NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

CRITICAL AREA PLANTING

(Ac.)

CODE 342

SPECIFICATION

ESTABLISHING GRASSES, OR LEGUMES (applies to all critical area plantings)

Site Preparation

If necessary, divert off site water away from the critical area. This may require a permanent diversion, or other temporary measures be used that will be effective during the period of vegetative establishment.

If strong erosive winds are expected, protect the critical area with barriers such as snow fence or nylon or plastic wind screens. Many types of barriers are available.

Where needed for installation of engineering or vegetative erosion control practices, grade steep slopes to a suitable grade (preferably 3:1 or flatter).

On construction sites, mined areas, or other critical areas where the existing surface material is either physically or chemically unsuited to support vegetation, a suitable material will be evenly spread on the surface to allow for plant growth. Required depths will be determined on each specific site. However, the deeper the unsuitable surface is covered, the easier it will be to establish and maintain vegetation.

On some sites, soil amendments may be required to raise or lower the pH to a level, which will support plant growth (3.5 to 9.0). Normally either the technician or the client will know if the critical area will support plant growth. However, in the case of an oil spill, chemical spill, or some other unusual circumstance, a soil test to determine the pH and other chemical properties of the soil may be required. If plant nutrients are to be used then a soil test is required.

On sites which are large enough and sufficient rainfall or irrigation water is available, a dead litter crop (such as winter wheat grown as a cover) may be established rather than mulching.

Seedbed Preparation

The seedbed prior to seeding should be firm but not compacted to the point that mulch tucking, or anchoring, will be inhibited. Where mulching will be employed, and tucking is planned, the area should be tilled so that a four inch minimum depth of firm but friable soil is present. If a dead litter or cover crop is present, no additional seedbed preparation is necessary.

Fertilizing

Apply fertilizer according to a soil test unless fertility is known to be adequate. If fertility levels are unknown, soil test and apply recommended fertilizer during the final seedbed preparation (see the Nutrient Management 590 practice). When a cover crop is used, apply all of the phosphorus during the seedbed preparation for the cover crop and wait to apply the nitrogen until after the grass is planted. If a seed mix contains a legume, additional N may not be needed.

When high carbon mulches such as hay or wood fibers are used, apply an extra 20 pounds per acre of nitrogen per ton of mulch to the standard recommended rate.

Up to 15 pounds per acre of the recommended nitrogen may be applied with the seed. When this is done, the remainder may either be applied pre-plant, or preferably, after the grass has germinated and reached at least the three leaf stage. In most cases, delaying the nitrogen application until the grass is up and actively growing reduces its loss to invading weeds, leaching, or runoff.

Seed and Seeding

The species selected for seeding are determined by the specific site conditions for

each critical area. Soil type, climate, slope, and exposure must all be considered as the planner uses the best available information to select species to solve the specific problem. The 342 jobsheet will normally offer an adequate selection.

High quality named varieties will be used. All must have had a germination and purity analysis completed within the past 12 months.

Table 1 shows suitable species and planting dates for a cover crop or dead litter crop. Planting dates are indicated by MLRAs as grouped in the table.

It is important to specify a planting date early enough to establish enough cover to protect the site from wind and water erosion.

Subsequently, vegetation cover should be established before extreme weather condition exist which may cause severe erosion.

Table 2 shows the perennial species available for planting in a critical area planting. Species not listed may be added to the Jobsheet spreadsheet by the planer after consulting with the NRCS NM State Agronomist. Use non-native mixes only as a last resort when natives will not meet your objectives. .

