NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICES STANDARD

Conservation Cover

(Acre)

CODE 327

DEFINITION

Establishing and maintaining permanent vegetative cover to protect soil and water resources.

PURPOSES

- Reduce soil erosion and sedimentation.
- Improve soil and water quality.
- Enhance wildlife habitat.

CONDITION WHERE PRACTICE APPLIES

This practice applies on land retired from agricultural production requiring permanent protective cover, and on other lands needing permanent protective cover. This practice does not apply to plantings for forage production or to critical area plantings.

CRITERIA

General Criteria Applicable to All Purposes

Plants for conservation cover shall be perennials. Annuals may be included as nurse crops in planting mixtures of native or introduced perennial species. Annuals may also be used in wildlife food plots.

Species shall be adapted to the soil, ecological site, and climatic conditions.

Species planted shall be suitable for the planned purpose and site conditions. Use of noxious species shall be avoided.

Seeding rates and methods shall be adequate to establish the cover desired.

Planting dates, planting methods, and care of seed or planting stock shall ensure that planted materials have an acceptable survival rate.

Only viable, high quality and adapted seed or planting stock should be used.

Additional Criteria for Establishment of Grasses and Legumes

Introduced perennial grasses and legumes suitable for conservation cover along with planting rates and optimum planting dates are contained in Table 1.

Native grasses, legumes, and forbs suitable for conservation cover and/or wildlife habitat including adapted cultivars, seeding rates, and optimum planting dates are listed in Table 2.

Seed Source

All seed and planting materials will be labeled and meet state seed quality law

standards. Seeding rates will be determined based on pure live seed (PLS) or percent germination information found on the seed tag. Percent PLS can be computed using decimal values with the following equation.

% PLS = [(Percent germination + Percent hard seed) x Percent purity] / 100.

Use certified seed of locally adapted and proven cultivars of commercially available seed. Locally harvested or commercially available local ecotypes seed that come from sources within a 200 mile radius of the seeded area can be used with approval from area or state specialists. Local eco-types should be used when trying to restore or enhance historic grasslands.

Seeding rates for individual species in mixtures should be calculated by multiplying the full seeding rate for each species by the desired percentage represented by that species

Legume seed shall be inoculated with the recommended strain of Rhizobia bacteria for the species being planted. Do not use chlorinated water with legume seed inoculant as a sticking agent. Chlorine can kill the Rhizobia bacteria. Soft drinks (colas) containing sugar make excellent sticking agents for inoculating legume seed.

Seedbed Preparation

Limit soil disturbing activities to the minimum needed to prepare a suitable seedbed. Consider using no-till drills when establishing native grasses and/or legumes on sites with an erosion hazard.

Weed pressure or competition from introduced sod forming grasses (i.e. bermudagrass or bahiagrass) can cause stand failure. In these areas, it will be necessary to chemically control vegetation with herbicide. Herbicides need to be labeled specifically for this purpose (non-cropland) and applied according to label directions and LSU AgCenter recommendations and according to Pest Management (595) specifications.

To prepare a seedbed, use equipment and methods that will result in a clean, firm seedbed without excessive weed competition. For soils with good physical condition, use a one-way disk, tandem disk, or other equipment to break or mix at least the top 3 inches of soil. Lightly disk, harrow, sweep, or use chemicals about one month prior to planting to eliminate any living vegetation should it exist. If the seedbed is not firm at planting time, firm it with a cultipacker, roller, or similar implement.

On fields which have a history of compaction, use a chisel plow or similar implement capable of operating at least 1 to 2 inches below the compacted zone to shatter the compacted layer. More complete destruction of the compacted layer is achieved when deep tillage is performed in the fall when soils are usually their driest. Prior to planting the desired vegetation, lightly disk, harrow, sweep, or use chemicals to eliminate any living vegetation should it exist.

Prepared seedbeds should be firmed with a roller or cultipacker after tillage operations are complete, but prior to

seeding. Loose uneven seedbeds are a major cause of poor stands. Shoes or boots should not sink more than ½ inch into a properly prepared seedbed. Seeds sown on the surface without coverage or greater than ½ inch deep have little chance of germinating and developing into seedlings. If seed are surface broadcast, cover the seed immediately with a roller or cultipacker, spike-tooth harrow, or similar implement no deeper than ¼ inch.

