

**Practice: 380 - Windbreak/Shelterbelt Establishment**

**Scenario: #1 - 3 row windbreak, containerized planting stock**

**Scenario Description:**

Three or more rows of containerized trees, shrubs or a combination of trees and shrubs are planted for wind protection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. Additional associated practices may include: 315 Herbaceous Weed Control, 660 Tree/Shrub Pruning, 484 Mulching

**Before Situation:**

Agricultural field, livestock paddock, feedlot or farmstead needing protection from wind, additional wildlife food and cover, odor mitigation, visual screening or management of snow deposition

**After Situation:**

A windbreak of containerized trees and shrubs is installed by hand planting trees 20 ft apart and shrubs 6 ft apart with 16' between rows. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening.

**Scenario Feature Measure:** length of windbreak row(s)

**Scenario Unit:** Feet

**Scenario Typical Size:** 500

**Scenario Cost:** \$2,052.74

**Scenario Cost/Unit:** \$4.11

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Hand tools, tree planting	1590	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$11.62	8	\$92.96
<b>Foregone Income</b>						
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$437.76	0.3	\$131.33
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$430.43	0.3	\$129.13
<b>Labor</b>						
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
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	\$36.72	8	\$293.76
<b>Materials</b>						
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	134	\$12.06
Tree, hardwood, seedling or transplant, potted or B&B, 2-3 gal.	1532	Potted or balled and burlapped hardwood tree, 2-3 gal. Includes materials and shipping only.	Each	\$7.41	25	\$185.25
Tree, conifer, seedling or transplant, potted or B&B, 2-3 gal.	1537	Potted or balled and burlapped conifer tree, 2-3 gal. Includes materials and shipping only.	Each	\$7.13	25	\$178.25
Shrub, seedling or transplant, potted or B&B, 2-3 gal.	1527	Potted or balled and burlapped shrub, 2-3 gal. Includes materials and shipping only.	Each	\$9.21	84	\$773.64
Fertilizer, tree, slow release, premix packet or spike	1594	Slow release fertilizer to gradually apply nutrients over time for tree establishment. 2.0 Oz Packet (Premixed: 16-16-16 or 16-8-8 ) or Fertilizer Spike	Each	\$0.70	134	\$93.80

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**Scenario: #3 - 3 row windbreak, bare-root seedling planting stock**

**Scenario Description:**

Three or more rows of bare-root trees, shrubs or a combination of trees and shrubs are planted for wind protection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to machine the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. Additional associated practices may include: 315 Herbaceous Weed Control, 660 Tree/Shrub Pruning, 484 Mulching

**Before Situation:**

Agricultural field, livestock paddock, feedlot or farmstead needing protection from wind, additional wildlife food and cover, odor mitigation, visual screening or management of snow deposition

**After Situation:**

A windbreak of bare-root trees and shrubs is installed by machine planting trees 10 ft apart and shrubs 5 ft apart with 16' between rows. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening.

**Scenario Feature Measure:** length of windbreak row(s)

**Scenario Unit:** Feet

**Scenario Typical Size:** 500

**Scenario Cost:** \$634.00

**Scenario Cost/Unit:** \$1.27

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Mechanical tree planter	1600	Mechanical tree planter. Requires a pulling unit of either tractor or small dozer depending upon site conditions. Does not include labor.	Hour	\$6.60	2	\$13.20
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$37.64	2	\$75.28
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$23.74	2	\$47.48
<b>Foregone Income</b>						
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$430.43	0.3	\$129.13
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$437.76	0.3	\$131.33
<b>Labor</b>						
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	2	\$40.64
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	\$36.72	2	\$73.44
<b>Materials</b>						
Tree, hardwood, seedling or transplant, bare root, 16-36"	1510	Bare root hardwood trees 18-36" tall. Includes materials and shipping only.	Each	\$0.60	50	\$30.00
Shrub, seedling or transplant, bare root, 6-18"	1506	Bare root hardwood trees 6-18" tall. Includes materials and shipping only.	Each	\$0.47	100	\$47.00
Tree, conifer, seedling, bare root, 2-1	1514	Bare root conifer trees, 2-1 (3 years old). Includes materials and shipping only.	Each	\$0.57	50	\$28.50
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	200	\$18.00

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**Scenario: #5 - 1 row windbreak, containerized tree planting stock**

**Scenario Description:**

One row of containerized hardwood and/or conifer trees planted for wind protection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. Additional associated practices may include: 315 Herbaceous Weed Control, 660 Tree/Shrub Pruning, 484 Mulching.

**Before Situation:**

Agricultural field, livestock paddock, feedlot or farmstead needing protection from wind, additional wildlife food and cover, odor mitigation, visual screening or management of snow deposition

**After Situation:**

A windbreak of containerized trees is installed by hand planting trees 20 ft apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening.