Construction sites with steep slopes or wind prone areas may need cover crop or a dead litter cover only while construction is being done. In this case use the conservation practice called Cover Crop 340

Table 1 Critical Area Planting (dead litter or cover crop)

SPIECES	PLANTING DATES BY MLRA		
	SD, HP-3, & CP-4 (date)	**HP-1, HP-2, CP-1, CP-2, CP-3, WP-(all), & ND** (date)	**RM-1, RM-2, HV-1, & HV-2** (date)
Barley (for fall)	8/15 to 11/1	8/1/ to 10/1	8/1 to 10/1
Cowpeas	4/15 to 8/1	5/1 to 7/15	5/1 to 7/15
Forage Sorghums	4/15 to 8/1	5/1 to 8/1	5/1 to 7/15
Millet (Foxtail)	4/15 to 8/15	5/1 to 8/1	5/1 to 7/15
Millet (Pearl)	4/15 to 8/15	5/1 to 8/1	5/1 to 7/15
Oats (fall)	8/15 to 11/1	8/1/ to 10/1	Not Suited
Oats (spring)	3/1 to 5/16	3/1 to 5/15	4/1 to 5/15
Rye (cereal)	8/15 to 11/1	8/15 to 10/15	8/1 to 10/1
Triticale (winter)	8/15 to 11/1	8/15 to 10/15	8/1 to 10/1
Wheat (winter)	8/15 to 11/1	8/15 to 10/15	8/1 to 10/1
Winter Peas	8/1 to 10/1	8/1 to 10/1	7/15 to 9/15

Note: Do not plant any cover unless soil moisture is available or rain is on the way.

Table 2 Species Table

Seed Characteristics and Seeding Rates						
Name	**Seed/lbs**	**Ave Pure**	**Ave Germ**	**Seeds/ft^2 at 1lbs/ac**	**Native**	**Type: Legume (L) Forb (F) Grass (G) *Shrub (S)***
	(seeds/lbs)	**(%)**	**(%)**	**(# of seed)**	**(N)**	
Alfalfa	225,000	99	85	5.2	N	L
Alkali Muhly (Westwater Germplasm	3,000,000	70	80	65	N	G
Alkali Sacaton (Salado)	1,500,000	95	70	34.4	N	G
Blue Panic	650,000	85	70	14.9	N	G
Bluegrass, Kentucky	2,150,000	98	85	49		G
Bluestem, Big (Kaw)	917,000	75	70	21.1	N	G
Bluestem, Cane (Grant)	500,000	75	70	11.5	N	G
Bluestem, Little	379,000	55	70	8.7	N	G
Bluestem, Old World (Plains)	830,000	75	70	19.1	N	G
Bluestem, Sand	125,000	70	69	2.9	N	G
Bluestem, Yellow	475,000	60	70	10.9	N	G
Bottlebrush Squirreltail (Tusas)	100,000	85	80	2.3	N	G
Brome, Meadow	100,000	92	85	2.3		G
Brome, Mountain	90,000	90	85	2.1	N	G
Brome, Smooth	125,000	90	90	2.9		G
Buffalograss Burs (Texoka, hulled)	42,000	88	45	1.0	N	G
Bush Muhly	1,500,000	50	40	34.4	N	G
Chokecherry	4,000	99	95	0.1	N	**S**
Cicer Milkvetch	122,000	90	40	2.8		L
Clover, Sweet	262,000	99	85	6.0		L
Clover, White	800,000	99	85	18.4		L
Elderberry, Blue	217,000	80	80	5.0	N	**S**
Ephedra, Green	25,000	80	80	0.6	N	**S**
Fescue, Arizona (Redondo)	500,000	80	60	11.5	N	G
Fescue, Creeping Red	615,000	80	60	14.1		G
Fescue, Hard	565,000	80	60	13.0		G
Fescue, Sheep	680,000	80	60	15.6		G
Flax, Blue	113,000	80	60	2.6		F
Galleta Caryopsis (Viva)	470,000	90	80	10.8	N	G
Galleta, Floret (Viva)	159,000	69	80	3.7	N	G
Globemallow	500,000	93	90	11.5	N	F
Grama, Black (Nogal)	1,300,000	75	70	29.8	N	G
Grama, Blue (Alma)	825,000	70	60	18.9	N	G
Grama, Blue (Hachita)	825,000	70	60	18.9	N	G
Grama, Blue (Lovington)	825,000	70	60	18.9	N	G
Grama, Sideoats	143,000	60	50	3.3	N	G
Green Sprangletop (Marfia)	538,000	75	70	12.4	N	G
Indian Ricegrass (Paloma)	235,000	85	70	5.4	N	G
Indiangrass (Llano)	175,000	89	53	4.0	N	G
Kleingrass (Selection-75)	650,000	80	60	14.9		G
Lovegrass, Atherstone	150,000	75	70	3.4		G
Seed Characteristics and Seeding Rates						