Old terraces or other conditions which pond water or causes concentrated flow will be drained, repaired, or leveled and smoothed before seedbed preparation. Gullied, rilled, or rough sites will be smoothed and shaped to permit the use of tracked or wheeled equipment for establishment and maintenance of vegetation.

All loose roots or other obstructions that will interfere with establishment and maintenance of vegetation must be removed from the surface. Any brush should be removed and the area smoothed to the extent necessary to perform required seedbed preparation, planting, and subsequent management practices (see 314-Brush Management).

Establishment Method

A grass seed drill equipped with double disk openers and depth bands followed by a cultipacker, press wheels, or drag chains is the preferred seeding method. Seed should be planted 1/8 to 1/2 inch deep if adequate moisture is present, or 1/2 to 3/4 inch deep if soil surface is dry. Distance between rows should not exceed 12 inches in most cases. Eastern gamagrass should be planted in 30 to 38 inch rows at a depth of one inch.

Drills used for seeding native plants should be equipped with an agitator in the seed hopper and extra large seed delivery tubes for handling native grasses. Native seeds which have been debearded or are smooth in nature can be used in conventional drills. If legumes and/or forbs are included in the seeding mixture, the drill should be equipped with a small seed attachment.

Use of a broadcast seeder, broadcasting seed by hand, and aerial seeding are acceptable methods of seeding where conditions permit seed to be placed in contact with mineral soil on a firm seedbed and where uniform seed distribution can be achieved. Loose uneven seedbeds are a major cause of poor stands. Shoes or boots should not sink more than ½ inch into a properly prepared seedbed. Regardless of method, it will be necessary to use a cultipacker, press wheels or similar techniques following broadcast seeding to aid coverage of seed. Seeds sown on the surface without coverage or greater than ½ inch deep have little chance of germinating and developing into seedlings.

Fertility

Fertilizer for establishment purposes will be done according to a current soil test for all introduced species. A variation of 25% above or below the specified amount of fertilizer for establishment is allowable. For planning purposes on native grasses, a ratio of 0-60-60 (N, P_2O_5, K_2O) will be used. Plant nutrients necessary for establishment of the cover shall be applied according to specifications in the conservation

practice standard, Nutrient Management (590).

Nitrogen fertilization should be delayed until native grass seedlings have reached a height of 12 to18 inches to prevent excessive use of fertilizer by competing vegetation. Nitrogen fertilization can also be delayed until the second year of growth after establishment.

When acid soils are present, lime may be needed for adequate grass growth or for legume establishment. Use dolomitic limestone where magnesium is needed. Lime should be incorporated into the soil during seedbed preparation. Lime shall be applied according to soil test recommendations. Legume seed and fertilizer will not be broadcast together because the fertilizer will damage and kill the legume inoculant.

Additional Criteria for Establishment of Trees and Shrubs

Shrubs suitable for wildlife plantings are listed in Table 3. Tree species suitable for planting are listed in Table 4. Planting dates and density shall be in accordance with the specifications contained in the standard, Tree/Shrub Establishment (612).

Competing vegetation or soil conditions which may inhibit tree/shrub establishment shall be treated according to the specifications contained in the standard, Forest Site Preparation (490). This may include chemical and/or mechanical methods.

Firebreaks should be established along fire hazard areas according to the specifications in the standard, Firebreak (394).

Additional Criteria for Establishment of Permanent Wildlife Habitat

Plant species suitable for wildlife are listed in Tables 2, 3, and 4 of this standard and also in the conservation practice standard, Wildlife Upland Habitat Management (645). Grasses, forbs, and legumes shall be planted in mixtures to encourage maximum plant diversity. A reduction in general agricultural seeding rates may be desirable for certain wildlife species such as bobwhite quail. Reduce seeding rates by 25 percent to create open areas to facilitate bird movement and forb production. Seeding rates must be sufficient for erosion control.

