PURPOSE
Introduced (not native) grasses and legumes are used to reduce soil erosion, improve water quality, and create or enhance wildlife habitat.

Introduced grasses and legumes can provide nesting cover for wildlife. Legumes also provide a good seed and insect source for young birds. However, these mixes tend not to stand up well to snow and ice, thereby providing marginal winter cover. While introduced grasses persist long after establishment, legumes typically decline over time and, therefore, require specific management (i.e. disturbance) to ensure their continued presence.

The grass species selected affect the wildlife species that utilize the planting. Supplementing grass plantings with other wildlife practices or plantings, such as pollinator habitat, further enhances the cover.

WHERE PRACTICE APPLIES
Apply this practice on fields that meet eligibility requirements for the Conservation Reserve Program (CRP) as determined by the Farm Service Agency (FSA).

PLANNING CONSIDERATIONS
When selecting plant species, consider the long-term objectives, requirements for optimum wildlife habitat, and adaptability to the climate, soils, and moisture conditions in the field being established. Consider planting introduced grass and legume stands adjacent to dense woody cover to maximize wildlife benefits.

CRP POLICY
General Signup: To award 40 points for the National Ranking Factor N1a, existing vegetation or seeding mixes must contain at least three (3) introduced grasses plus at least one (1) legume. To award 10 points, existing vegetation must contain at least one (1) introduced grass, with or without legumes; or seeding mixes must contain at least two (2) introduced grasses, with or without legumes.

Native forbs can be added to either mix to provide additional plant diversity, or to meet the needs of the targeted wildlife species. A diverse mixture of grasses and legumes provides nesting cover, flowers for pollinating insects, and a good seed and insect source for food.

SEEDING RATES AND SPECIES
Seeding rates and species selection for this practice will be determined by using the Indiana (IN) Natural Resources Conservation Service (NRCS) Seeding Calculator (Use 327 – Conservation Cover with ONLY wildlife-friendly species). Any pre-packaged mixes must be approved before seeding. Site-specific requirements are listed on the attached Specifications Sheet.
**SITE PREPARATION**

Site preparation is the most critical step in the establishment of habitat. Even the most well-planned seed mix will fail if the site preparation is not thorough. A well-prepared planting bed will increase the likelihood of establishment and reduce maintenance and management in the future. Weed control efforts should begin as early as 12 months prior to planting and may require multiple applications over the course of one to two years. Pay attention to sites where noxious and potentially invasive species are likely to occur, or areas of sod, such as old fescue pastures. Many of these species are perennials that spread through seed and roots, and many have rhizomatous root systems that will persist and negatively impact the planting.

Site preparation can use a combination of methods, including herbicide treatment, prescribed burning, mowing, and tillage. Each of these methods must be used with the appropriate timing and combination to maximize effectiveness. Disking should be used with caution, as soil disturbance can release additional weed seeds and increase the potential for erosion, creating larger problems. Mowing alone is not likely to be sufficient and should be combined with chemical, prescribed fire or additional mechanical treatments. Non-chemical methods and organic methods are possible but are labor intensive and will likely take longer to get the site ready for planting and are best suited for smaller sites. See Indiana Job Sheet 315 Herbaceous Weed Control- Site Preparation, for more information.

If prescribed burning is used for site preparation, it must meet the IN NRCS FOTG Standard (338) *Prescribed Burning*.

**COMPANION/NURSE CROPS**

A companion/nurse crop will be used when erosion control and weed suppression are needed. Companion/nurse crops include Winter Wheat (after the Hessian Fly-free dates in Table 2), Oats, Barley, Cereal Rye or Annual Ryegrass; native Wildryes (i.e. – *Elymus sp.* such as Canada, Riverbank, and Virginia Wildrye) and other species are also effective.