Name	Seed/lbs	Ave Pure	Ave Germ	Seeds/ft^2 at 1lbs/ac	Native	Type: Legume (L) Forb (F) Grass (G) *Shrub (S)*
	(seeds/lbs)	(%)	(%)	(# of seed)	(N)	
Lovegrass, Lehmann (NM.317)	4,245,000	90	60	97.5		G
Lovegrass, Plains	150,000	75	70	3.4	**N**	G
Lovegrass, Sand (Bend)	1,550,000	93	75	35.6	**N**	G
Lovegrass, Weeping (Ermelo)	1,463,000	90	90	33.6		G
Lovegrass, Weeping (Morpar)	1,463,000	90	90	33.6		G
Lupine, Mountain	12,000	80	80	0.3	N	L
Mesa Dropseed	3,545,000	80	80	81.4	N	G
Penstemon, Firecracker	280,000	93	90	6.4	N	F
Penstemon, Narrowleaf (San Juan)	235,000	93	90	5.4	N	F
Penstemon, Palmer (Cedar)	280,000	93	79	6.4	N	F
Penstemon, Rocky Mtn. (Bandera)	280,000	93	50	6.4	N	F
Perennial Ryegrass	247,000	98	90	5.7		G
Plains Bristlegrass	293,000	90	80	6.7	N	G
Rubber Rabbitrush	756,000	12	80	17.4	N	F
Sagebrush, Big	2,500,000	14	80	57.4	N	F
Saltbrush, Fourwing	55,000	80	80	1.3	N	F
Sand Dropseed	5,298,000	85	80	121.6	N	G
Spike Muhly	1,635,000	50	50	37.5	N	G
Streambank Wheatgrass	170,000	97	92	3.9	N	G
Sumac, Skunkbush	19,000	98	90	0.4	N	F
Switchgrass (Alamo)	278,000	95	62	6.4	N	G
Switchgrass (Blackwell)	278,000	95	62	6.4	N	G
Trefoil, Big	828,000	98	47	19.0		L
Trefoil, Birdsfoot	418,000	98	47	9.6		L
Vine Mesquite	143,000	50	30	3.3	N	G
Wheatgrass, Crested (Hycrest)	175,000	90	85	4.0		G
Wheatgrass, Crested (Nordan)	175,000	90	85	4.0		G
Wheatgrass, Intermediate	100,000	90	75	2.3		G
Wheatgrass, Pubescent	91,000	90	85	2.1		G
Wheatgrass, Siberian	250,000	90	85	5.7		G
Wheatgrass, Slender (Primar)	160,000	90	85	3.7	N	G
Wheatgrass, Slender (San Luis)	160,000	90	85	3.7	N	G
Wheatgrass, Tall (Jose)	91,000	90	80	2.1		G
Wheatgrass, Thickspike (Critana)	160,000	75	70	3.7	N	G
Wheatgrass, Western (Arriba)	110,000	85	60	2.5	N	G
Wheatgrass, Western (Barton)	110,000	85	60	2.5	N	G
Wildrye, Great Basin (Magnar)	130,000	75	70	3.0	N	G
Wildrye, Russian	162,000	75	70	3.7		G

Rate of Seeding

The rate of seeding is based on 40 plants per square foot using the Critical Area Seeding 342 jobsheet. Tree or shrub planting should be specified on the jobsheet in the additional specification section.

