



United States Department of Agriculture
Natural Resources Conservation Service

Forage and Biomass Planting

Virginia Conservation Practice Job Sheet

512



Definition

Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production.

Criteria

Select plant species and their cultivars based on:

- Climatic conditions, such as annual precipitation and its distribution, growing season length, temperature extremes and the USDA Plant Hardiness Zone.
- Soil condition and landscape position attributes such as; pH, available water holding capacity, aspect, slope, drainage class, fertility level, salinity, depth, flooding and ponding, and levels of phytotoxic elements that may be present.
- Resistance to disease and insects common to the site or location.

Follow recommendations for planting rates, methods and dates obtained from the *Virginia Plant Establishment Guide* or other approved sources.

Seeding rates will be calculated on a pure live seed (PLS) basis.

Plant at a depth appropriate for the seed size or plant material, while assuring uniform contact with soil.

Prepare the site to provide a medium that does not restrict plant emergence.

Plant when soil moisture is adequate for germination and establishment.

All seed and planting materials will meet state quality standards.

Do not plant federal, state, or local noxious species.

Apply all plant nutrients and/or soil amendments for establishment purposes according to a current soil test.

Application rates, methods and dates are obtained from the plant materials program, land grant and research institutions, extension agencies, or agency field trials.

When planting legumes, use pre-inoculated seed or inoculate with the proper viable strain of Rhizobia immediately before planting.

Exclude livestock until the plants are established.

If using coated seed, recalibrate planting equipment to deliver the same number of seed per area as would be applied with non-coated seed.



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Virginia Forage and Biomass Planting – Practice Certification **512**

Producer _____ Farm # _____ Tract # _____
 Field Office _____ Contract # _____

Producer's Purpose

Improve or maintain livestock nutrition and/or health.
 Provide or increase forage supply during periods of low forage production.
 Reduce soil erosion.
 Improve soil and water quality.
 Produce feedstock for biofuel or energy production.

Practice Specifications

- Species, rates (lbs/ac), planting depth, and range of planting date, include companion species if used:

- Describe site preparation (include tillage, herbicide application, mowing, intensive grazing or other methods used to reduce surface residue and prepare site for successful establishment)

- Seed/plant source: _____ Seed analysis: _____
- Method of establishment: Broadcast Drill Frost Seed
 Other describe: _____
- Fertilizer application (if applicable): _____
- If legume, was it pre-inoculated () or inoculated just before planting ()
 Type of inoculant used: _____
See list in Southern Forages, 4th Edition, A. 21

Minimum Performance Target for Successful Establishment
Specify minimum plants per square foot and time of performance from Table 1 guidelines below

Field #	Plants/Square Foot Required	Period of Performance Required (Practice Lifespan)	Performance Achieved? Check box if yes; write comment

Planner Certification

The Forage and Biomass Planting planned in this job sheet fulfills minimum requirements of Virginia NRCS Conservation Practice Standard 512.

 Signature Title Date

Certification of Practice Completion

The Forage and Biomass Planting planned in this job sheet has been completed and maintained according to Virginia NRCS specifications (indicate in Practice Specifications any changes to the planned activities and acreage).

 Signature Title Date

Guidelines for Herbaceous Stand Evaluation:

After a herbaceous (grasses and legumes) stand has been made, the question arises as to whether the stand is adequate or inadequate. In many cases stands are obviously adequate or inadequate as determined by simple visual evaluation. However, if the stand is visually questionable, then sometimes a more formal evaluation is needed to make the decision to wait or to re-seed the field.

A one square foot frame is a good tool to use for evaluation. The frame can be constructed from ½ inch PVC pipe or a circular one square foot frame can be constructed using 42.5 inches of 3/16 inch plastic covered cable.

At least 10 samples should be taken per 10 acres, either diagonally or perpendicular to the drill rows. A predetermined number of steps should be taken between samples and do not sample end rows or turn around areas where double seeding is common. Count only those plants that are rooted in the frame and only those species that are part of the planned seeding.

Other important factors that must be considered in the evaluation include: past weather, time of evaluation since seeding date, level of weed competition, planned use of the site, and the species planted. In some cases it is better to wait and make a final evaluation the next year than to re-seed too quickly. Warm season grasses* may need to be evaluated after the 2nd growing season.

For evaluation of marginal stands after establishment, the following table can be used to determine if the stand is adequate to perform its intended function or is inadequate and should be considered for re-seeding.