When using introduced plant species for enhancing wildlife habitat, some initially beneficial introduced species have the potential to invade and dominate natural plant communities. The invasion may be accomplished by aggressive growth, lack of natural control, wildlife transport, or a combination of means. If native vegetation is lost to competition from introduced species, ultimately problems will arise for certain wildlife species. Species such as Japanese honeysuckle, autumn olive, Russian olive, and Sericea lespedeza should be utilized with awareness and caution.

Additional Criteria for Establishment of Wildlife Food Plots

Annual species may be included for wildlife food plots in accordance with specifications in the standard, Wildlife Upland Habitat Management (645). Suitable species are listed in Table 5. Annual food shall be located on non-erodible portions of the field; otherwise

practices to control erosion must be used. Food plot size, location, and establishment techniques shall be performed in accordance with Wildlife Upland Habitat Management (645).

Additional Criteria for Native Cover, Already Established

Native species, which provide acceptable cover and/or wildlife habitat, are listed in Table 6. An 80% cover consisting of one or more of these species shall be maintained to control erosion. Weeds and undesirable species such as the Chinese Tallow Tree shall be controlled.

CONSIDERATIONS

This practice may be used to promote the conservation of wildlife species in general, including threatened and endangered species.

Where applicable, this practice may be used to conserve and stabilize archeological and historic sites.

Consider rotating management and maintenance activities (e.g. mow one-fourth or one-third of the area each year) throughout the managed area to maximize spatial and temporal diversity.

Where wildlife management is the primary objective, food and cover value of the planting can be enhanced by using the Louisiana Wildlife Habitat Evaluation procedure to aid in selecting plant species and habitat needs of targeted wildlife species.

Long-term conservation cover will increase soil organic matter and improve soil structure and water holding capacity. Close-growing species can reduce the amount of sediment in runoff and improve surface water quality.

Infiltration and percolation will result from improved soil health thereby improving groundwater quality and recharging aquifers.

PLANS AND SPECIFICATIONS

Specifications for the establishment of this practice shall be prepared for each field or treatment unit according to the Criteria and Considerations described in this standard. Specifications shall be recorded using appropriate worksheets and narrative statements in the conservation plan. Use the LA-CPA-10 (Rev. 3/98), LA-CPA-33A (Rev. 9/99), or the LA-CPA-33B (Rev. 9/99) as appropriate to document conservation cover establishment.

OPERATION AND MAINTENANCE

Prescribed burning of native grasses, forbs and legumes can improve vigor and stand density, control weeds and diseases, and set back plant succession. Spring burning with fire can be used to control winter weeds and promote rapid regrowth of native warm season grasses. Burning should be performed before the grass begins to recover from winter dormancy (typically before March 1). Prescribed burning shall be avoided from April 15 – July 15 which is the primary nesting season for most ground nesting birds in Louisiana. Prescribed burning shall be performed in accordance with the standard, Prescribed Burning (338) and an approved burn plan shall be prepared.

If prescribed burning is not an option, haying the native grass stand once every three years will remove thatch buildup, encourage dense growth, maintain an upright growth habit and remove nutrients that are contained in the vegetation. Haying shall be carried out in accordance with Forage Harvest Management (511). Hay bales should be removed from the native grass stand in a timely manner.

Mowing, which can be achieved with a bush hog, is an optional weed control measure during the establishment year and in subsequent years for residue management. Mowing in mid-summer to a height just above the grass seedlings will help reduce weed competition and encourage seedling growth. Mowing shall be avoided from April 15 to July 15 which is the primary nesting season for ground nesting birds in Louisiana.

Weed Control

Herbicides - Chemicals used must be federally and locally registered and must be applied in accordance with registered uses, label directions and all applicable laws, regulations, and policies and according to Pest Management (595) specifications. Pre-emerge herbicides may be used as appropriate prior to germination of desired species. When post-emerge herbicides are used, native grass seedlings should be in the 3 to 5 leaf stage. Weed control is needed when there are 3 or more weeds per square foot or when they form a canopy of 50% of more.

