



# Long-term Covers and Conservation Mixes

Conservation mixes can help stabilize high traffic areas in orchards and vineyards, between permanent raised beds, in berry production and nursery stock areas; as well as in riparian and buffer areas including alleyways and headlands, and other vulnerable or erodible areas. These plantings are often intended to be left for a year or more; once they get well established, they are rugged and can take animal and equipment traffic. The key is that they must be protected until well-established. These are best seeded in the late summer, but the early spring pasture-seeding window can also work.

Many of these mixes can work as forage as well. Depending on the size of the area they may be machine cut and harvested or grazed in a managed grazing scenario. This should be done appropriately and with care, however, since they often contain species that are not optimal for high-producing livestock. As long-term cover crops, depending on how the area is situated, they may not always be managed for harvest at optimum quality (before heading).



**3-Way Clover:** Year-round soil cover, weed suppressor, and nitrogen-fixer. This is the mix to use if you're rotating strips of vegetables with a cover every year. Ideal growing time is 1-2 years; in this time, the mix builds up soil nitrogen and organic matter, while attracting beneficial insects and pollinators. 3-Way Clover is a versatile mix that can be frost-seeded, spring-seeded, or fall-seeded, aerial seeded or broadcast at corn lay-by or just prior to soybean leaf drop. Diversity is important in this mix; the red and white clovers grow in cool spring conditions, while the yellow blossom sweetclover grows well through the summer and during dry spells. This balance of species also helps ensure more continuous bloom throughout the year, attracting honeybees

and beneficial insects year-round. When drilled in fall or spring, can be mixed with a small grain or perennial pasture grass.

Seeding rate: 10-15 lbs/A drilled.

Contains: 33% Red Clover, 44% Yellow blossom sweetclover, 23% Ladino white clover.



**Clean and Green:** Can also be used for forage. The uses for Clean & Green are many including: Exercise lots, waterways, filter strips, around farm structures, and cow calf operations. Clean & Green will typically contain two durable endophyte free tall fescue varieties and annual ryegrass to give quick cover while the tall fescue establishes. Seeding rate: 30-70 lbs/A.

Contains: 80% Rugged, endophyte-free tall fescue, 20% Annual ryegrass.



**Creekside:** Useful for wet buffer areas; works best in colder climates. Forms a good sod to handle traffic, and holds quality well in wet conditions if the mix is to be grazed or cut. Seeding rate: 25 lbs/A.

Contains: 36% Perennial Ryegrass, 34% Meadow Fescue, 11% European/Premium Timothy, 10% Kentucky Bluegrass, 5% White Clover, 4% Ladino White Clover.



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High Energy Forages and Soil Building Cover Crops

## Cover Crop Tech Sheet



**Dutch White Clover:** The perfect living mulch. Grows low and slow, with a creeping habit, while fixing nitrogen. It helps provide soil cover and fights compaction in heavy traffic areas like permanent walkways. It is also frequently used in buffer areas or in between vegetable rows. It can be interseeded in a growing crop and will grow slowly without competing with the established crop. Can also be frost-seeded.

Dutch white clover propagates by both seed and creeping stolons. It grows well in cooler and moist conditions, and tolerates wet conditions well.

Avoid following Dutch white clover with other legumes, since it can be a host for root rot diseases like Pythium and Rhizoctonia.

Seeding rate: 2-4 lbs/A drilled or broadcast.



Photo credit: beesource.com



**Equinmaster Paddock:** Innovative formula for exercise paddocks. Specially formulated for excessive utilization areas. Equinmaster Exercise Paddock is formulated with grass species and varieties that are very tolerant to the traffic pressure of horses and persist under heavy use. Rapid establishment. Seeding rate: 100 lbs/A.

Contains: 50% Soft Leaf Tall fescue, 35% Kentucky Bluegrass, 15% Perennial Ryegrass.



**Greenfast:** A fast starting mix that is of very high quality in a situation where it would be needed for grazing or baleage. The main component, festulolium, is fast starting, high yielding and of excellent forage quality, but short lived (typically three years). Also contains longer lived species. Best used north of the Mason Dixon Line. If not grazed or cut for forage, this mix needs more mowing than low-growing or turf-type mixes. Seeding rate: 30-40 lbs/A.

Contains: 38% Festulolium, 27% Grazing tolerant orchardgrass, 22% Premium perennial ryegrass, 9% Freedom! MR Red Clover, 4% Alice White Clover.



**Horse Supreme:** Horse Supreme was developed as a palatable mixture for continuous or managed horse grazing, which means it stands up well to traffic and animal abuse. The mix will do well under mowing or grazing. Clovers help build soil nitrogen. High productivity during drought. Seeding rate: 25-30 lbs/A.

Contains: 37% Orchardgrass, 20% Meadow Brome, 20% Diploid Perennial Ryegrass, 15% Kentucky Bluegrass, 6% Timothy, 2% White Clover.

**Sale Topper:** An all-grass mix sold primarily as for use as dry hay for horses or cows. Can do well to stabilize and provide long-term cover for drier soils. 3-5 year expected lifespan. Seeding rate: 15-20 lbs/A.

Contains: 80% Late maturing orchardgrass, 20% Premium timothy.



## Cover Crop Tech Sheet



**Wellington Birdsfoot Trefoil:** Long-lived, persistent legume that builds soil nitrogen. Useful for wildlife conservation area or pasture (no threat of bloat as with other legumes). Birdsfoot trefoil can be seeded in combination with grasses. Yield may reach 4 tons of hay per acre on well-drained soils with plenty of moisture (at least 20 inches/year). It does well on soil with moderate to poor fertility (although plenty of phosphorus is needed), and tolerates a pH range of 5.5-7.5. It's often less productive than alfalfa on deep, fertile, well-drained soils, but tolerates periods of drought. Stems are smaller and less rigid than alfalfa stems, and plants reach a height of 18-20 inches. More palatable than alfalfa, and is recommended as a good alternative in areas that are not suitable for alfalfa production. Seeding rate: 20-25 lbs/A.