TABLE 1 - HERBACEOUS STAND EVALUATIONS

**Seedlings Needed per Square Foot
(at end of first growing season)**

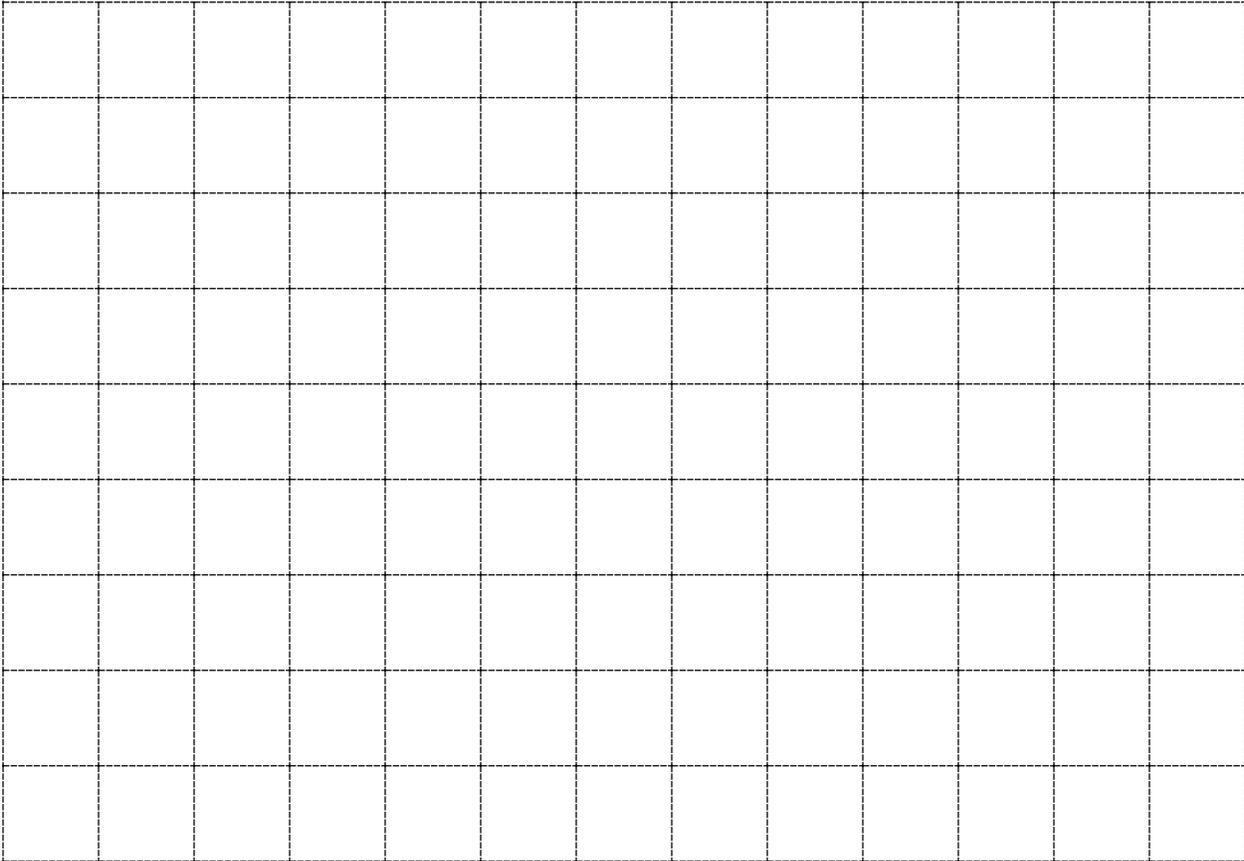
Species	Land Use					
	Forage		Wildlife - Idle		Biofuels	
	A	N	A	N	A	N
Big Bluestem*, Indiangrass*	> 2.0	< 0.5	> 1.0	< 0.25	> 1.0	< 0.25
Switchgrass*, Eastern gamagrass*	> 1.0	< 0.5	> 1.0	< 0.25	> 1.0	< 0.25
Little Bluestem*	> 3.0	< 0.75	> 1.5	< 0.38	NA	NA
Bermudagrass	> 1.0	< 0.5	NA	NA	NA	NA
Bromegrass, Prariegrass	> 2.0	< 1.0	> 1.0	< 0.5	NA	NA
Tall Fescue	> 1.0	< 1.0	NA	NA	NA	NA
Crownvetch, Ladino Clover, Orchardgrass	> 4.0	< 2.0	> 2.0	< 1.0	NA	NA
Kentucky Bluegrass, Redtop Timothy	> 5.0	< 2.5	> 2.5	< 1.25	NA	NA
Alfalfa, Birdsfoot Trefoil, Alsike Clover, Red Clover	> 6.0	< 3.0	> 3.0	< 1.5	NA	NA

> = Greater than	< = Less than	A = Adequate	N = Not adequate
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This evaluation table is based on pure stands; if a mixture of grass and legume is planted, reduce the numbers by the ratio of the species planted.

If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"= _____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")



Additional Specifications and Notes:

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