



Water Quality Enhancement Activity– KS-WQL10 Plant a cover crop that will scavenge residual nitrogen

Kansas Criteria for National Water Quality Enhancement Activity – WQL10

Refer to Conservation Practice 340, Cover Crop, to select nitrogen scavenger cover crops.

The following method can be used to estimate the amount of nitrogen (N) to be credited to the next crop:

To estimate yield, take cuttings from several areas in the field. Dry and weigh them. Use a yardstick or metal frame (of known dimensions or 1 ft x 2 ft, which equals 2 sq ft feet works well) and clip the plants at ground level within the known area. Dry them in the sun for a few consecutive days, or use an oven at about 140° F for 24 to 48 hours until they are “crunchy” dry. Use the following equation to determine per-acre (ac) yield of dry matter:

$$\text{Yield (lb.)/Acre} = \frac{\text{Total weight of dried samples (lb.)}}{\text{\# square feet you sampled}} \times \frac{43,560 \text{ sq. ft.}}{1 \text{ Acre}}$$

While actual sampling is more accurate, you can estimate your yield from the height of your green manure crop and its percent ground cover. Use these estimators: cereal rye weighs approximately 2,000 lb/ac of dry matter at an 8-inch height and 100 percent ground cover. For each additional inch, add 150 lbs and multiply by (percent ground cover/100). For most small grains and other annual grasses, start with 2,000 lb/ac at 6 inches and 100 percent ground cover. Add 300 lbs for each additional inch and multiply by (percent ground cover/100).

The following rule of thumb can be used to estimate total N contained within the dry matter. Most cover crop grasses contain 2 to 3 percent N before flowering and 1.5 to 2.5 percent after flowering.

$$\text{Total N in cover crop in (lb/ac)} = \text{yield (lb/ac)} \times \frac{\% \text{ N}}{100}$$

Keep in mind that these are *rough estimates* to give you a quick guide for the productivity of your cover crop. To know the exact percent N in your plant tissue, you would have to send it to a lab for analysis.

To estimate the amount of N that will be available for your current crop, take the estimated total N in the cover crop times 30 percent to be used as credited N.