Mechanical - Weeds should be mowed when they reach a height of 6 to 8 inches. Mowing height should be above the height of the seeded plants. Mowing should not be done when daily maximum air temperature exceeds 95 degrees to avoid dehydration of seedlings. Where wildlife habitat enhancement is a primary purpose, maintenance activities shall not be performed from April 15 – July 15 which coincides with the primary nesting season for most ground nesting bird species in Louisiana.

Maintenance

Maintenance activities shall be avoided from April 15 – July 15 so as not to disturb ground nesting species of birds. Exceptions may be granted when activities are necessary to facilitate the establishment of desirable cover.

Weeds and undesirable species (Chinese Tallow) will be controlled by mowing, tillage, herbicides, prescribed burning, or other practices as appropriate. Treat only the portions of fields needing weed control (spot treatment).

Annual mowing of the cover for general weed control is not recommended.

Where wildlife habitat is the primary purpose, management activities should be rotated throughout the area. For example, mow only one-third of a field each year by mowing strips or alternate portions of the field instead of mowing the entire field each year. Prescribed burning is a natural component of native grass and/or pine habitats and should be utilized instead of mowing where feasible. Prescribed burning shall be performed in accordance with the standard, Prescribed Burning (338).

Table 1

INTRODUCED PERENNIAL GRASSES AND LEGUMES SUITABLE FOR CONSERVATION COVER

PERENNIAL GRASSES	SEEDING RATE LBS/ACRE	SEEDING DATES
Bahiagrass	30 lbs	September 1 – July 15
Common Bermudagrass (Hulled)	5 lbs	March 1 – July 15
Dallisgrass	7 lbs PLS [1/]	March 1 – July 1
Tall Fescue	30 lbs	September 1 – November 15
Matua Bromegrass	30 lbs	September 15 – November 15
PERENNIAL OR RESEEDING ANNUAL LEGUMES		
Arrowleaf Clover	10 lbs	October 1 – November 15
Crimson Clover	25 lbs	September 15 – November 15
Red Clover	15 lbs	September 15 – November 15
Subterranean Clover	15 lbs	October 1 – November 15
White or Ladino Clover	5 lbs	October 1 – November 15
Hairy Vetch	30 lbs	September 1 – November 15
Singletary Peas (Non-scarified) (Scarified)	50 – 60 lbs 35 – 40 lbs	September 15 – November 15 September 15 – November 15
Common lespedeza	25 – 30 lbs	February 15 – March 15
Kobe lespedeza	35 – 40 lbs	February 15 – March 15

[1/] PLS – Pure Live Seed

[2/] Tall Fescue is known to be invasive and persistent throughout the southern region, however its spread in Louisiana is generally limited by summer temperatures which induce dormancy. If Tall Fescue is seeded for permanent cover, efforts should be made to prevent its spread to adjoining property.

Table 2

NATIVE PERENNIAL GRASSES/FORBS/LEGUMES FOR CONSERVATION COVER AND WILDLIFE HABITAT [1/]

Species/cultivar	Seeding rates (PLS lbs)[2/]	Planting dates
Switchgrass Alamo	1 – 3	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Eastern gamagrass Pete IUKA IV	2 – 6	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Big bluestem Kaw	1 – 5	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Little bluestem Aldous	1 – 5	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Indiangrass Cheyenne Lometa	1 – 5	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Virginia Wild Rye O'ma'ha	5 – 15	Optimum range: September 1 - October 15 Maximum range: October 15 – March 1
Illinois bundleflower Sabine	4 – 10	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Partridge pea Comanche Lark Selection	4 – 10	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Maximillian sunflower Aztec	1 – 2	Optimum range: February 1 - May 15 Maximum range: December 1 - May 31
Black eyed Susan	1 – 2	Optimum range: September 1 – November 1 Maximum range: February 1 – May 31
Plains Coreopsis	1 – 2	Optimum range: September 1 – November 1 Maximum range: February 1 – May 31

[1/] Native plant species occur naturally in mixtures. The formula for calculating a seed mixture is: Full Seeding Rate (FSR) X Desire Percent of Mix (DPM) = Seeding Rate per Acre

[2/] All seeding rates are in pounds of pure live seed (PLS) per acre. PLS% = (% germination * % purity).