Time of Seeding

In northern areas cool season species can be seeded when there is good soil moisture. Cool season species may be planted anytime during the growing season except for during the last 45 days prior to the average killing frost date. However, in the dry desert areas it is preferred to delay seeding until July, when the period of the monsoon rain weather pattern usually begins. Several consecutive rainfall events are required to establish a seeding. Cool season species may also be seeded anytime during the dormant period (generally from November to March). When the seeding is done early in this period it allows for more winter moisture to accumulate in the soil. Disturbances like disking, harrowing, and seeding tend to dry out the soil surface.

The preferred time for warm season species is 3-6 weeks after the last killing frost in the spring, although they may be seeded any time during the growing season except the last 45 days prior to the average killing frost date. In the desert areas it is desirable to delay seeding until July after the monsoon storm weather pattern have developed.

Generally, the planting time for a seeding will correspond to the high probability (60% or more) of receiving effective precipitation (0.6-1.0 inch during any 3 week period) as outlined in Table 2 Planting time for Perennials**.**

Table 2 Planting time for Perennials

Resource Area	Planting Date for Perennials
HP-1, CP-1, HP-2 & 3	***November*** 1 to August 1
CP-2, 3, & 4; WP-1, 2, & 3	***November*** 1 to August 1
RM-1 & 2; AN-1, 2, & 3; HIV-1 & 2; ND; SD-1, 2, & 3	***July 1 to August 20***

Dormant fall cool season seedings (seeded late enough so seed does not germinate until spring) can be planted in WP-1 & 2; RM-1 & 2; AN-1, 2 & 3; HIV-1 & 2, and HP-1 & 2.

Seeding Methods

The proper amount of seed must be evenly distributed, placed at the proper depth, and measures taken so that most seed is in contact with the soil. Most seed needs to be placed no more than 10 times the diameter of the seed in depth. Generally, seed should be planted at a depth between ½ inch – 1 inch depth unless it is very small (1,000,000 seed per pound or smaller). Seeding depth for very small seed should be at about a ¼ inch. Planting may be done by one of the following methods:

Drilling: Drilling is the preferred method and should be used whenever possible. Drills must be equipped with hoppers that can properly meter out the seed. Seeds that are fluffy will require special agitators or bulking agent (such as rice hulls or cracked corn) to insure proper seed disbursement. The drill should also have depth bands, or some other positive type of control, to prevent seeding too deeply. The drill should be equipped with packer wheels or the area should be rolled immediately after seeding. Firm soil-seed contact is essential to insure successful plantings.

Broadcasting: Seed must be evenly distributed. This is best accomplished by using some type of whirlwind or hydro seeder. Following seeding the area should be harrowed, dragged, or raked by hand to provide some soil covering for the seed. Following this operation, depending on the soil type and field condition, the area may need to be rolled to obtain good soil-seed contact.

Mulching

Where to Use: Mulch should be used on all critical areas where there is danger of damaging wind or water erosion, except those planted into a dead litter cover crop (Reference paragraph 10 in the Range Seeding Specifications, Code 550 for information on a dead litter crop). Also, Mulching conserves soil moisture and may reduce evapotransporation demands of the seedlings. Subsequently, mulching can be the difference between success and failure for all seeding on sites that receive less than 15 inches of annual moisture. For detailed information, refer to the standard and specification for Mulching, Code 434.

Mulching can also be done by enclosing sections of the critical area and feeding livestock in the enclosed area to mulch and firm the soil over the seed. Livestock must be moved as the area is covered by manure and waste feed. Remove the stock when there is approximately 1 inch buildup of manure and waste feed. Livestock densities must be kept high in the area to promote even distribution and adequate hoof action and animal impact.

