

Practice: 592 - Feed Management

Scenario: #1 - Cow Dairy - Large

Scenario Description:

Feed ration management on a dairy operation that does not have access to enough acres to spread all of its manure nutrients at an agronomic rate. The resource concerns are water quality degradation, excessive manure nutrients particularly phosphorus and nitrogen. The goal of the practice is to reduce the amount of nutrients in the raw manure so that it is easier for "landlocked" farmers to apply the manure at agronomic rates, thereby reducing or eliminating water quality degradation concerns.

Associated practices: Nutrient management (590), Prescribed Grazing (528), Forage and Biomass Planting (512), Forage Harvest Management (511)

Before Situation:

Producer is feeding a higher level of protein (17%) and phosphorus (0.45%) than is needed to meet National Research Council (NRC) recommendations for a herd of this type and at this stage of production. The operation does not have all of the available acres that it needs to use the nutrients in the manure when spread at agronomic rates causing over application of nutrients on land affecting soil quality, which may lead to water quality degradation.

After Situation:

The scenario assumes the operation milks 500 Holstein cows at average weight of 1,400 pounds, or 700 animal units. A baseline analysis of manure, feed, and milk will be completed to determine the current nutrient inputs and outputs. The Producer will reduce feed protein and phosphorus levels to that of NRC recommendations for a herd of this type and at this stage of production (12% protein and 0.35% phosphorus). Producer will explore alternative feedstuffs and alternative feeding strategies to bring manure nitrogen and phosphorus levels down without hurting production of the animals or profitability of the operation. Alternative feeding strategies can include things like grouping animals per similar age or stage of production, or feeding based on individual rolling average production.

Scenario Feature Measure: Number of 1000 pound animal units

Scenario Unit: Animal Unit

Scenario Typical Size: 700

Scenario Cost: \$2,606.60

Scenario Cost/Unit: \$3.72

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$29.84	10	\$298.40
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.32	20	\$406.40
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$97.78	12	\$1,173.36
Materials						
Test, Feed Analysis	1989	Representative sample of feed. Includes materials and shipping only.	Each	\$34.05	16	\$544.80
Test, MUN Testing	1990	Testing nitrogen level in milk as a measure of nitrogen that will be exhibited in manure. Includes materials and shipping only.	Each	\$0.42	4	\$1.68
Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	\$45.49	4	\$181.96

Practice: 592 - Feed Management

Scenario: #2 - Dairy-Small

Scenario Description:

Feed ration management on a small dairy operation that does not have access to enough acres to spread all of its manure nutrients at an agronomic rate. The resource concerns are water quality degradation, excessive manure nutrients particularly phosphorus and nitrogen. The goal of the practice is to reduce the amount of nutrients in the raw manure so that it is easier for "landlocked" farmers to apply the manure at agronomic rates, thereby reducing or eliminating water quality degradation concerns.

Associated practices: Nutrient management (590), Prescribed Grazing (528), Forage and Biomass Planting (512), Forage Harvest Management (511)

Before Situation:

Producer is feeding a higher level of protein (17%) and phosphorus (0.45%) than is needed to meet National Research Council (NRC) recommendations for a herd of this type and at this stage of production. The operation does not have all of the available acres that it needs to use the nutrients in the manure when spread at agronomic rates causing over application of nutrients on land affecting soil quality, which may lead to water quality degradation.

After Situation:

The scenario assumes the operation milks 50 Jersey and Guernsey cows at average weight of 1,000 pounds, or 50 animal units. A baseline analysis of manure, feed, and milk will be completed to determine the current nutrient inputs and outputs. The Producer will reduce feed protein and phosphorus levels to that of NRC recommendations for a herd of this type and at this stage of production (12% protein and 0.35% phosphorus). The producer will also implement pasturing of his herd part to the time where the animals will obtain some of their diet by grazing pastures as well as explore alternative feedstuffs and alternative feeding strategies to bring manure nitrogen and phosphorus levels down without hurting production of the animals or profitability of the operation.

