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 in 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 resouce 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: $1,460.40 **Scenario Cost/Unit:** $14.60

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Labor						
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	$36.51	40	$1,460.40

Practice: 328 - Conservation Crop Rotation

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 reosurce conservation benefits into a farm's crop rotation. The typical farm where this rotation change occurs is 100 acres uesd to produce convnetional (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 hebidice, then double-crop soybeans are drilled. Foregone income is included in the payment becasue 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 resouce 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: $6,999.80 **Scenario Cost/Unit:** $175.00

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Foregone Income						
FI, Hay, General Grass	2122	General Grass Hay is Primary Land Use	Ton	$41.00	-80	($3,280.00)
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	$238.74	40	$9,549.60
Labor						
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	$36.51	20	$730.20

Practice: 328 - Conservation Crop Rotation

Scenario: #4 - Continuous Live Roots

Scenario Description:

This scenario involves the acquisition of technical knowledge and skills necessary to effectively implement an advance conservation crop rotation that uses more diverse crops grown in rotation and prompt planting following each harvest to provide continuous living roots throughout a 30 acre field. The typical baseline rotation in this region consists of continuous, conventional, non-irrigated full season soybeans followed by winter fallow. The new rotation implemented through this scenarion is a 2-year system beginning in 1st year with planting barley immediately following the soybean harvest, a summer barley harvest followed immediately by planting double-crop soybeans. In the second year of the new rotation, wheat is planted, harvested then immediately followed by double-crop sorghum. The typical costs associated with this scenario include short-term costs incurred in making the transition, including management, acquisition of knowledge, custom hiring planting and/or harvest prior to making capital investment in new equipment. Foregone income is not considered in this scenario becasue it can be assumed that the new rotation's productivity is likely to be equal to or more profitable in the long run, once the costs of the transition are overcome.

Before Situation:

The typical baseline rotation consists ofcontinuous, conventional, non-irrigated soybeans followed by winter fallow. Fields range from nearly flat to C and D slopes. Erosion, soil quality, and pest management are the primary concerns.

After Situation:

The baseline rotation is replaced with a new rotation involving a continuous cycle of annual crops and no fallow periods. The rotation established adds higher residue crop(s) to the rotation that reduce erosion, improve soil quality, and break pest cycles.

Scenario Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 30

Scenario Cost: $1,825.50 **Scenario Cost/Unit:** $60.85

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Labor						
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	$36.51	50	$1,825.50

Practice: 328 - Conservation Crop Rotation

Scenario: #4 - Transition to Organic

Scenario Description:

This practice payment is provided to acquire the technical knowledge and skills necessary to effectively change a crop rotation on a typical 5-acre conventional (non-organic) crop field that to 36-months of grass in order to meet requirements of an Organic System Plan (OSP) leading to eventual production of organic specialty crops in the field. This scenario involves the technical knowledge and skills necessary to incorporate a perennial forage crop that is managed to meet National Orgainc Program (NOP) requirements. The typical field where this rotation change occurs is a 5 acre field that is used to produce conventional (non-organic) soybeans without irrigation. This scenario involves planting a cool season grass-legume forage mixfollowing the soybean harvest. The forage is allowed to grow for 36-months. Then, the forage planting is terminated with primary tillage, then vegetables are planted. Foregone income is included in the payment becasue the soybean 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). Cost represents typical situations for organic transitioning producers.

Before Situation:

This rotation consisted of growing specialty crops. Fields range from nearly flat to B and C slopes. Erosion, soil quality, pest management and meeting NOP requirements are the primary concerns.

After Situation:

The rotation established adds higher residue crop(s) to the rotation that reduce erosion, improve soil quality, break pest cycles and meets the NOP requirements for transition to organic production.

Scenario Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 5

Scenario Cost: $2,137.05 **Scenario Cost/Unit:** $427.41

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Foregone Income						
FI, Hay, General Grass	2122	General Grass Hay is Primary Land Use	Ton	$41.00	-15	($615.00)
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	$258.33	5	$1,291.65
Labor						
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	$36.51	40	$1,460.40

Practice: 328 - Conservation Crop Rotation

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 reosurce 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 becasue 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 coverin the soil surface. Fields are typically B slopes and steeper. Land capabilty classes are typically IIIe, IVe, VI, VII, and VIII. Erosion, soil quality, pest management and compatability with an Organic System Plan are the primary natural resouce 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: $5,318.80 **Scenario Cost/Unit:** $1,063.76

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Foregone Income						
FI, Organic, Vegetables	2252	Vegetables is Primary Crop	Acre	$1,105.72	5	$5,528.60
FI, Hay, General Grass, Organic	2200	Organic general Grass Hay is Primary Land Use	Ton	$47.00	-20	($940.00)
Labor						
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	$36.51	20	$730.20