Table 3

SHRUBS SUITABLE FOR WILDLIFE

SPECIES	PLANTING RATE PER/ACRE	SPACING AND SEEDLING SIZE	PLANTING DATE
American Beautyberry	1210	6’ X 6”, 12”+	December – March
Black Gum	302	12’ X 12’, 12”+	December – March
Blackberry	4840	3’ X 3’, 8”+	December – March
Crab Apple	302	12’ X 12’, 12”+	December – March
Deciduous Holly	302	12’ X 12’, 12”+	December – March
Dewberry	4840	3’ X 3’, 8”+	December – March
Elderberry	302	12’ X 12’, 12”+	December – March
Mayhaw	302	12’ X 12’, 12”+	December – March
Persimmon	302	12’ X 12’, 12”+	December – March
Plum	302	12’ X 12’, 12”+	December – March
Red Mulberry	302	12’ X 12’, 12”+	December – March
Rabbit Eye Blueberry	302	12’ X 12’, 12”+	December – March
Swamp Dogwood	302	12’ X 12’, 12”+	December – March
Shrub Lespedeza	10.0 – 15.0 lbs	(seed)	March 1 – April 15
(Bicolor or Thunberg)	5445	2’ X 4’, 12+	December – March

Table 4

TREES FOR CONSERVATION COVER

Species	Purpose/Remarks
Hardwood Species	Hardwood species planted for forest products should be planted at a rate that will yield an initial stand density of 300 – 550 trees per acre. Hardwood species planted for wildlife purposes should be planted at a rate of 302 trees per acre (spacing 12' X 12') and 80 % (242) of the trees planted should include at least 3 species best suited for wildlife. Hardwood seedlings should be planted from December through March.
Black Cherry*	
Black Walnut*	
Bald Cypress*[1/]	
Cottonwood	
Delta Post Oak*	
Green Ash*	
Hackberry-Sugarberry*	
Laurel Oak*	
Live Oak	
Mockernut Hickory*	
Native Sweet Pecan*	
Nuttall Oak*	
Obtusa Oak*	
Overcup Oak*	
Red Maple*	
Red Oak*	
River Birch	
Sawtooth Oak*	
Shumard Oak*	
Sweet Gum*	
Swamp Chestnut (Cow) Oak*	
Sycamore	
Water Hickory*	
Water Oak*	
White Oak*	
Willow Oak*	
Water Tupelo	
Yellow Poplar*	
Pine Species	
Loblolly Pine	Pine species planted for forest products should be planted at a rate which will yield an initial stand density of 600 – 900 trees per acre.
Longleaf Pine	
Slash Pine	
Shortleaf Pine	
	Pine species planted for wildlife should be planted at a rate of 435 trees per acre (10' X 10' spacing). Pine seedling should be planted from December through March.

*Denotes species best suited for wildlife

[1/] Bald Cypress is a conifer commonly associated with hardwoods.

Table 5

ANNUAL SPECIES SUITABLE FOR WILDLIFE FOOD PLOTS

SPECIES	SEEDING RATE LBS/ACRE	SEEDING DATES
Austrian Winter Pea	50 lbs	September 1 – November 1
American Joint Vetch	15 lbs	April 1 – May 31
Alyce Clover	15 lbs	March 1 – June 30
Arrowleaf Clover	10 lbs	October 1 – November 15
Subterranean Clover	15 lbs	October 1 – November 15
White/Ladino Clover	5 lbs	October 1 – November 15
Red Clover	15 lbs	September 15 – November 15
Crimson Clover	25 lbs	September 15 – November 15
Hairy Vetch	30 lbs	September 1 – November 1
Cowpeas	50 lbs	April 1 – July 31
Winter Wheat	90 lbs	September 15 – November 15
Cereal Rye	90 lbs	September 1 – October 15
Ryegrass	30 lbs	September 15 – November 15
Oats	120 lbs	September 15 – November 15
Browntop Millet	20 lbs	April 1 – July 30
Dove Proso Millet	40 lbs	April 1 – July 30
Sunflower (Peredovik)	30 lbs	April 1 – July 30
Soybeans	90 lbs	April 15 – June 30
Common Lespedeza	20 lbs	February 15 – March 15
Kobe Lespedeza	35 lbs	February 15 – March 15
Grain Sorghum	20 lbs	April 1 – June 30
Corn	15 lbs	March 1 – April 30
Chufa	50 lbs	April 15 – May 31
Partridge Pea	10 lbs	January 1 – February 15

