

**Practice: 328 - Conservation Crop Rotation**

**Scenario: #1 - Improve rotation diversity**

**Scenario Description:**

This scenario involves acquiring the technical knowledge and skills necessary to incorporate a new crop that provides greater natural resource conservation benefits into a farm's crop rotation. The typical farm where this rotation change occurs is 100 acres used to produce row-crops. No foregone income is included. Cost represents typical situations for conventional (non-organic) producers.

**Before Situation:**

The rotation consists primarily of moderate to low residue producing row crops. Fields range from nearly flat to C and D slopes. Erosion, soil quality, and pest management are the primary natural resource conservation concerns.

**After Situation:**

A new crop is incorporated into the current rotation. The new rotation provides additional high residue that will reduce sheet and rill erosion, reduce soil erosion from wind, maintain or improve soil organic matter, manage the balance of plant nutrient, improve water use efficiency, and improve management of weeds, insects, and diseases.

**Scenario Feature Measure:** Area planted

**Scenario Unit:** Acre

**Scenario Typical Size:** 100

**Scenario Cost:** \$1,480.40

**Scenario Cost/Unit:** \$14.80

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<i>Labor</i>						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$37.01	40	\$1,480.40

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**Scenario: #2 - Row crop to perennial**

**Scenario Description:**

This scenario involves the technical knowledge and skills necessary to incorporate a perennial forage crop that provides greater natural resource conservation benefits into a farm's crop rotation. The typical farm where this rotation change occurs is 100 acres used to produce conventional (non-organic) row-crops. The typical rotation at the baseline condition is continuous silage corn, followed by a rye cover crop. A cool season grass-legume forage is planted in lieu of the normally scheduled cover crop. The forage is allowed to grow for 24-months. In late winter, the fescue is terminated with herbicide, then double-crop soybeans are drilled. Foregone income is included in the payment because the soybean income is partially foregone during the year fescue is established. The cost of planting the forage is not included here- that cost is addressed using a Forage and Biomass Planting (512) scenario. The farm does not have hay-making equipment. Hay is custom harvested. Typical supporting practices include Forage Harvest Management (511), or Prescribed Grazing (528), Nutrient Management (590), Pest Management (595).

**Before Situation:**

The typical rotation at the baseline condition is continuous silage corn, followed by a rye cover crop. The rye cover only provides low to moderate levels of residue. Fields range from nearly flat to C and D slopes. Erosion, soil quality, and pest management are the primary natural resource conservation concerns.

**After Situation:**

A perennial forage crop is incorporated into the current rotation that provides additional high residue that will reduce sheet and rill erosion, reduce soil erosion from wind, maintain or improve soil organic matter, manage the balance of plant nutrient, improve water use efficiency, and improve management of weeds, insects, and diseases.

**Scenario Feature Measure:** Area planted in perennial

**Scenario Unit:** Acre

**Scenario Typical Size:** 40

**Scenario Cost:** \$11,387.00

**Scenario Cost/Unit:** \$284.68

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Foregone Income</b>						
Fl, Hay, General Grass	2122	General Grass Hay is Primary Land Use	Ton	\$41.38	-80	(\$3,310.40)
Fl, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$348.93	40	\$13,957.20
<b>Labor</b>						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$37.01	20	\$740.20

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**Scenario: #3 - Specialty crop to perennial**

**Scenario Description:**

This scenario involves the technical knowledge and skills necessary to incorporate a perennial forage crop that provides greater natural resource conservation benefits into a farm's crop rotation. The typical farm where this rotation change occurs is a 10 acre field meeting the definition of highly erodible land that is used to produce conventional (non-organic) specialty crops. The typical rotation at the baseline condition is vegetables from different families are grown in rotation and followed by a rye cover crop each year. This scenario involves planting a cool season grass-legume forage mix in lieu of a normally scheduled cover crop. The forage is allowed to grow for 24-months. Then, the forage planting is terminated with hebicide, then vegetables are planted. Foregone income is included in the payment because the vegetable income is partially foregone during the year forage is established. The cost of planting the forage is not included here- that cost is addressed using a Forage and Biomass Planting (512) scenario. The farm does not have hay-making equipment. Hay is custom harvested. Typical supporting practices include Forage Harvest Management (511), or Prescribed Grazing (528), Nutrient Management (590), Pest Management (595)

**Before Situation:**

The typical rotation at the baseline condition is continuous vegetables from different families are grown in rotation and followed by a rye cover crop each year. The rye cover only provides low to moderate levels of residue. Fields are typically B slopes and steeper. Land capability classes are typically IIIe, IVe, VI, VII, and VIII. Erosion, soil quality, and pest management are the primary natural resource conservation concerns.