### Turf-Type Products for Long-Term Ground Cover

**Balin Kentucky Bluegrass:** Winter-hardy, sod-forming grass that spreads by rhizomes and can tolerate short grazing or cutting. Excellent persistence, but slow establishment. The majority of growth is in the spring and fall. Balin is a variety that is bred for forage quality. Can be seeded in mixtures with other grasses and/or clovers. Seeding rate: 15 lbs/A.

**Companion Mix:** A slow-growing red fescue mix for orchards, vineyards, between vegetable rows, or around buildings or other hard to reach areas, requires less mowing. Shade and wear tolerant. Seeding rate: 50 lbs/A.

Contains: 60% Dwarf Perennial Ryegrass, 20% Creeping Red Fescue, 20% Chewings Fescue



**Sun and Shade:** A multipurpose fine-leaf turf, for areas that are sunny or moderately shaded.

Seeding rate: 175 lbs/A

Contains: Kentucky bluegrass, perennial ryegrass, and fine-leaf fescues.

**Water Saver Pro:** A three-way blend of turf-type tall fescues that are lower-growing and have excellent heat and drought tolerance. This mix gets its name from its exceptionally deep root system that reduces water needs. Ideal in full sun and partial shade. Traffic tolerance is high. Excellent disease resistance, tolerant of high and low soil pH. The turf is dark green with medium density. This mix has the advantage of less mowing—it is both durable and low-maintenance. Seeding rate: 300 lbs/A.



### Quick Starters for Temporary Patches

For soil areas that become bare from animal or equipment pressure, or perhaps from erosive wash outs, we recommend using these quick starters to fill in as short-term or temporary patches. These will be best planted in either early spring or late summer.

**Annual Ryegrasses—** fast starting, winter hardy. Varieties include MOI, Marshall, Kodiak. Seeding rate: 35-45 lbs/A.

**Italian Ryegrasses (biennial)** - Green Spirit Blend, Kingfisher Allegro Brand. Seeding rate: 35-45 lbs/A.

**Perennial Ryegrasses—**BG-24T Blend, BG 34 Blend, Kentaur, Tivoli. Seeding rate: 30-50 lbs/A.

**Festulolium** – Perseus (Italian Ryegrass type) is persistent, has a strong root system, improved winter hardiness, increased summer performance, and high drought tolerance. Perseus is fast-starting and can be mixed with legumes or used as a pure stand, and has good regrowth. Seeding rate: 30-40 lbs/A.

**Red Clover** – Medium Red Clover mixed with any of the above, to include a quick growing legume in with the grass mix. Seeding rate: 6-8 lbs/A in mixes, 20 lbs/A in straight stands.

## Cover Crop Tech Sheet



### Renovating Wooded Areas for Pasture

Wooded ground is typically acidic, so liming as early as possible is recommended. Pelletized lime may be easier to spin on than ground limestone, especially if the ground is littered with lots of stumps and debris. You may be able to drive into the area with a small 4-wheeler and Hurst spinner-spreader on the back to spin on pelletized lime. Or you can walk over it with a body-held spinner, completing sections at a time. It will be critical to get the pH right for both grasses and legumes. Legumes especially need a neutral to slightly acid pH (6.5-6.8) for best rhizobium inoculation.

Letting the animals into the area to trample in the seed may be the best option, since it will be hard to drive a packer in with the presence of stumps.

**Greenfast** - Contains faster establishing perennial ryegrass and festulolium species for soil stabilization, along with some red and white clover, with the orchardgrass being slower to establish but disease resistant. Seeding rate: 30-40 lbs/A.

Contains: 38% Perseus Festulolium, 27% Grazing-tolerant Orchardgrass, 22% Premium Perennial Ryegrass, 9% Freedom! Medium Red Clover, 4% Barblanca Clover

**Grazeall** - Again the perennial ryegrass content is faster starting; Endurance Orchardgrass and HDR Meadow Fescue are a little slower establishing but longer term components. Seeding rate: 25 lbs/A.

Contains: 30% Perennial Ryegrass, 30% HDR Meadow Fescue, 25% Endurance Orchardgrass, 15% Balin Kentucky Bluegrass

**Reed Canarygrass**—An extremely durable grass that tolerates more acidic soil. Slow to start, it is quite persistent once it establishes. Reed canarygrass does best in the long term under closely managed grazing; otherwise, it has the potential to spread and thicken invasively, choking out other species. This will be a good transition crop to help build soil and alleviate weed pressure in an interim year, before being terminated if a more diverse pasture or hay stand is desired. It is resistant to foliar diseases, and the stand spreads and thickens by rhizomes. It is adapted to wet or droughty conditions, so it make a good conservation planting in waterways. When used for forage, it will be quite high-yielding, but quality drops off quickly after heading. Seeding rate: 12-18 lbs/A.



Reed canarygrass used in waterway conservation.

(Photo source: <http://www.naturalheritage.state.pa.us/>)

**STF 43 Tall Fescue Blend** - Tall fescues are also a little slow to establish, but once they do, they are in it for the long haul. Tall fescues are the best for adapting in acidic soils and can take moisture and drought stress once established, so these would be a longer term hedge in a former woodlot until the pH was brought up closer to 6.5 to 6.8. Using a blend of two of Barenbrug's soft-leaf varieties rather than a straight stand makes this an even more durable mix. Seeding rate: 35-45 lbs/A.