Table 6

NATIVE VEGETATION (ALREADY ESTABLISHED) SUITABLE FOR CONSERVATION COVER [1/]

Moist Soil Area/Marsh	Native Prairie	Upland
Smartweeds	Showy Primrose	Beggar Ticks
Wild Millets	Prairie Blazing Star	Partridge Pea
Spike Rush	Black-eyed Susan	Little Bluestem
Panicums	Lance-leafed Coreopsis	Honeysuckle [3/]
Yellow/Purple Nutsedges [2/]	Mexican hat	Golden Rods
Paspalums	Gayfeathers	Rag Weeds
Deer Pea	Eastern Gammagrass	Switchgrass
Leafy Three-Square	Coneflowers	Lespedezas
Olney Bulrush	Big Bluestem	Prairie Grasses
Tender New Growth (Marsh)	Little Bluestem	
	Indiangrass	
	Switchgrass	

[1/] May include species not listed as determined by an NRCS biologist.

[2/] Title 7 of the Louisiana Department of Agriculture Regulations, Part XIII, §109, prohibits "Nutgrass." If nutgrass is included in cover already established, efforts should be made to prevent its spread to adjoining property.

[3/] Japanese honeysuckle is known to be invasive and persistent throughout all or most of its range in the southern region. If Japanese honeysuckle is included in cover already established, efforts should be made to manage it and prevent its spread to adjoining property.

APPENDIX A

SCIENTIFIC NAMES OF PLANT SPECIES
LIST OF TABLES 1 – 6

Introduced Perennial Grasses – Table I

Bahiagrass (Paspalum notatum)
Common Bermudagrass (Cynodon dactylon)
Dallisgrass (Paspalum dilatatum)
Matua Bromegrass (Bromus wildenowii)
Tall Fescue (Festuca arundinacea)

Perennial or Reseeding Annual Legumes

Arrowleaf Clover (Trifolium vesiculosum)
Crimson Clover (Trifolium incarnatum)
Red Clover (Trifolium pratense)
Subterranean Clover (Trifolium subterraneum)
White or Ladino Clover (Trifolium repens)
Hairy Vetch (Vicia villosa)
Singletary Peas (Lathyrus hirsutus)
Common Lespedeza (Kummerowia striata)
Kobe Lespedeza (Kummerowia striata)

Native Perennial Grasses/Forbs/Legumes – Table 2

Switchgrass (Paricum virgatum)
Big Bluestem (Andopozon gerardii)
Indiangrass (Sorghastrum nutans)
Little Bluestem (Schizachyrium scoparium)
Eastern Gammagrass (Tripsacum dartyloides)
Virginia Wild Rye (Elymus virginicus)
Black-eyed Susan (Rudbeckia hirta)
Partridge Pea (Cassia fasciculata)
Illinois Bundleflower (Desmanthus illioensis)
Maximillian Sunflower (Helianthus maximiliani)
Purple Prairie Clover (Petalastemum purpureum)
White Prairie Clover (Petalastemum candidum)
Tick Clover/Beggar Lice (Desmodium sp.)

Shrubs – Table 3

American Beautyberry (Callicarpa americana)
Black Gum (Nyssa biflora)
Blackberry (Rubus sp.)
Crab Apple (Malus angustifolia or ioensis)
Deciduous Holly (Ilex decidua)
Dewberry (Rubus sp.)
Elderberry (Sambucus canadensis)
Mayhaw (Crataegus opaca)
Persimmon (Diospyros virginiana)
Plum (Prunus americana or mexicana)
Red Mulberry (Morus rubra)
Rabbit Eye Blueberry (Vaccinium virgatum)

Shrubs – Table 3 (Continued)

Swamp Dogwood (Cornus drummondii)
Shrub Lespedeza (Lespedeza bicolor or thunbergii)