Companion crops will be clipped after jointing, but before seed head pollination unless otherwise directed (control of Wildrye species is not necessary so that they persist as part of the seedings). A second and subsequent clipping is necessary if re-growth provides competition. Clipping height should be above developing seedlings. Where excessive growth has accumulated, the vegetation will be chopped rather than swathed.

**LIME AND FERTILIZER**

Lime and fertilizer should be based on a current soil test (less than four years old). In areas with existing vegetation that shows signs of nutrient deficiencies, or if the soil test shows phosphorus (P) and potassium (K) are in the low to very low range, apply enough fertilizer (organic or inorganic) to raise N, P and K to a level needed for a one (1) ton per acre yield goal. Use Purdue University recommendations from the *Crop Fertilizer Recommendation Calculator* or the Indiana NRCS Seeding Tool – *Indiana Fertilizer Calculator*.

If the pH is 6.0 or less, apply enough lime per acre to bring pH to meet the tolerance range of the planned plant species. Soil amendments will be incorporated during seedbed preparation or applied before planting if a no-till drill is used. Apply lime according to *Tri-State Fertilizer Recommendations* - *PU AY-9-32*, Extension Bulletin E-2567, or the Indiana NRCS Seeding Tool – *Indiana Fertilizer Calculator*.

**PLANTING**

All seeding must be completed within 12 months of the effective date of the contract to remain in compliance. If circumstances beyond the landowner’s control prohibit completion within the first 12 months, the local FSA County Committee may approve an extension to the next planting season.

**Seeding Dates**

Selected species will be planted within the dates in the specification sheet that will be provided for the site.

**Seed preparation**

Inoculate legume seed with the proper rhizobia bacteria for the species no more than 60 days prior to seeding or as specified on the seed / inoculant tag. Inoculant left in the sun, even for a short period of time can significantly reduce
the viability and effectiveness. Pre-inoculated seed will have a coating that changes the pure live seed per pound and thus the bulk seeding rate per acre.

Be aware that blending seed of varying size, shape and weight can make calibration of equipment and seeding uniformity difficult.

Some seeding mixtures contain seed that is extremely small and thus have very low seeding rates. This may make it difficult to set seeding equipment to uniformly seed these low rates. To add enough volume to the mix for proper metering, a carrier or coated seed may be desirable. The carrier should be no larger than the largest seed species and have similar shape, density and texture to the majority of seeds in the mix. The carrier can be an inert material (i.e. cracked corn) that does not have abrasive properties that may cause damage to the equipment or the seed. Inexpensive seed (unimproved varieties) that will have no significant negative impact on the purpose of the seeding may also be used.

**Planting Methods**

**No-Till seeding:** Use a no-till drill with seven (7) inch or less row spacing. Ensure the drill is designed to handle the type of seed being planted (especially important for native grasses). Set the no-till drill to provide good seed-to-soil contact and a planting depth preferred for the desired species (see table below). Soils that are too wet or too dry can also cause improper seed placement.

**Conventional Seeding:** Prepare a fine firm seedbed to a depth of three (3) to four (4) inches. Use a drill with seven (7) inch or less row spacing, or a culti-packer seeder designed for the seed to be planted. Seed should be drilled uniformly at a proper seeding depth for the desired species.

**Broadcast Seeding:** Seed may be broadcast if completed in a uniform manner. Pre-mix the seed with 200 pounds per acre of pelletized lime if using an airflow applicator. Seedbeds should be worked to a minimum depth of three (3) inches and firmed before seeding. The seedbed should be culti-packed before and after seeding. It is acceptable to see up to one-third (⅓) of the seed on the soil surface. Wind speed should be 15 miles per hour or less when broadcasting.

