

## Performance and Roles

**LEGUME N Source:** Rates legume cover crops for their relative ability to supply fixed N.

**TOTAL N:** A quantitative estimate of the reasonably expected range of total N provided by a legume stand in lb. N/ac.

**DRY MATTER:** A quantitative estimate of the range of dry matter in lb./ac./yr.; this estimate is based on fully dry material.

**N SCAVANGER:** Rates a cover crop's ability to take up and store excess nitrogen.

**SOIL BUILDER:** Rates a cover crop's ability to produce organic matter and improve soil structure.

**EROSION FIGHTER:** Rates how extensive and how quickly a root system develops, how well it holds soil against sheet and wind erosion and the influence the growth habit may have on fighting wind erosion.

**WEED FIGHTER:** Rates how well the cover crop outcompetes weeds by any means through its life cycle, including killed residue. Note that ratings for the legumes assume they are established with a small-grain nurse crop.

**GOOD GRAZING:** Rates relative production, nutritional quality and palatability of the cover as a forage.

**QUICK GROWTH:** rates the speed of establishment and growth.

**LASTING RESIDUE:** Rates the effectiveness of the cover crop in providing a long-lasting mulch.

**DURATION:** Rates how well the stand can provide long-season growth.

**HARVEST VALUE:** Rates the cover crop's economic value as a forage or as a seed or grain crop, bearing in mind the relative market value and probable yields.

**CASH CROP INTERSEED:** Rates whether the cover crop would hinder or help while serving as a companion crop.

## Planting Consideration

**COST** (\$/lb. & Cost/ac); **PLANTING DEPTH** (in.); **SEEDING RATE** (lb./ac.); **DRILLED** or **BROADCAST**; **INOCULANT TYPE** (legumes); & **RESEEDS** (i.e., the likelihood of a cover crop reestablishing through self-reseeding if it's allowed to mature and set seed; aggressive tillage will bury seed and reduce germination).

## Cultural Traits

**TOLERANCES:** How well a crop is likely to endure despite stress from heat, drought, shade, flooding or low fertility. The best rating would mean that the crop is expected to be fully tolerant.

**TYPE:** Biennial, Cool Season Annual, Long-lived perennial, Summer Annual, Short-lived Perennial, Winter Annual.

**HARDY THROUGH ZONE:** Refers to the standard USDA Hardiness Zones. Bear in mind that regional microclimate, weather variations, and other near-term management factors such as planting date and companion species can influence plant performance expectations.

**HABIT:** How plants develop (i.e., Climbing, Upright, Prostrate, Semi-Prostrate and Semi-Upright).

**pH PREFERRED:** The pH range in which a species can be expected to perform reasonably well.

**BEST ESTABLISHED:** The season in which a cover crop is best suited for planting and early growth. Note that this can vary by region and that it's important to ascertain local planting date recommendations for specific cover crops. (Season: Spring, Summer, Fall & Winter; Time: Early, Late and Mid).

**MINIMUM GERMINATION TEMPERATURES:** The minimum soil temperature generally required for successful germination & establishment.

## Potential Advantages

**SOIL IMPACT:** Assesses a cover's relative ability to loosen subsoil, make soil P & K more readily available to crops, or improve topsoil.

**SOIL ECOLOGY:** Rates a cover's ability to fight pests by suppressing or limiting damage from nematodes, soil disease from fungal or bacterial infection, or weeds by natural herbicidal (allelopathic) or competition/smothering action.

**OTHER:** Indicates likelihood of attracting beneficial insects, of accommodating field traffic and of fitting growing windows or short duration.

## Potential Disadvantages

**INCREASED PEST RISKS:** Relative likelihood of a cover crop becoming a weed, or contributing to a likely pest risk. Overall, growing a cover crop rarely causes pest problems, but certain cover crops may contribute to particular pest, disease or nematode problems in localized areas, for example by serving as an alternate host to the pest.

**Management Challenges:** Relative ease or difficulty of establishing, killing or incorporating a stand. Till-kill refers to killing by plowing, disking or other tillage. Mature incorporation rates the difficulty of incorporating a relatively mature stand. Incorporation will be easier when a stand is killed before maturity or after some time elapses between killing and incorporating.