Management

During Establishment: Control weeds as necessary by judicious mowing or chemical treatment. High density of weeds will aggressively compete for moisture, light, and nutrients and may limit seedling establishment . Livestock can be used with carefully manage. When chemical weed control is used, careful consideration is required as to its effects on the grass seedlings, wildlife, and water contamination.

Use only herbicides that have been approved in the state for such uses and be sure and follow the label directions. (On dune stabilization projects, no weed control should be done. The presence of the weeds is one of the major factors in slowing wind erosion. (in 1-3 years perennial grasses will replace the weeds.)

After Establishment: Areas that have a poor stand should be reviewed for reasons for failure and the area reestablished. However wait for at least three complete growing seasons before making your decision to replant when using cool season grass germplasm. Cool season grass seed can stay viable in the soil for several years. However warm season grass seed often looses its viability in a single year after planting.

In most areas of the state, fertilizer will not be needed to maintain a stand. Always perform a soil test to verify that a fertilizer application is needed.

Exclude livestock entirely until the area is stabilized (usually requires 2 years of rest) (refer to Tech note 528). Graze only lightly after stabilization (Reference specifications for Proper Grazing Use, Code 523; Fencing, Code 382; and Livestock Exclusion, Code 472). If properly managed, many stabilized critical areas provide excellent wildlife habitat. This should be a consideration during planning, and when selecting plant species. (Reference Upland Wildlife Habitat Management specifications, Code 645).

ESTABLISHING TREES AND SHRUBS

Establishing trees and shrubs is optional and will be used primarily when the planting is being modified to improve wildlife habitat.

Specifications for establishing trees and shrubs are included in Farmstead and Feedlot Windbreaks (380), Field Windbreaks (392), Recreation Area Improvement (562), and Tree and Shrub Establishment (612).

Use **Table 3 Recommended Species** to be sure that the selected tree and shrubs will grow on the site with regards to salinity, water table, shade, and precipitation.

Table 3 - Recommended Species								
Species	Preferred Variety	Origin	Shade Tolerance	Anaerobic Tolerance	Salinity Tolerance	Precipitation		National Wetland Indicator
						Min	Max	
Alkali Muhly	Westwater	Native	Tolerant	Medium	High	12	40	FACW
Alkali Sacaton	Salado	Native	Intolerant	Low	High	5	13	FAC
Arizona Fescue	Redondo	Native	Intolerant	None	None	10	16	UPL
Baltic Rush		Native	Intolerant	High	High			ACW, OBL
Beardless Wildrye	Shoshone	Native	Intolerant	Medium	Medium	7	60	UPL
Big Bluegrass								
Big Bluestem		Native	Intolerant	Medium	Medium	12	55	FACU, FAC
Big Sacaton		Native	Intolerant	None	Low	5	20	UPL
Blue Grama	Hachita, Lovington	Native	Intolerant	None	Medium	7	22	UPL
Bluebunch Wheatgrass		Native	Intolerant	None	Low	10	35	UPL
Bottlebrush Squirreltail	Tusas	Native	Intolerant	None	Low	8	20	UPL
Buffalograss		Native	Intolerant	High	High	7	24	FACU
Bush Muhly		Native	Intermediate	None	Low	5	12	UPL, FACU
Canada Wildrye		Native	Tolerant	None	Medium	10	45	FACU, FAC
Cane Bluestem		Native	Intolerant	None	Low	12	20	UPL
Common Spikerush		Native	Intolerant	High	Low	16	60	OBL
Crested Wheatgrass		Introduced	Intolerant	None	Medium	6	30	UPL
Deergrass		Native	Intolerant	None	Low	10	18	UPL, FACW
Galleta	Viva	Native	Intolerant	None	Medium	5	18	UPL
Giant Dropseed		Native						
Hardstem Bulrush		Native	Intolerant	High	Low	12	60	OBL
Idaho Fescue		Native	Intermediate	Low	None	12	20	UPL
Indiangrass		Native	Intolerant	Low	Medium	12	40	UPL, FACW
Indian Ricegrass	Paloma	Native	Intolerant	None	Low	6	16	UPL
Inland Saltgrass		Native	Intolerant	High	High	5	70	FAC, FACW
Little Bluestem	Pastura	Native	Intolerant	None	None	12	40	UPL
Managrass		Native						
Nebraska Sedge		Native	Intolerant	High	Low	14	32	OBL
Needle & Thread		Native	Intolerant	None	None	5	20	UPL
Nodding Brome		Native	Tolerant	None	Low	2	20	UPL
Orchardgrass		Introduced	Intermediate	None	Low	16	60	FACU
Perennial Ryegrass		Introduced	Intolerant	None	Low	30	60	FACU, FAC
Perennial Threeawn								
Plains Lovegrass		Native	Intolerant	None	Low	5	18	UPL

