

## **6. Cover Crops For Burley Tobacco**

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Cover crops are an essential component of burley tobacco production. Planting a winter cover crop is necessary for minimizing soil erosion and for maintaining organic matter in the soil. Many, if not all, farm plans developed by the U.S. Department of Agriculture Natural Resources Conservation Service have a cover crop component. In addition to providing ground cover during the winter, cover crops also provide either “green manure” for plowdown, mulch for no-till, forage for livestock, or grain and straw if allowed to mature. Below is a brief description of common cover crops.

### **Rye**

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Burley tobacco growers use rye as a winter cover probably more than any other small grain. Most ryes grow well in the fall (even late fall) and are the first cover crops to continue growing in late winter or early spring. This makes rye a top choice for tobacco growers who have little time in the fall to sow a cover before winter. Rye provides the most biomass to turn under in early spring. It also provides forage for grazing animals and straw if harvested before mature seeds are formed or after rye seed harvest.

### **Triticale**

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Triticale is now available to burley tobacco growers as an alternative small grain for winter cover cropping. Triticale was developed by combining rye and wheat genetics. This small grain has good winter hardiness and excellent biomass in early spring (similar to rye), but is shorter in height than rye (more like wheat). Triticale seed may be hard to find some years, and its price may be higher than prices for other small grains. Triticale, however, can provide superior biomass to plow under for the following summer crop.

## **Barley**

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Barley provides a sufficient source of biomass to be managed in the spring. It does not grow as tall as regular rye, but will tiller and may produce as much straw, forage, or plowdown as rye. Even though barley eventually produces the equivalent biomass of rye, it does so later in the spring. Also, the possibility of winterkill is greater with barley. Plan to plant in September or early October for greatest survival.

## **Wheat**

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Using wheat as a cover crop works well and provides an additional option of grain harvest. Wheat also should be planted in September or October and produces biomass similar to that of barley. It, too, can be grazed before turning under. You can also harvest it for grain and remove the straw.

## **Oats**

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Oats can be managed to provide many options for the grower. Planting fall oats in September or October in most of North Carolina will provide a cover crop and good late-spring biomass. It can be grazed, or you can make it into hay or harvest the grain and straw. Planting spring oats in August can provide a good winter-killed mulch. Spring oats, however, have survived some of our milder winters. Thus, you may need to kill spring oats with herbicides in some years if you do not plow them under.

## **Ryegrass**

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This grass has great potential use as a green manure and as a forage or hay material, but grower beware! It has the potential to become a difficult pest on some farms. Ryegrass tends to grow rather slowly in the fall; therefore, it provides only moderate winter erosion protection if planted in late fall. Ryegrass will produce an abundant supply of biomass by late spring. Grazing and spring hay from ryegrass can be excellent, and its fine, extensive root system makes it a great source

for plowdown. Because of the resiliency of ryegrass, you should avoid using it in sites where a garden or tobacco plant beds are to be established. This source of cover does not provide much biomass if plowed early in the spring.

## **Legumes**

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Three legumes are available for winter cover cropping. Hairy vetch has a viney growth habit and a high nitrogen content, and it grows slow during the winter. The Austrian winter pea also has a viney growth habit and a high nitrogen content, and it grows slow during the winter, but it can frost-heave. Crimson clover has an upright growing habit and grows slow during winter, and it has a moderate nitrogen content. All these legume winter cover crops need to be planted by late September or early October. Frost heaving can cause the seedlings to dry out during the winter; plants are susceptible to heaving when they are very small and their roots are not established. All legume seed costs will be double or triple what the cost per acre would be for small grains, but legumes will supply nitrogen in greater quantity to the soil than small grain if left until late April or early May before plowdown.

## **Mixing Grass and Legumes**

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Combining grass and legumes may prove better than planting either alone. Grasses protect soil during the winter and also produce great forage or plowdown organic matter. Legumes do not grow well during the winter, but they grow abundantly in late spring and produce high protein forage and lots of nitrogen as plowdown for the following crop. Crimson clover is the best legume to grow with a grass. Crimson's height matches well with barley, wheat, and oats, but it may be shaded by rye, resulting in less growth than desired. Hairy vetch has been sown with grass cover crops for many years, with the grass and vetch combination being used as a hay or plowdown.

## **Plowdown**

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Many growers plow down winter cover crops in late winter or very early spring. Try to resist this temptation until cover crops have

gained sufficient biomass. Plowing early defeats the main purpose of growing cover crops—to supply organic matter—and does not allow legume cover crops to develop at all. If you need to plow early, use a grass cover crop (rye) that produces good fall growth and provides maximum biomass for incorporation.

## **Seeding Rate**

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Seeding rates are 1 to 1½ bushels per acre for rye, triticale, barley, and wheat and 2 bushels per acre for oats. Crimson clover should be planted (broadcast) at 20 to 25 pounds per acre, hairy vetch at 20 to 30 pounds per acre, and Austrian winter peas at 25 to 35 pounds per acre. Drilling legumes can reduce rates by 5 pounds per acre. If you plant in late fall, use the higher rates for good seed establishment and soil protection.