**Scenario Feature Measure:** length of windbreak row(s)

**Scenario Unit:** Feet

**Scenario Typical Size:** 500

**Scenario Cost:** \$404.47

**Scenario Cost/Unit:** \$0.81

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Hand tools, tree planting	1590	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$11.62	1.5	\$17.43
<b>Foregone Income</b>						
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$430.43	0.115	\$49.50
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$437.76	0.115	\$50.34
<b>Labor</b>						
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	1.5	\$30.48
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	\$36.72	1.5	\$55.08
<b>Materials</b>						
Fertilizer, tree, slow release, premix packet or spike	1594	Slow release fertilizer to gradually apply nutrients over time for tree establishment. 2.0 Oz Packet (Premixed: 16-16-16 or 16-8-8 ) or Fertilizer Spike	Each	\$0.70	25	\$17.50
Tree, hardwood, seedling or transplant, potted or B&B, 2-3 gal.	1532	Potted or balled and burlapped hardwood tree, 2-3 gal. Includes materials and shipping only.	Each	\$7.41	13	\$96.33
Tree, conifer, seedling or transplant, potted or B&B, 2-3 gal.	1537	Potted or balled and burlapped conifer tree, 2-3 gal. Includes materials and shipping only.	Each	\$7.13	12	\$85.56
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	25	\$2.25

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**Scenario: #7 - 1 row windbreak, containerized shrub planting stock**

**Scenario Description:**

One row of containerized shrubs planted for wind protection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. Additional associated practices may include: 315 Herbaceous Weed Control, 660 Tree/Shrub Pruning, 484 Mulching

**Before Situation:**

Agricultural field, livestock paddock, feedlot or farmstead needing protection from wind, additional wildlife food and cover, odor mitigation, visual screening or management of snow deposition

**After Situation:**

A windbreak of containerized shrubs is installed by hand planting shrubs 6 ft apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening.

**Scenario Feature Measure:** length of windbreak row(s)

**Scenario Unit:** Feet

**Scenario Typical Size:** 500

**Scenario Cost:** \$1,283.14

**Scenario Cost/Unit:** \$2.57

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Hand tools, tree planting	1590	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$11.62	5	\$58.10
<b>Foregone Income</b>						
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$437.76	0.115	\$50.34
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$430.43	0.115	\$49.50
<b>Labor</b>						
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	5	\$101.60
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	\$36.72	5	\$183.60
<b>Materials</b>						
Fertilizer, tree, slow release, premix packet or spike	1594	Slow release fertilizer to gradually apply nutrients over time for tree establishment. 2.0 Oz Packet (Premixed: 16-16-16 or 16-8-8 ) or Fertilizer Spike	Each	\$0.70	84	\$58.80
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	84	\$7.56
Shrub, seedling or transplant, potted or B&B, 2-3 gal.	1527	Potted or balled and burlapped shrub, 2-3 gal. Includes materials and shipping only.	Each	\$9.21	84	\$773.64

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**Scenario: #9 - 1 row windbreak, bare-root tree seedling planting stock**

**Scenario Description:**

One row of bare-root trees planted for wind protection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to machine the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. Additional associated practices may include: 315 Herbaceous Weed Control, 660 Tree/Shrub Pruning, 484 Mulching.

**Before Situation:**

Agricultural field, livestock paddock, feedlot or farmstead needing protection from wind, additional wildlife food and cover, odor mitigation, visual screening or management of snow deposition

**After Situation:**

A windbreak of bare-root trees is installed by machine planting trees 10 ft apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening.

**Scenario Feature Measure:** length of windbreak row(s)

**Scenario Unit:** Feet

**Scenario Typical Size:** 500

**Scenario Cost:** \$196.85

**Scenario Cost/Unit:** \$0.39

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$23.74	0.5	\$11.87
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$37.64	0.5	\$18.82
Mechanical tree planter	1600	Mechanical tree planter. Requires a pulling unit of either tractor or small dozer depending upon site conditions. Does not include labor.	Hour	\$6.60	0.5	\$3.30
<b>Foregone Income</b>						
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$437.76	0.115	\$50.34
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$430.43	0.115	\$49.50
<b>Labor</b>						
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	0.5	\$10.16
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	\$36.72	0.5	\$18.36
<b>Materials</b>						
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	50	\$4.50
Tree, hardwood, seedling or transplant, bare root, 16-36"	1510	Bare root hardwood trees 18-36" tall. Includes materials and shipping only.	Each	\$0.60	50	\$30.00

**Practice: 380 - Windbreak/Shelterbelt Establishment**

**Scenario: #11 - 1 row windbreak, bare-root shrub seedling planting stock**

**Scenario Description:**

One row of bare-root shrubs planted for wind protection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to machine the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. Additional associated practices may include: 315 Herbaceous Weed Control, 660 Tree/Shrub Pruning, 484 Mulching

**Before Situation:**

Agricultural field, livestock paddock, feedlot or farmstead needing protection from wind, additional wildlife food and cover, odor mitigation, visual screening or management of snow deposition

**After Situation:**

A windbreak of bare-root shrubs is installed by machine planting shrubs 5 ft apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening.

**Scenario Feature Measure:** length of windbreak row(s)

**Scenario Unit:** Feet

**Scenario Typical Size:** 500

**Scenario Cost:** \$280.86

**Scenario Cost/Unit:** \$0.56

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Mechanical tree planter	1600	Mechanical tree planter. Requires a pulling unit of either tractor or small dozer depending upon site conditions. Does not include labor.	Hour	\$6.60	1	\$6.60
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$37.64	1	\$37.64
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$23.74	1	\$23.74
<b>Foregone Income</b>						
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$437.76	0.115	\$50.34
FI, Soybeans Dryland	1961	Dryland Soybeans is Primary Crop	Acre	\$430.43	0.115	\$49.50
<b>Labor</b>						
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	1	\$20.32
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	\$36.72	1	\$36.72
<b>Materials</b>						
Shrub, seedling or transplant, bare root, 6-18"	1506	Bare root hardwood trees 6-18" tall. Includes materials and shipping only.	Each	\$0.47	100	\$47.00
Wire flags	1586	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.09	100	\$9.00