Table 3 - Recommended Species

Species	Preferred Variety	Origin	Shade Tolerance	Anaerobic Tolerance	Salinity Tolerance	Precipitation		National Wetland Indicator
						Min	Max	
Redtop		Introduced	Intolerant	Medium	None	30	60	FACW, OBL
Sand Bluestem	Elida	Native	Intolerant	None	None	10	30	UPL
Sand Dropseed		Native	Intolerant	None	Medium	8	16	UPL
Sand Lovegrass		Native	Intolerant	Low	Low	14	35	UPL
Sideoats Grama	Vaughn, Niner	Native	Intolerant	None	Medium	6	25	UPL
Slender Wheatgrass	San Luis	Native	Intolerant	None	Medium	16	40	FAC, FACU
Spike Muhly	El Vado	Native	Intolerant	None	None	13	17	UPL
Streambank wheatgrass	Sodar	Native	Intolerant	Low	High	8	25	
Switchgrass	Blackwell	Native	Intolerant	Low	Medium	20	40	FAC, FACW
Tobosa		Native	Intolerant	None	Medium	5	13	UPL
Tall Dropseed								
Tall Wheatgrass	Jose	Introduced	Intolerant	Low	High	10	32	
Threadleaf Sedge		Native	Intolerant	None	None	8	24	
Thurber’s Needlegrass		Native	Intolerant	None	Low	6	16	
Tufted Hairgrass		Native	Intolerant	Low	Low	14	24	FACW, FAC
Vine Mesquite		Native	Intermediate	Medium	Medium	8	30	FAC, FACU, FACW
Weeping Lovegrass		Introduced	Intolerant	Low	Low	15	40	
Western Wheatgrass	Arriba	Native	Intolerant	Medium	High	10	32	FAC, UPL

STABILIZATION OF BLOWOUTS AND DUNES

Stabilization of blowouts and dunes pertain to treatment of wind erosion problem areas.

The three parts of most sand dunes or blowout areas include:

(c) **The contributing area** is usually characterized by monuments or hummocks, water erosion channels, and a relatively cemented, impervious subsoil (Stabilization of C.A.R. pavian areas).

(d) **The front** (upwind) side of the dune is characterized by relatively smooth gentle slopes

(e) **The back** (downwind) side of the dune

(f) is normally smooth but has a very steep slope.

Each of these areas requires a separate treatment. The entire area is generally very unstable, low in organic matter and fertility, and the dunes usually have low available water holding capacities.

Blowouts and sand dunes should be treated in a sequence, so that the stabilized parts are not subject to damage by erosion from the unstabilized areas.