**Inter-seeding:**

a) **Legumes/Forbs (frost seeding):** No-till drill or broadcast as above into existing vegetation or residues. Broadcasting relies on freeze/thaw cycles, rain and/or snow to incorporate the seed. This method does not include a seedbed preparation. This is most commonly used during the dormant seeding period.

b) **Cover Crops:** No-till drill or broadcast as above into existing vegetation or residues. Broadcasting relies on freeze/thaw cycles, rain and/or snow to incorporate the seed. Inter-seeding does not include a seedbed preparation. This method can be used to establish cover crop species or combination mixes into relatively light (e.g. soybean) and weed free crop residues, or to establish vegetation into standing crops.

c) **Grasses:** No-till drill into existing covers only if prior-treated with herbicides or tillage, or if existing cover is diminishing (i.e. – older alfalfa plantings).

**Weed Control during Establishment**

**Weed Control in introduced and native grass plantings:** Control competing vegetation as needed until established or a Final Status Review is issued. *Mowing multiple times during this establishment period is critical to the success of the native grass planting.* Mow when competing weeds are taller than the planted vegetation, and at a height above the planted vegetation. Use selective herbicides and/or spot spraying to protect the desired species, or for problem perennial weeds. Refer to the Purdue/Ohio State *Weed Control Guide for Ohio and Indiana* for herbicide timing and treatment.

**Managed Haying and Grazing**

Exclude all acres from haying and grazing year-round, unless authorized by the Farm Service Agency beforehand and all CRP policies and standards are met. Fences may need to be constructed and maintained to exclude livestock throughout the entire year. See the attached *CRP Implementation Requirements - Grazing & Haying* plan addendum for more details.
OPERATION AND MAINTENANCE

Operation and maintenance is required and begins with the purchase of the seed. Purchase seed from reputable dealers that is tested and verified to not contain noxious or other species that may become a problem such as Palmer Amaranth. Do not plant seed from unknown sourcing or with weeds, as it could result in long-term management problems. Throughout the life of the contract, noxious weeds and other undesirable plants, insects, and pests will be controlled, including such maintenance as necessary to avoid detrimental effects to the surrounding land.

After the Final Status Review, maintain the planting according to your CRP conservation plan - See the attached CRP Operation and Maintenance for more details. Maintenance activities are allowed only on a spot basis and only if necessary to maintain stand health, maintain stand diversity, or control pests that will damage the CRP cover or adjacent lands. Burning must be in accordance with a prescribed burn plan. MOWING and other maintenance activities are not authorized between April 1 to August 1 to protect ground-nesting wildlife (i.e. - the Primary Nesting and Brood-Rearing season). If maintenance activities are needed (allowed on a spot basis only) during these times, the FSA County Committee must approve the maintenance activity prior to the activity occurring. Native grasses will not be mowed lower than 12 inches. Mowing for generic weed control or for cosmetic purposes is prohibited.

The contract area cannot be used for field roads or other uses that will damage or destroy the cover.

MANAGEMENT ACTIVITIES

Management Activities are required on this practice. If the CRP acres are less than 5 acres, the entire acreage can be managed in a single year; otherwise, the maximum amount that can be disturbed during any one year is ½ of the contract acreage. For maximum habitat value, disturb no more than 1/3 of the contract acreage in any given year.

Areas devoted to grass have the following options:
- Prescribed Burning
- Strip Disking
- Strip Spraying
- Inter-seeding forbs/legumes/pollinator habitat

Areas devoted to trees no longer require mid-contract management activities in Indiana (effective Fiscal Year 2020 signups)

Avoid Environmentally sensitive areas as marked on the plan map including:
 a) Concentrated flow areas,
 b) Critical areas,
 c) Within the first 20 feet of a practice that borders a water resource to avoid water quality resource concerns, and
 d) Other areas where gully erosion is likely.

Grassland areas must be established for a minimum of three (3) years before initiating Management Activities

Management Activities will not be performed from April 1 through August 1 to protect the primary nesting period for grassland bird species. It is also recommended, but is not required, to delay Management Activities until after August 15 to reduce the chance of harming fledgling birds and other young wildlife.

Management Activities will be performed along field contours, or across the slope, when practical.

Strips will parallel brushy or woody escape cover when feasible.