**After Situation:**

A perennial forage crop is incorporated into the current rotation that provides additional high residue that will reduce sheet and rill erosion, reduce soil erosion from wind, maintain or improve soil organic matter, manage the balance of plant nutrient, improve water use efficiency, and improve management of weeds, insects, and diseases. The cost of planting the forage is not included here- that cost is addressed using a Forage and Biomass Planting (512) scenario. Typical supporting practices include Forage Harvest Management (511), or Prescribed Grazing (528), Nutrient Management (590), Pest Management (595).

**Scenario Feature Measure:** Area planted

**Scenario Unit:** Acre

**Scenario Typical Size:** 10

**Scenario Cost:** \$10,018.60

**Scenario Cost/Unit:** \$1,001.86

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Foregone Income</b>						
FI, Hay, General Grass	2122	General Grass Hay is Primary Land Use	Ton	\$41.38	-40	(\$1,655.20)
FI, Vegetables	2033	Vegetables is Primary Crop	Acre	\$1,093.36	10	\$10,933.60
<b>Labor</b>						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$37.01	20	\$740.20

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**Scenario: #5 - Organic crop to perennial**

**Scenario Description:**

This scenario involves the technical knowledge and skills necessary to incorporate a perennial forage crop that provides greater natural resource conservation benefits into an organic produce farm's crop rotation. The typical farm where this rotation change occurs is a 5 acre field meeting the definition of highly erodible land that is used to produce organic specialty crops. The typical rotation at the baseline condition is organic vegetables from different families are grown in rotation and each crop is followed by a rye and crimson clover green manure crop. This scenario involves planting a cool season grass-legume forage mix in lieu of a normally scheduled green manure crop. The forage is allowed to grow for 24-months. Then, the forage planting is terminated with an OMRI approved herbicide, then vegetables are strip till planted into the residue. Foregone income is included in the payment because the vegetable income is foregone during the year forage is established. The cost of planting the forage is not included here- that cost is addressed using a Forage and Biomass Planting (512) scenario. The farm does not have hay-making equipment. Hay is custom harvested. Typical supporting practices include Forage Harvest Management (511), or Prescribed Grazing (528), Nutrient Management (590), Pest Management (595)

**Before Situation:**

The typical rotation at the baseline condition is organic vegetables from different families are grown in rotation and each crop is followed by a rye and crimson clover green manure crop. The green manure provides minimal residue cover in the soil surface. Fields are typically on B slopes and steeper. Land capability classes are typically IIIe, IVe, VI, VII, and VIII. Erosion, soil quality, pest management and compatibility with an Organic System Plan are the primary natural resource conservation concerns.

**After Situation:**

A perennial forage crop is incorporated into the current rotation that provides high residues that will reduce sheet and rill erosion, reduce soil erosion from wind, maintain or improve soil organic matter, manage the balance of plant nutrient, improve water use efficiency, and improve management of weeds, insects, and diseases. The cost of planting the forage is not included here- that cost is addressed using a Forage and Biomass Planting (512) scenario. Typical supporting practices include Forage Harvest Management (511), or Prescribed Grazing (528), Nutrient Management (590), Pest Management (595).

**Scenario Feature Measure:** Area planted

**Scenario Unit:** Acre

**Scenario Typical Size:** 5

**Scenario Cost:** \$6,075.25

**Scenario Cost/Unit:** \$1,215.05

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Foregone Income</b>						
FI, Organic, Vegetables	2252	Vegetables is Primary Crop	Acre	\$1,257.37	5	\$6,286.85
FI, Hay, General Grass, Organic	2200	Organic general Grass Hay is Primary Land Use	Ton	\$47.59	-20	(\$951.80)
<b>Labor</b>						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$37.01	20	\$740.20