The usual, and most successful, sequence is to treat the contributing area first followed by the front, and then the back slopes. **Table 4 Time table for Dune Stabilization** provides an outline of times for needed activities:

Table 4 Time table for Dune Stabilization

Year	Month	Part of Area	Operation or Activity
1	Any	Whole	Fence out livestock
1	May to Jun.	Contributing Area	Smooth eroded areas if needed, use a listing implement if possible to form ridging, and construct wind barriers such as snow-fences.
2	Jul. to Sep.	Contributing Area	Plant cover crop or permanent cover, and mulch the area. 1/
2	Jul to Sep	Front and Back Slopes	Permanent cover when moisture is available, and mulch the area. 1/
3-6	All	All	Defer grazing until well established, then only light grazing

Fence

Fence the entire area, including a strip at least 50 feet wide outside of the critical area, unless the area is in a field that is included in a grazing system that allows for deferment during the entire growing season. Some areas may require fencing since they will be so sensitive that total deferment may be required to keep vegetation upon them. Dunes are much more sensitive to grazing pressure than other critical areas and consequently even under a rotational grazing system the treated area may need to be fenced to prevent re-activating the dune.

Contributing Area

Where desired, or where they will cause problems in equipment handling or vegetation establishment, hummocks and channels may be knocked down, smoothed or filled.

On slopes of 3% or less, list (form ridges) perpendicular to the prevailing erosive winds. On steeper slopes, list on the contour. This may result in part of the rows being parallel with the prevailing winds. However, generally the contour varies sufficiently to provide adequate ridging protection.

Establish wind barriers. Where possible use old hay bales placed end to end across the area perpendicular to the prevailing erosive winds at intervals of 300-350 feet. (This is much wider than spacing determined using the Wind Erosion Equation). However, experience has shown that this distance will satisfactorily reduce the sand blowing from the contributing area if the area between the barriers has been properly listed. A single bale high will suffice but two bales high is much better. Any material may be used to form the barriers, stacked yucca, sagebrush, snow fence, etc.

However, old hay bales are the best.

Drill (best) or broadcast a cover crop of sudan or sorghum if planting in the summer or small grains if planting in the fall, on the area which has been listed.

The following year drill a mixture of grasses, forbs and shrubs into the dead litter crop (dead cover crop).

Upwind (Front) Slope

Shape if necessary. Drill a cover crop at the same time the contributing area is planted, unless a grass that needs to be dragged to be covered, such as Atlantic Coastal Panicgrass, is planned for broadcasting. In this case, leave the upwind slope bare.

The following year seed grass into the dead litter crop at the same time the contributing area is seeded.

Downwind (Back) Slope

The downwind slope is normally too steep to drill. Consequently, seed will be broadcast at the same time as the front slope is planted, both for the cover crop and for the perennial vegetation.

Fertilizing

Follow the procedures under the first section above (establish grasses and legumes).

Seeding

Follow the procedures listed in the first section listed above (establish grasses and legumes).

Mulching

Follow the procedures under the first section listed above (establish grasses and legumes).

Planting

Plant cover crops in a weed-free seedbed by drilling or broadcasting.

1. Planting depth should be about 10 time the diameter of the seed. Soil should be firmed over the seed.
2. Pre-plant starter fertilizer is helpful if a soil test indicates a need or soils are in poor condition. These should be worked into the soil surface.

- **Cover Crop Management**

1. Allow cover crop to grow to the needed height. Stop growth by tillage or herbicide. Grazing may also be used to control height. Be sure to prevent hard seed set if volunteering is an issue.
2. Do not remove cover during nesting season for birds of concern. Many use March through June.
3. Maximum wind erosion control and seedling protection is obtained by direct seeding (No-till) into winter killed or herbicide killed cover.
4. If tillage is to be done, delay tillage (removal) of the cover as long as possible before seedbed preparation for the next crop.

PLANS AND JOBSHEETS

The jobsheet will include, but is not limited to, recommended species, seeding rates and dates, establishment methods, nutrients needed, and other establishment information. Specifications will be recorded on NM 342 jobsheet, or form designed to provide specific requirements for the practice.

OPERATION AND MAINTENANCE

Growth of the cover crop should be managed. Growth can be by mechanical forage harvest, tillage, grazing, or herbicide. Planting date can also regulate growth if cold weather stops growth.