Scenario Feature Measure: Number of 1000 pound animal units

Scenario Unit: Animal Unit

Scenario Typical Size: 50

Scenario Cost: \$1,584.96

Scenario Cost/Unit: \$31.70

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$97.78	6	\$586.68
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.32	12	\$243.84
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$29.84	10	\$298.40
Materials						
Test, MUN Testing	1990	Testing nitrogen level in milk as a measure of nitrogen that will be exhibited in manure. Includes materials and shipping only.	Each	\$0.42	4	\$1.68
Test, Feed Analysis	1989	Representative sample of feed. Includes materials and shipping only.	Each	\$34.05	8	\$272.40
Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	\$45.49	4	\$181.96

Practice: 592 - Feed Management

Scenario: #3 - Livestock

Scenario Description:

This example is feed ration management on a swine finishing operation that does not have access to enough acres to spread all of the nutrients in the manure, at agronomic rates. The resource concerns are water quality, and excessive manure nutrients, particularly nitrogen and phosphorus. The goal of the practice is to reduce these excess nutrients to a point where they can be fully utilized at agronomic rates on the existing land base, thereby reducing or eliminating water quality degradation concerns.

Associated Practices: Nutrient management (590)

Before Situation:

The producer is feeding a single diet with a higher level of protein (16%) and phosphorus (0.65%) than is needed to meet National Research Council (NRC) recommendations for animals of this type and at this stage of production.

After Situation:

This scenario's operation currently houses 2800 finishing hogs with an average weight of 154 pounds, or 430 animal units ((2800 hogs * 154 lbs/hog/1000 lbs/AU154) = 430 AU). The farm typically grows out 2.5 turns per year. A baseline analysis of manure and feed will be completed to determine the current nutrient inputs and outputs. The producer will reduce feed protein and phosphorus levels to that of NRC recommendations for animals of this type and at this stage of production. Producer will consider alternative feedstuffs, phase feeding, split-sex feeding and other scenarios to achieve the objective. Proper feed management removes excess nutrients from the manure, making the manure easier for the producer to properly manage within his/her land constraints. The improved manure management prevents surface and groundwater degradation from excess nitrogen and phosphorus.

Scenario Feature Measure: Number of 1000 pound animal units

Scenario Unit: Animal Unit

Scenario Typical Size: 1,075

Scenario Cost: \$2,012.16

Scenario Cost/Unit: \$1.87

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$29.84	12	\$358.08
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.32	8	\$162.56
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$97.78	12	\$1,173.36
Materials						
Test, Feed Analysis	1989	Representative sample of feed. Includes materials and shipping only.	Each	\$34.05	4	\$136.20
Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	\$45.49	4	\$181.96

Practice: 592 - Feed Management

Scenario: #4 - Poultry/Layer Operation

Scenario Description:

This example is feed ration management on a poultry or layer operation that does not have access to enough acres to spread all of the nutrients in the manure, at agronomic rates. The resource concerns are water quality, and excessive manure nutrients, particularly nitrogen and phosphorus. The goal of the practice is to reduce these excess nutrients to a point where they can be fully utilized at agronomic rates on the existing land base, thereby reducing or eliminating water quality degradation concerns.

Associated Practices: Nutrient management (590)

Before Situation:

The producer is feeding animals a single diet with a higher nutrient levels than are needed to meet National Research Council (NRC) recommendations for animals of this type and at this stage of production.

After Situation:

This scenario's operation currently houses 15,000 broilers with an average weight of 5 pounds, or 75 animal units ((15,000 broilers * 5lbs/chicken/1000 lbs/) = 75 AU). A baseline analysis of manure and feed will be completed to determine the current nutrient inputs and outputs. The producer will reduce feed protein and phosphorus levels to that of NRC recommendations for animals of this type and at this stage of production. Producer will consider alternative feedstuffs, phase feeding, split-sex feeding and other scenarios to achieve the objective. Proper feed management removes excess nutrients from the manure, making the manure easier for the producer to properly manage within his/her land constraints. The improved manure management prevents surface and groundwater degradation from excess nitrogen and phosphorus.

Scenario Feature Measure: Number of 1000 pound animal units

Scenario Unit: Animal Unit

Scenario Typical Size: 75

Scenario Cost: \$1,710.56

Scenario Cost/Unit: \$22.81

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$97.78	8	\$782.24
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$29.84	15	\$447.60
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$20.32	8	\$162.56
Materials						
Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	\$45.49	4	\$181.96
Test, Feed Analysis	1989	Representative sample of feed. Includes materials and shipping only.	Each	\$34.05	4	\$136.20