

Practice: 633 - Waste Recycling

Scenario: #1 - Export Ag Waste By-products Recycled for Use Off Farm

Scenario Description:

Agricultural by-products on the farm are in excess of the ability of the farm and limited crop landbase to utilize. These waste materials are accumulating in such a manner that the water, soil and/or air quality have resource concerns. The application of a waste management plan will recycle these by-products such that the quality of the natural resources will be improved and the environment protected. The agricultural by-products are tested and exported off the farm operation for external uses. Records are kept detailing disposition of the waste, including date, amount, and receiver of the waste. Results of the agricultural by-product laboratory analysis is also provided to the receiver.

Associated practices: 313-Waste Storage Facility, 317-Composting Facility, 590-Nutrient Management

Before Situation:

Agricultural by-products are produced or accumulated on the farm in amounts that cannot be utilized by the farm without causing resource concerns such as degradation of water quality, soil health and/or air quality.

After Situation:

Twice a year the excess agricultural by-products that have been collected at the farm are sampled and laboratory tested to determine the characteristics of the waste material that is recycled. The results of this analysis will determine the basis of its use. The agricultural by-products are then handled according to the waste management system plan. The intended off-farm use of the recycled agricultural waste by-products will refer to the laboratory analysis. Records shall be kept of the analysis, dates and quantities of recycled waste exported.

Scenario Feature Measure: Farm

Scenario Unit: Each

Scenario Typical Size: 1

Scenario Cost: \$416.28

Scenario Cost/Unit: \$416.28

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	\$32.40	4	\$129.60
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	\$99.77	2	\$199.54
Materials						
Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	\$43.57	2	\$87.14

Practice: 633 - Waste Recycling

Scenario: #2 - Import Non-Ag Waste By-products, Compost with Manure for Use On Farm

Scenario Description:

A farm has soil quality resource concerns. The farm also has an energy goal to reduce their use of transportation fuels and is interested in utilizing locally available material. The farm is located near a food processor that has excess waste available for recycling. The farm has agreed to receive an amount of waste material which it plans to mix with animal manure solids. This blended waste material will be composted. The finished compost product will be used both for animal bedding and land applied as a soil amendment and nutrient source. The land applied material will comply with the nutrient management plan for agronomic crop nutrient utilization. Records are kept to document the methods and utilization of the non-agricultural products for agricultural purposes.

Associated practices: 313-Waste Storage Facility, 317-Composting Facility, 590-Nutrient Management

Before Situation:

A farm has a soil quality resource concerns. The operator also has an energy goal to reduce the farm associated transportation fuels. Additional soil amendments could improve their soil quality but the local fertilizer dealer imports all their material by truck from out of state. Other non-agricultural by-products are locally available but cannot be applied directly on the land. The farm may be able to generate beneficial soil amendments by composting the non-agricultural by-products but does not know the best recipe to use for a compost mix, the time and temperatures required to break down the material or recommended rate of land application .

After Situation:

A dairy farm has soil quality resource concerns and plans to improve their soil by utilizing non-agricultural waste materials available locally. The dairy is located near an oyster producer that needs to dispose of excess oyster shells. The calcium in oyster shells can be used to buffer the pH of their soils. The dairy has agreed to receive excess oyster shells which are blended with dairy manure solids and composted. The finished product is laboratory tested to determine the characteristics such as pH and nutrient content. The composted product is used both for dairy bedding and land applied as a soil amendment and nutrient source. Recordkeeping is done for the quantity of non-agricultural material received, ratio blended with manure solids, composting temperatures and times with the corresponding tested sample analysis. Records of the recycled non-agricultural by-products applied to the land is maintained as part of their dairy nutrient management plan.

Scenario Feature Measure: Cubic Foot

Scenario Unit: Cubic Foot

Scenario Typical Size: 100

Scenario Cost: \$1,248.42

Scenario Cost/Unit: \$12.48

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	\$32.40	12	\$388.80
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	\$99.77	6	\$598.62
Materials						
Test, Compost Analysis	307	Moisture, Total N, P, K. Includes materials and shipping only.	Each	\$43.50	6	\$261.00

Practice: 633 - Waste Recycling

Scenario: #3 - Import Non-Agricultural By-Products, Land Applied

Scenario Description:

A farm has resource concerns about the low soil organic matter content on several fields. The fields are located where a source of municipal green waste may be available. The green, municipal waste could contain material such as food waste, green yard waste and waste from local processing facilities. The farmer agrees to receive waste materials in bulk two times a year, once in the spring and once in the fall. A blended sample of the waste is tested for nutrients and any potential chemicals of concern. It is then land applied in such a manner that soil organic matter is enhanced, crop nutrients are available and soil compaction is minimized. Records of the tested samples and rates of land application are maintained and accounted for in the nutrient management plan.

Associated practices: 590-Nutrient Management, (Temporary Field) Waste Storage

Before Situation:

A farm has several fields with low soil organic matter and is located near a community where the local municipality collects green waste. The farmer is concerned about land applying the green waste directly to the fields and that the applied material may tie-up nutrients as well as possible soil compaction issues from equipment the municipality may use for spreading. The farmer wants to make sure the waste material that may be applied is safe and existing soil quality conditions are protected before agreeing to recycle any imported green waste.

After Situation:

A farm has low soil organic matter content on several fields and can import non-agricultural green waste material. The farm imports the green waste material that has been chopped and screened for land application. The imported material is briefly stock piled, for no more than 7 days while a blended sample is tested. The sample is tested for nutrient content and any potential chemicals of concern. Based on results of the tested sample and in consultation with an agronomist the waste material is land applied on the agricultural fields. Soil is protected from compaction by applying the waste in an appropriate manner. Records of the sample test and rate of land application in the field are maintained. The sampled test information is used to adjust fertilizer application rates and to prevent crop nutrient tie-up resulting from increased carbon in the soil. The green waste recycling activity on the farm is documented and included in the nutrient management plan records.

Scenario Feature Measure: Ton

Scenario Unit: Ton

Scenario Typical Size: 20

Scenario Cost: \$416.28

Scenario Cost/Unit: \$20.81

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	\$32.40	4	\$129.60
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	\$99.77	2	\$199.54
Materials						
Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	\$43.57	2	\$87.14