Trees – Table 4

Black Cherry (Prunus serotina)
Black Walnut (Juglans nigra)
Bald Cypress (Taxodium distichum)
Cotton Wood (Populus deltoides)
Delta Post Oak (Quercus stellata)
Green Ash (Fraxinus pennsylvanica)
Hackberry-Sugarberry (Celtis laevigata)
Laurel Oak (Querscus laurifolia)
Live Oak (Quercus virginana)
Mockernut Hickory (Carya tomentosa)
Native Sweet Pecan (Carya illinoensis)
Nuttall Oak (Quercus nuttalli)
Obtusa Oak (Quercus obtusa)
Overcup Oak (Quercus lyrata)
Red Maple (Acer rubrum)
Red Oak (Quercus falcata)
River Birch (Betula nigra)
Sawtooth Oak (Quercus shumardii)
Sweet Gum (Liquidambar styraciflua)
Swamp Chestnut (Cow) Oak (Quercus michauxii)
Sycamore (Platanus occidentalis)
Water Hickory (Carya aquatica)
Water Oak (Quercus nigra)
White Oak (Quercus alba)
Willow Oak (Quercus phellos)
Water Tupelo (Nyssa aquatica)
Yellow Poplar (Liriodendron tulipferra)
Loblolly Pine (Pinus taeda)
Longleaf Pine (Pinus palustris)
Slash Pine (Pinus caribaea)
Shortleaf Pine (Pinus echinata)

Annuals – Table 5

Austrian Winter Pea (Pisium sativum subsp. arvense)
American Joint Vetch (Aeschynomene sp.)
Alyce Clover (Alysicarpus vaginalis)
Arrowleaf Clover (Trifolium vesiculosum)
Subterranean Clover (Trifolium subterraneum)
White/Ladino Clover (Trifolium repens)
Red Clover (Trifolium pratense)
Crimson Clover (Trifolium incarnatum)
Hairy Vetch (Vicia villosa)

Annuals – Table 5 (Continued)

Cow Peas (Vigna unguiculatar)
Winter Wheat (Triticum aesitivum)
Cereal Rye (Secale cereale)
Ryegrass (Lolium multiflorum)
Oats (Avena sativa)
Browntop Millet (Panicum ramosum)
Dane Proso Millet (Panicum miliaceum)
Peredovik Sunflower (Helianthus annus)
Soybeans (Glycine max)
Common Lespedeza (Kummerowia striata)
Kobe Lespedeza (Kummerowia striata)
Grain Sorghum (Sorghum bicolor)
Corn (Zea mays)
Chufa (Cyperus esculentus)
Partridge Pea (Cassia fasciculata)

Moist Soil Area – Table 6

Smart weeds (Polygonum sp.)
Wild Millets (Echinochloa sp.)
Olney Bulrush (Scirpus olneyi)
Spike Rush (Eleocharis sp.)
Panicums (Panicum sp.)
Yellow/Purple Nutsedges (Cyperus esculentus or rotundus)
Paspalums (Paspalum sp.)
Deer Pea (Vigna luteola)
Leafy Three-Square (Scirpus robustus)

Native Prairie – Table 6

Showy Primrose (Oenothera speciosa)
Black-eyed Susan (Rudbekia hirta)
Prairie Blazing Star (Liatris pycnostachya)
Lance-leafed Coreopsis (Coreopsis lanceolata)
Mexican Hat (Rotibida columaris or peduncularis)
Gayfeather (Liatris elegans)
Eastern Gammagrass (Tripsacum dactydoides)
Coneflowers (Ratibida sp.)
Big Bluestem (Andropogon gerardii)
Little Bluestem (Schizachyrium scoparium)
Indiangrass (Sorghastrum nutans)
Switchgrass (Panicum virgatum)

Upland – Table 6

Beggar Ticks (Desmodium sp.)
Partridge Pea (Cassia fasciculata)
Little Bluestem (Shizachyrium scoparium)
Honeysuckle (Lonicera japonica)
Golden Rods (Solidago sp.)
Rag Weeds (Ambrosia sp.)
Switchgrass (Panicum virgatum)
Lespedezas (Lespedeza sp. or Kummerowia sp.)
Prairie Grasses (NA)