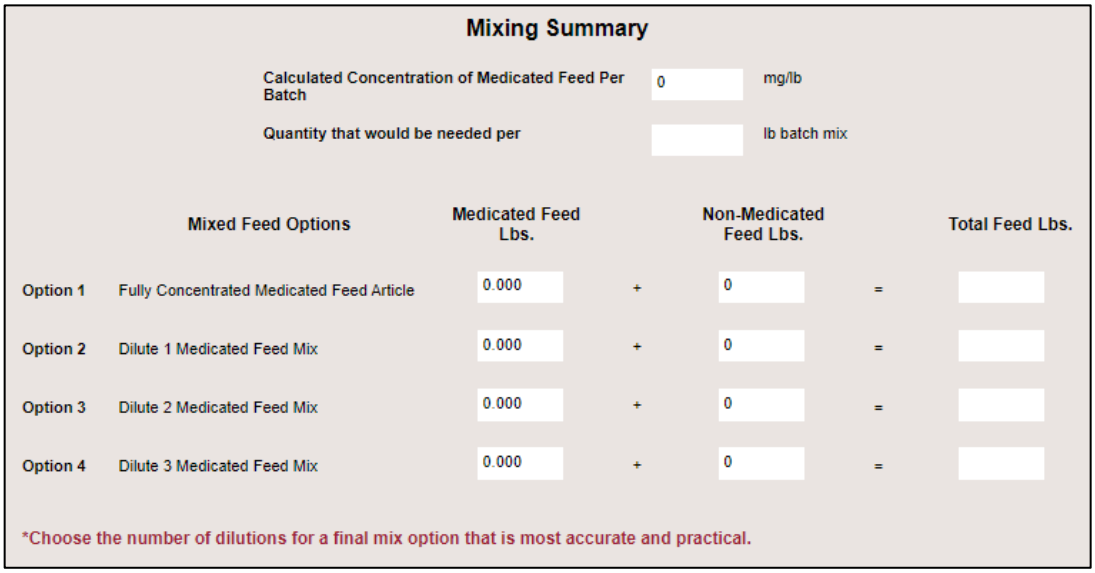
2. Herd and Feed Inputs
    a. Enter the Number of Animals (animals) in the feeding group.
    b. Enter the Average Size (lbs/animal) of animals in the feeding group.
    c. Enter the Total Daily Supplemental Feed Rate (lb/animal).
    d. Enter the Target Batch Mix Size (lb).
    e. Enter the Concentration of the Medicated Feed Article (g/lb) as stated on the label.



3. Dilutions - 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.



4. Mixing Summary - 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 with the final non-medicated feed for daily feeding.



5. Unit Converter - convert medicated feed options from pounds to either ounces or grams for weighing and mixing.

Example 1.
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. A total of 2,000 lbs feed will be mixed per feed batch.

The label of the medicated feed purchased indicates **90 grams (g)/lb** active ingredient.

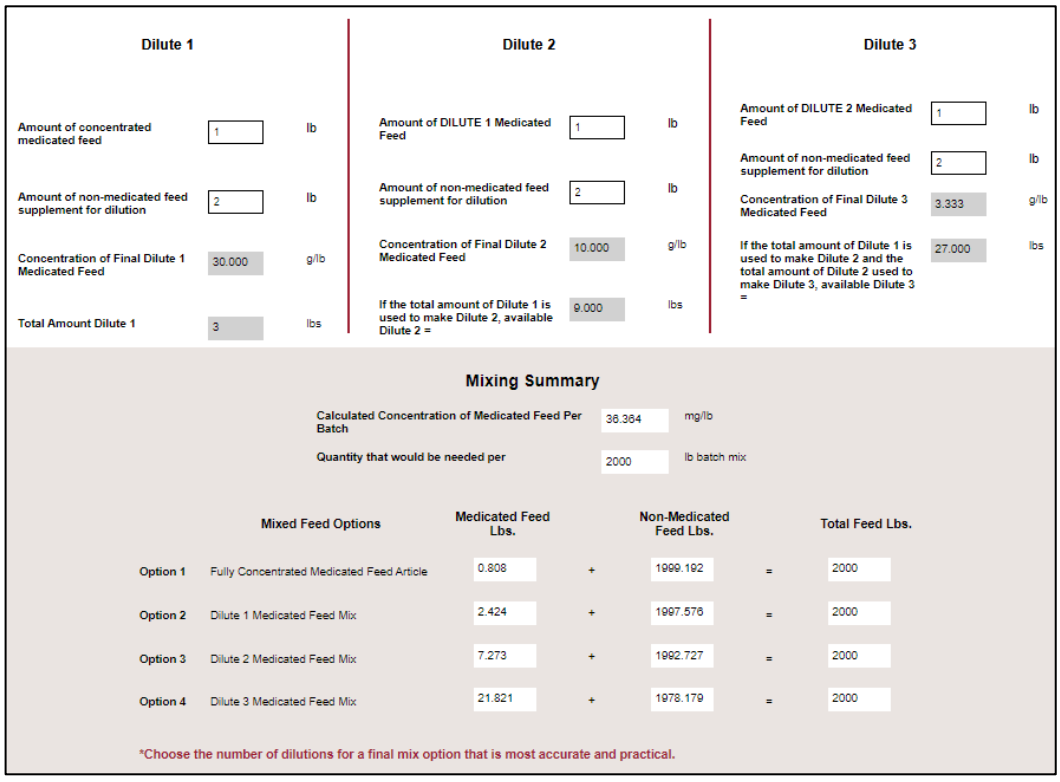
Using a series of 3 dilutions at a 1:2 dilution rate, dilution 1 would have a concentration of 30 g/lb, dilution 2, 10 g/lb, and dilution 3, 3.333 g/lb.

