

Cereal Rye, 2 Legumes, and a Brassica Cover Crop mixture. Termination will be accomplished by roll down and/or herbicide.

Producer Name: _____

Contract # _____

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, 2 legumes, and brassica cover crop mixtures to improve soil health. These cover crop mixtures 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 the 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, natural 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, and red 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.**
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 no later than **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 no later than **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

It is recommended that termination be performed by rolldown and/or herbicide treatment. **Organic producers should ensure the use of organically approved chemicals.**

It is recommended that 3 to 4 years after using this cover crop that a mineralizable soil Nitrogen test be performed. This will provide an estimate of the amount of N being released to cash crop from microbial food web.

For KY NRCS Program Purposes:

- **Cover crops will be terminated between early boot stage** (See stage 10 of Insert 1- "Small Grain Growth Stages") **and before seed head formation in 50% of field.** Guidance is based on USDA-Risk Management Agency (RMA) information. **The participant should contact their crop insurance company if they have eligibility concerns because USDA-RMA guidance may change.**
- **Cover crops CANNOT be harvested for grain, silage, or hay. All residue must be left on soil surface.**
- **Use practice Residue Management (344) to cover proper spring management.**

Insert 1: Purdue University Extension Service

Small Grains Growth Stages

Stage 1

3-Leaf Stage: The first two leaves are completely developed, and the middle, or third, leaf is partially developed.

Stage 2

The tillers (sometimes called side shoots) are beginning to form.

Stage 3

Tillers have formed and are in their primary growth stage.

Stage 4

Tillers have ended their growth and the leaf sheaths (the lower part of the leaf which surrounds the stem) begin to form.

Stage 5

Leaf sheaths are strongly erected and the stems formed start to grow in length.

Stage 6

One-Joint Stage: The first joint develops near the soil surface and can be felt inside the stem. The joints, or nodes, produce a swelled appearance in the lower portion of the stem.

Stage 7

Two-Joint Stage: The second joint has formed, marking the beginning of the reproductive phase.

Stage 8

Appearance of the last leaf.

Stage 9

Ligule Stage: The ligule (a membrane at the junction of the leaf sheath and leaf base) of the last leaf is fully developed, and the leaf sheath is swollen at the level of the capsuled head of grain.

Stage 10

"Boot" Stage: At this stage, the immature head of grain presses the rolled leaf sheath apart and becomes visible.

Stage 10.1

Head Emergence Stage

Stage 10.5

Flowering Stage

Stage 11

Ripening State (includes "dough" stage)



