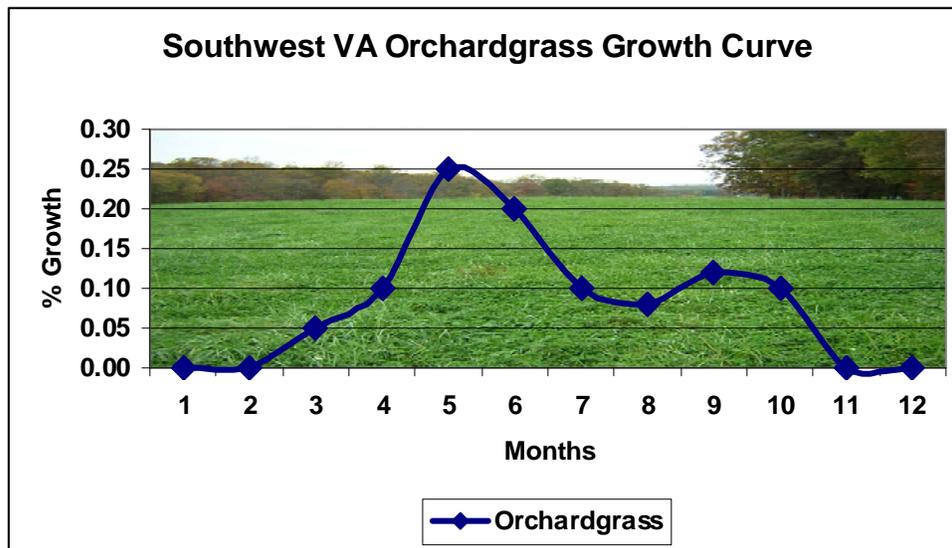


## Establishing Cool Season Perennial Forages



Cool season perennial forages such as orchardgrass, tall fescue, clover, alfalfa, and Kentucky bluegrass make up most of the forage base in Virginia. Each has their own characteristics but all provide early grazing. As much as 60% of the total grass growth occurs by June with a resurgence in late summer to early fall when temperatures cool down again. When managed well, quality is very good.



These grass forages put up seed heads beginning early in the growing season and continue to do so until mid summer. In order for these plants to do this, they must first go through a winter (Vernalization). Spring planted cool seasons grasses will not put out seed heads in the year of establishment. This is why seed heads are not present in the fall.

Successful livestock programs are dependent on successful forage programs which supply large quantities of adequate quality feed. Forage establishment begins long before the actual seeding. Planning and close attention to the details of establishment, production, and utilization are critical. It is imperative to control those things we can control given that we cannot control the weather.

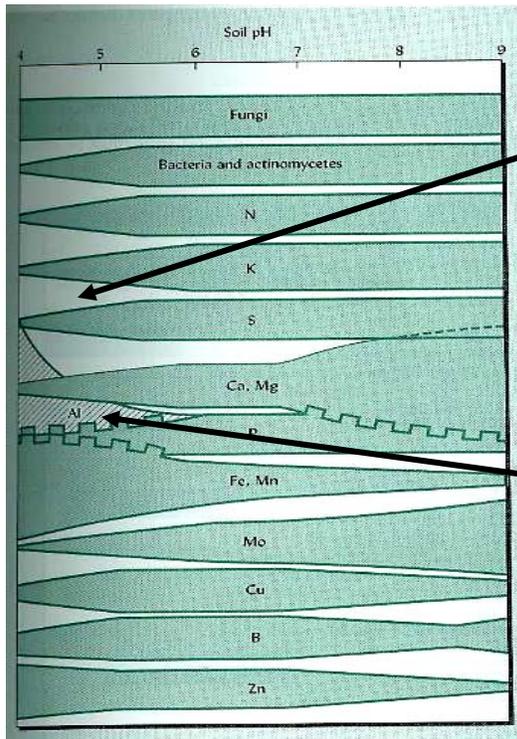
**1. Match forage to the soils.** Grasses and legumes differ in their ability to perform on different soils. Level to gently sloping fields that are deep, fertile, and well drained are best for higher value forages while steeper and poorly drained fields need forages that are more likely to survive.

**2. Select forages adapted to your region and management.** In the Coastal Plain, bluegrass, many cool season perennials are not well adapted due to environmental stress. Continuous grazing requires forages that can be closely grazed while rotational systems can use more sensitive forages.

**3. Select high quality seed.** Poor quality seed and/or un-adapted varieties are always costly. Never compromise seed quality.

**4. Control weeds prior to seeding.** This is very important in grass and legume stands. There are no herbicides available for weed control in mixed grass-legumes stands. The use of herbicides and cropping sequences that include winter or summer annuals can help reduce seed buildup in the soil. Always follow herbicide labels.

**5. Adjust soil pH and fertility prior to seeding.** For surface applied lime, apply at least six months prior to planned seeding date to give the lime time to adjust soil pH. Do not surface apply over two tons of lime at one time. If the soil test calls for more that two tons, apply one half before seeding and one half the year after seeding. If applying to a conventional seedbed, apply one half and plow under and apply one half and disk in.



As pH goes down (becomes more acid) availability of many nutrients is lessened while many micronutrients become too available leading to nutrient deficiencies or toxicities for plants.

At too low pH P is tied up with aluminum and iron and at too high pH P is tied up with calcium and magnesium

**6. Convention Seeding** - prepare a fine and firm seedbed but do not over work the soil to prevent surface crusting. Firmness is required to allow water movement to the soil surface and to ensure proper seeding depth. Also, it improves seed to soil contact.

**7. No-till Seeding** - suppress or kill the existing cover with herbicides. Graze pastures very close in late fall and early spring. Apply burn down herbicide to re-growth. Annual forages (summer or annual) can be planted between burn down and establishment of the perennial forage to allow a more thorough weed treatment.

