

Cereal Rye, 2 legumes, diakon radish, roll down with herbicide

Participant Name _____

Date: _____

INFORMATION ON THIS JOB SHEET IS CONSIDERED TO BE PART OF THE CONTRACT AND/OR CONSERVATION PLAN.

Purpose

This job sheet will be used to establish high biomass cereal rye and legume cover crop mixtures that will be late summer/early fall planted and spring killed by roll down and herbicide. Cash crop will then be no-till planted into heavy rolled down cereal rye and legume residue. This system is designed to; obtain maximum soil cover, improve soil quality (soil’s physical, biological, and chemical properties), naturally cycle substantial amounts of nutrients (nitrogen), control weeds, limit soil erosion, limit runoff of fertilizers/chemicals, conserve moisture, etc. This system maintains soil cover and live roots at times when the field would otherwise be bare or fallow for more than 30 days.

Conditions Where Practice Applies

Practice applies on all lands where landowners wish to improve soil quality, naturally cycle plant nutrients, and provide vegetative cover for natural resource protection and improvement. This practice is specifically designed for landowners who want to go beyond soil loss tolerance (T) and increase the carbon content of their soil (C).

Establishment Specifications

1. Plant species and seeding rates will be according to **Table 1.**



Cover crop mixtures should consist of cereal rye, two legumes, and diakon radish. Cereal rye is the small grain of choice due to its surface biomass and root production. Eligible legume species are: austrian winter pea, crimson clover, hairy vetch, red clover, and yellow blossom sweet clover. Diakon radish is used for its ability to capture soil nitrogen, and ability to bio-till the soil. See the “Establishing Vegetative Practices In Kentucky” document, located on eFOTG, section IV, Table 4, for recommended cover crop species mixtures for various locations throughout Kentucky.

2. Seed will conform to minimum state standards for purity, germination and other features. Commercially marketed seed in Kentucky meets these requirements. **Organic producers should ensure the use of organic seed when available. Contact State Organic Certifier for more information.**
3. It is critical for the pH to be brought into the appropriate range for the type of plants being grown before large amounts of biomass are added to the soil surface. Large amounts of surface biomass buffers soil pH making it more difficult to adjust pH up or down.

Seeding and Seedbed Preparation

No-till establishment is the preferred method of seeding since soil disturbance is minimal, thus reducing weed competition and the risk of soil erosion.

A complete no-till system for all plantings will be used throughout entire crop rotation.

Example: All cover crops and cash crops will be no-tilled throughout rotation.

Important: Avoid no-till planting when soil is wet since it may result in placing seed too deep.

Seeding Dates

Cover crops must be sown by **September 30th West of Interstate 65**. **Optimum dates for seeding this cover crop mixture West of Interstate 65 is September 10th through 20th (or earlier).**

Cover crops must be sown by **September 15th East of Interstate 65**. **Optimum dates for seeding this cover crop mixture East of Interstate 65 is September 1st through 10th.**

No-Till Seeding

Care should be exercised to insure appropriate cover crop mixture seeding rates and seeding depths are obtained when using no-till drills or planters.

Conventional Seeding (Only allowed on organic operations where no-till planting is not feasible.)

The importance of a dry firm seedbed cannot be over emphasized to ensure proper planting depth.

Seedbeds may be prepared by disking.

Once seedbed is prepared, broadcast seed, cultipack, harrow or roll the seeded area only once to ensure good seed to soil contact and the proper seeding depth.

Aerial Seeding

Seeding rates must be increased by at least 25% for

all cover crop seed species to insure adequate cover crop stand. Optimum seeding dates for aerial seeding are from September 1st through 10th at all locations within Kentucky. (In extremely wet years where corn is being grown it is better to wait until corn dries up to the ear and opens canopy before aerial seeding.)

When possible, aerial seeding should be performed over top of an existing crop before leaves of the existing crop fall to the ground. (Example: Aerial seeding of cover crop over soybeans prior to fall of soybean foliage.)

Operation and Maintenance

Cover crop **CANNOT** be terminated prior to **April 15th west of Interstate 65 and April 30th east of Interstate 65**. Cover crops should be terminated as late as possible for maximum biomass and nitrogen production.

Cover crop mixture will be terminated by roll down with chemical burn down. **Organic producers should ensure the use of organically approved chemicals. Contact State Organic Certifier for more information.**

Roll down can be accomplished using roller crimpers, stalk choppers or cultipackers. Roller crimpers and stalk choppers are the preferred roll down implements due to their crimping abilities, which cultipackers do not have.

The cover crop residue CANNOT be disked or plowed into the soil or disturbed with any other full width tillage implement (e.g. Turbo-Till[®], Phoenix[®]/Phillips[®] Harrows, etc.).

Cover crop CANNOT be harvested for grain, silage, or hay. All residue must be left on soil surface.

Three to four years into the rotation, landowners should obtain a "Potentially Mineralizable Nitrogen Test" (University of Kentucky College of Ag.- Dr. Mark Coyne) for each field to estimate the amount of N being released to cash crop from microbial food web. Commercial N fertilizer should then be reduced accordingly.

