

Small Grain – Brassica Cover Crop

Producer 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 cover crops that provide ground cover for erosion control and nitrogen scavenging purposes.

Cover crops protect the soil surface from erosion while maintaining/improving the soil's physical, biological, and chemical properties. They also assist with weed control, limit runoff of fertilizers and chemicals, conserve moisture, cycle nutrients, etc.

Cover crops scavenge available nitrogen left in soil system after a cash crop has been grown, hold it over winter months and release it back to the following year's cash crop.

Cover crops assist in achieving the goal of keeping something growing in the field at times when the soil would otherwise be bare or fallow for more than 30 days.

Conditions Where Practice Applies

On all lands requiring vegetative cover crops for natural resource protection, improvement and/or nitrogen sequestration.

Establishment Specifications

1. Appropriate cover crop species should be chosen



to maximize landowner objectives. Please see Insert 1 for "Estimated Nitrogen Sequestration" for this cover crop mixture.

2. See Insert 1 for appropriate plant species seeding mixtures and seeding rates. Landowner decisions and applications should be recorded in attached Table 1.

3. Seed will conform to minimum state standards for purity, germination and other features. Commercially marketed seed in Kentucky meets these requirements. All recommended seeding rates in this job sheet and/or the "Kentucky Cover Crop Guidance" document are for pure live seed (PLS).

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.

Seeding Dates

Optimum dates for seeding cover crop mixtures containing daikon radishes **West of Interstate 65 is September 1st through 20th**. *Early September planting dates are considered optimal.* Cover crops must be sown no later than **September 30th**. **West**

of Interstate 65.

Optimum dates for seeding cover crop mixtures containing daikon radishes **East of Interstate 65 is August 15th through September 10th**. Cover crops must be sown no later than **September 15th East of Interstate 65.**

No-Till Seeding

Care should be exercised when setting drills to ensure planting depths and rates are correct for the species planted.

Conventional Seeding

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

When using aerial seeding method cover crop 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. Careful attention should be paid to choose appropriate growing season corn that will allow for the above cover crop seeding dates to be met.)

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 crops should not be terminated prior to

stage 4 of the attached Purdue University Extension Service, “Small Grain Growth Stages” (see Insert 2).

If landowners desires crop insurance, the latest cover crops can be terminated is at or within 5 days after planting of cash crop but before cash crop emergence to be in compliance with Risk Management Agency insurance guidelines.

It is suggested to allow cover crop to grow to the day of planting to build maximum biomass to improve soil health.

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

Insert 1: Estimated Nitrogen Scavenging For Cover Crop Species.

(All Cover Crop Seeding Recommendations are for Pure Live Seed (PLS)).

<i>Cover Crop Species (mixture) (PLS)</i>	<i>*Estimated Nitrogen Scavenging</i>
Cereal Rye (50 lbs/ac) and Daikon Radish or Turnip (2 lbs/ac)	50 lbs/ac N

*It should be noted there are several variables that cannot be accurately estimated that have a significant impact on a cover crop’s ability to “scavenge” nitrogen in a soil system. Due to these factors, we have used conservative estimates in the above table for “Estimated Nitrogen Scavenging” for each cover crop species listed.

Note: “Estimated Nitrogen Scavenging” estimates were obtained from local land grant university and/or the USDA East National Technical Support Center recommendations.

Insert 2: 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 (Nitrogen Scavenging Cover Crops Should Not Be Terminated Until They Reach Stage 4 or After)

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

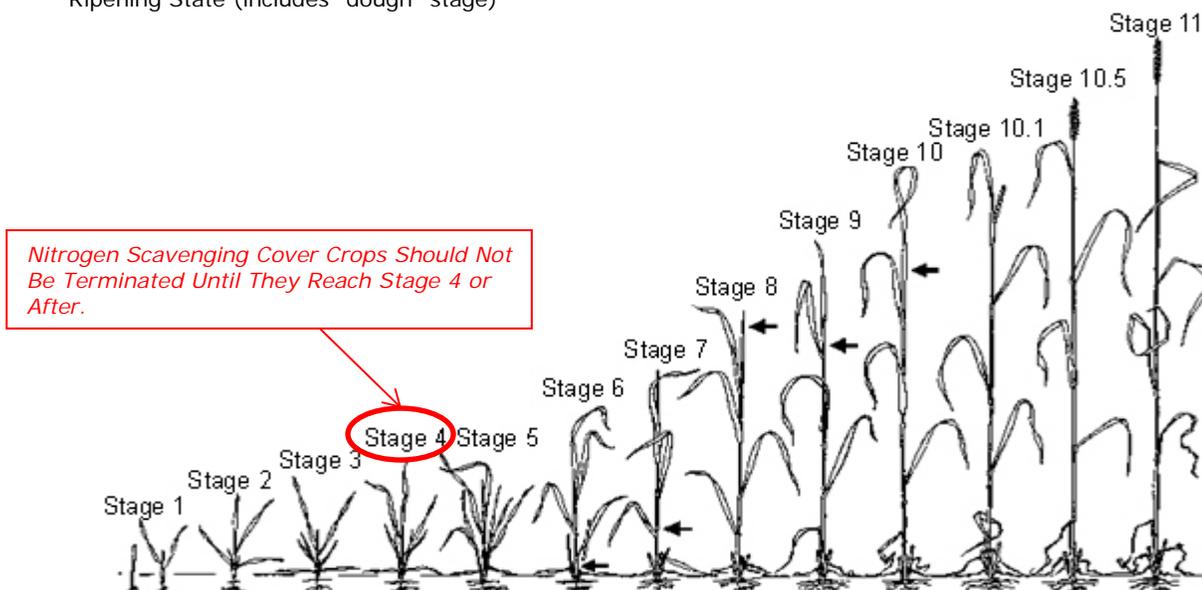
Head Emergence Stage

Stage 10.5

Flowering Stage

Stage 11

Ripening State (includes "dough" stage)



Certifications

Job Sheet	Prepared by:	Title:	Date:
	Approved by:	Title:	Date:
Installation	Meets NRCS standards and specifications.		
	Certification by:	Title:	Date:
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