**8. Seeding date** – follow recommendations for either spring or early fall seeding. Spring seeding of cool season perennials in the Coastal Plain or Southern Piedmont is usually not recommended due to quick onset of hot weather before good establishment. Both spring and early fall usually work in the rest of the state. If late summer/early fall seeding, try to wait until after a rain.

**9. Seeding rate** – Often less than one third of sown seed produces viable seedlings and only half of those survive the first season. Raising seeding rates above reasonable levels will not compensate for poor seeding methods.

**10. Seeding depth** – small seeded forages have very little energy stored in the seed. If placed too deep, they will germinate but be unable to reach the soil surface. If placed too shallow they may not have enough moisture to germinate. Poorly prepared seedbeds (too soft, too much surface residue) will result in improper seeding depths.

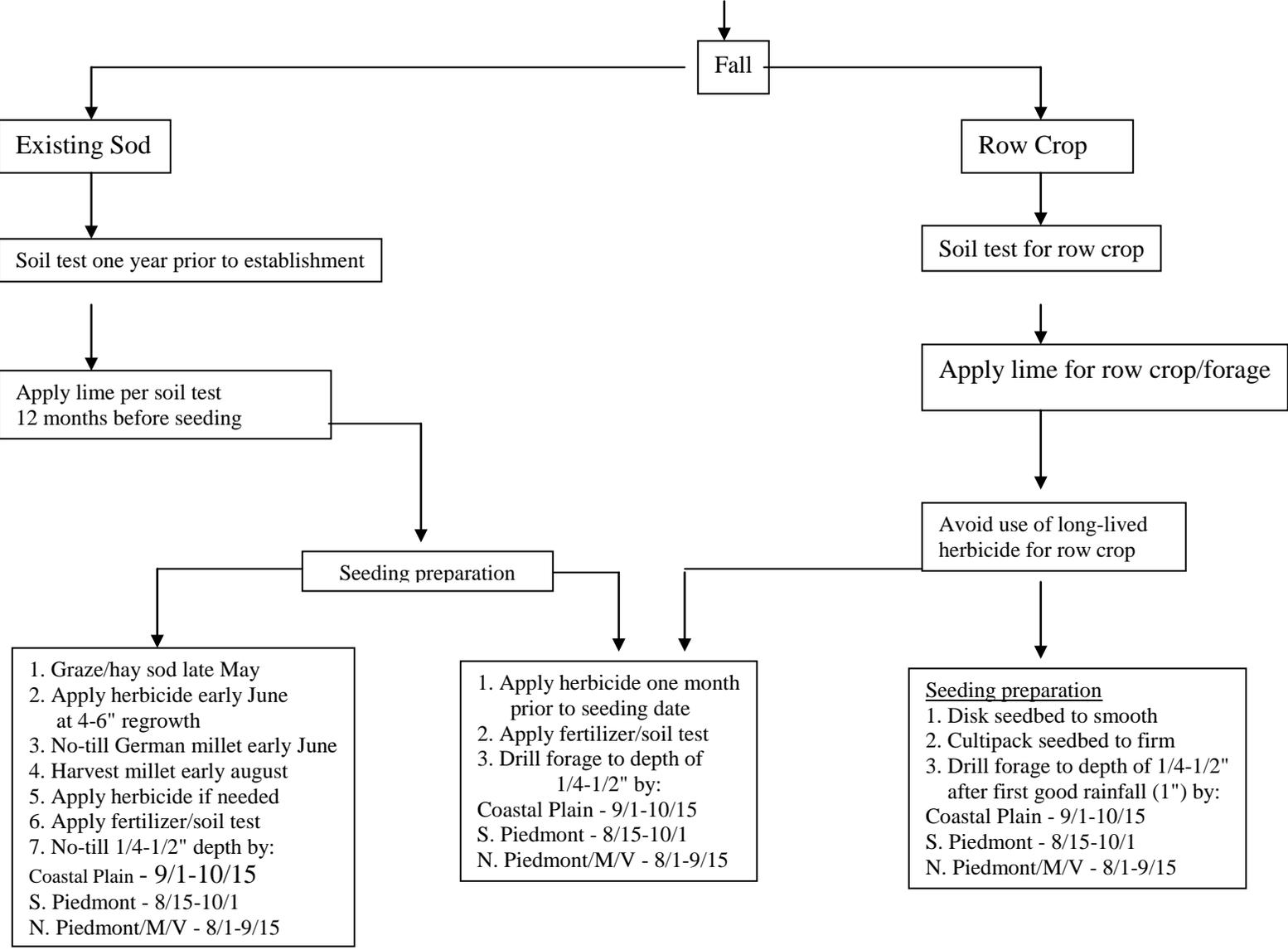
**11. Control weeds during establishment** – forage seedlings are very susceptible to weed competition (water, sunlight, nutrients). Several practices may be clipping weeds just above the desired forage, flash grazing (high stocking density for a very short period of time), or applying herbicide with a wicking bar to taller weeds.

**12. Post emergence management** – do not graze new stands too early or frequently. Newly established forage stands do not develop into a mature sod until the second growing season. Do not graze before eight inches and then only when the plants are well anchored. If the plants can be easily pulled out of the ground by hand, do not graze. Light and frequent grazing will encourage tillering but do not over graze.

**13. Allow new stands to flower before the first haying.** This allows the storage of food reserves necessary for re-growth and persistence.

**14. Fertilize new stands according to a soil test to ensure continued growth.** Pure grass stands will need nitrogen and hayed fields need annual soil tests and amendments.

Planting Guide for Cool Season Perennial Forages



Note: Annual lespedeza can be seeded only in the spring; best seeding depth for legumes is 1/4" or less.