The calculated concentration of medicated feed per batch is 36.364 mg/lb for each of the 4 blending options. Multiplying the medicated feed 36.364 mg/lb x 5.5 lb/animal daily feeding rate equals the target 200 mg/animal.

Blending option 1 would require 0.808 lb of the concentrated medicated feed added to 1999.192 lb non-medicated feed to get to the final 2000 lb batch size.

Blending option 4 would require 21.821 lb of the 3rd Dilution Level added to 1978.179 lb feed to get to the final 2000 lb batch size.

If starting with 1 lb of concentrated medicated feed in Dilute 1 and using a 1:2 dilution ratio for Dilute 1, Dilute 2, and Dilute 3, the final Dilute 3 would yield 27 lbs of a 3.33 g/lb medicated feed mix. If Dilute 3 is used to produce Option 4 feed mixing, there would be 5.179 lb Dilute 3 remaining after mixing 1 2,000 lb feed batch.



Dilute 1

Amount of concentrated medicated feed	1	lb
Amount of non-medicated feed supplement for dilution	2	lb
Concentration of Final Dilute 1 Medicated Feed	30.000	g/lb
Total Amount Dilute 1	3	lbs

Dilute 2

Amount of DILUTE 1 Medicated Feed	1	lb
Amount of non-medicated feed supplement for dilution	2	lb
Concentration of Final Dilute 2 Medicated Feed	10.000	g/lb
If the total amount of Dilute 1 is used to make Dilute 2, available Dilute 2 =	9.000	lbs

Dilute 3

Amount of DILUTE 2 Medicated Feed	1	lb
Amount of non-medicated feed supplement for dilution	2	lb
Concentration of Final Dilute 3 Medicated Feed	3.333	g/lb
If the total amount of Dilute 1 is used to make Dilute 2 and the total amount of Dilute 2 used to make Dilute 3, available Dilute 3 =	27.000	lbs

Mixing Summary

Calculated Concentration of Medicated Feed Per Batch	36.364	mg/lb
Quantity that would be needed per	2000	lb batch mix

	Mixed Feed Options	Medicated Feed Lbs.		Non-Medicated Feed Lbs.		Total Feed Lbs.
Option 1	Fully Concentrated Medicated Feed Article	0.808	+	1999.192	=	2000
Option 2	Dilute 1 Medicated Feed Mix	2.424	+	1997.576	=	2000
Option 3	Dilute 2 Medicated Feed Mix	7.273	+	1992.727	=	2000
Option 4	Dilute 3 Medicated Feed Mix	21.821	+	1978.179	=	2000

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

Example 2.
The objective is to provide **0.5 mg/lb weight** of a medicated feed additive to **50 cows** weighing **1,200 pounds** that will be supplemented at **1 lb per cow**, daily. A total of 50 lbs feed will be mixed per feed batch.

The label of the medicated feed purchased indicates **50 grams (g)/lb** active ingredient.

Using a series of 3 dilutions at a 1:1 dilution rate, dilution 1 would have a concentration of 25 g/lb, dilution 2, 12.5 g/lb, and dilution 3, 6.25 g/lb.

The calculated concentration of medicated feed per batch is 600 mg/lb for each of the 4 blending options. Multiplying the medicated feed 600 mg/lb x 1 lb/animal daily feeding rate equals the target 600 mg/animal (1,200 lb weight x 0.5 mg/lb weight).

Blending option 1 would require 0.6 lb of the concentrated medicated feed added to 49.4 lb non-medicated feed to get to the final 50 lb batch size.

Blending option 4 would require 4.8 lb of the 3rd Dilution Level added to 45.2 lb feed to get to the final 50 lb batch size.

Dilute 1			Dilute 2			Dilute 3		
Amount of concentrated medicated feed	1	lb	Amount of DILUTE 1 Medicated Feed	1	lb	Amount of DILUTE 2 Medicated Feed	1	lb
Amount of non-medicated feed supplement for dilution	1	lb	Amount of non-medicated feed supplement for dilution	1	lb	Amount of non-medicated feed supplement for dilution	1	lb
Concentration of Final Dilute 1 Medicated Feed	25.000	g/lb	Concentration of Final Dilute 2 Medicated Feed	12.500	g/lb	Concentration of Final Dilute 3 Medicated Feed	6.250	g/lb
Total Amount Dilute 1	2	lbs	If the total amount of Dilute 1 is used to make Dilute 2, available Dilute 2 =	4.000	lbs	If the total amount of Dilute 1 is used to make Dilute 2 and the total amount of Dilute 2 used to make Dilute 3, available Dilute 3 =	8.000	lbs

Mixing Summary

Calculated Concentration of Medicated Feed Per Batch	600.000	mg/lb
Quantity that would be needed per	50	lb batch mix

	Mixed Feed Options	Medicated Feed Lbs.		Non-Medicated Feed Lbs.		Total Feed Lbs.
Option 1	Fully Concentrated Medicated Feed Article	0.600	+	49.4	=	50
Option 2	Dilute 1 Medicated Feed Mix	1.200	+	48.8	=	50
Option 3	Dilute 2 Medicated Feed Mix	2.400	+	47.6	=	50
Option 4	Dilute 3 Medicated Feed Mix	4.800	+	45.2	=	50

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