

## Extension Notes

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AGRICULTURE & NATURAL RESOURCES

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### **Six Easy Steps to Maximize Your Pasture Success with Clover Frost Seeding**

Kentucky's weather conditions are predictably unpredictable. During the Kentucky Forage and Grassland Council assembly in November, board members discussed a possible shift in optimal timing for frost seeding clover -- broadcasting red clover into winter wheat just before green-up -- due to the increasingly milder winters. With that said, be careful when making statements about Kentucky weather as weather variation complicates predicting the optimum period for frost seeding clovers.

As legumes, clovers are an essential part of a strong and healthy nitrogen cycle in grasslands. Distributing six pounds of red clover and one to two pounds of white clover over a grassy area with some bare soil in the later part of winter, combined with minimal competition control, can develop high-quality pasture.

The advantages of cultivating clover are substantial, encompassing natural nitrogen fixation, and enhanced forage quality and yield. Particularly noteworthy is recent U.S. Department of Agriculture research indicating that red clover can significantly mitigate the vasoconstrictive effects of toxic endophyte tall fescue, making it an exceptionally valuable crop.

Frost seeding is a preferred establishment method due to its minimal equipment requirements. Typically, a small spinner seeder attached to a tractor or four-wheeler is all you would need for seed distribution. Red and/or white clover are well-suited for frost seeding as they exhibit rapid germination, shade tolerance, and vigorous root and shoot development in their seedling stages. Their small, smooth seeds are readily incorporated into the top quarter inch of soil through natural weather patterns or animal movement.

Despite the numerous advantageous clover traits are for establishment, it is crucial to adhere to the fundamental requirements of forage establishment, even in low-input methods like frost seeding. These essentials include:

1. Conduct soil analysis and apply necessary nutrients. Clovers thrive in soil with a pH of 6.5 to 7 and medium to high levels of phosphorus and potassium. Nitrogen should only be added when diammonium phosphate is required for phosphorus provision.
2. Choose a high-quality variety. Opt for an improved variety with established performance and genetics. Selecting a superior red clover variety can yield up to three tons more hay per acre and extend the stand's lifespan compared to common, unclassified seeds. The University of Kentucky provides extensive yield data and persistence of white and red clover varieties for hay and pasture, available at [http://forages.ca.uky.edu/variety\\_trials](http://forages.ca.uky.edu/variety_trials). It is advisable to check with seed suppliers to see if your favorite variety is available.

3. Apply an adequate quantity of seed. Typical seeding rates range from 8 to 12 pounds of red clover and one to two pounds of white/ladino clover per acre. A reduced rate, such as six pounds of red and one pound of white clover, still results in over 55 seeds per square foot (37 red and 18 white).
4. Ensure seed contact with bare soil. Removing excess grass or thatch, revealing bare ground, is imperative before overseeding. A major cause of frost seeding failures is excessive ground cover. Farmers can achieve bare soil exposure through controlled cattle movement or mechanically using a chain harrow.
5. Achieve optimal seed-soil contact. Frost seedings rely on precipitation and the freeze-thaw cycle to integrate clover seeds into the top quarter inch of soil. Utilizing a corrugated roller post-seeding can further enhance soil contact.
6. Manage competition the following spring. Avoid additional nitrogen application on overseeded fields. Be prepared for timely mowing to control grass or weed overgrowth above the clover. Although clover seeds are inherently vigorous, controlling competition can expedite and improve establishment.

With careful attention to soil fertility, variety selection, seeding rate, seed placement and competition management, clover can be successfully frost seeded into existing grass pastures.

For more information on frost seeding, contact the Carter County Extension office. Hay field and pasture reseeding will also be the focus of the upcoming No-Till Drill Clinic that will be held at the Boyd County Fairgrounds Expo Building on January 30<sup>th</sup> at 6:00 PM.

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#### **Other Upcoming Events:**

- **Private Pesticide Applicator Training** – Thursday, February 1<sup>st</sup> at 1:00 PM – Call 474-6686 to register.
- **Little Sandy Beekeepers Meeting** – Tuesday, February 6<sup>th</sup> at 6:30 PM- Guest Speaker: Josh Cantrell
- **Master Cattleman** – Six-part series begins on February 8<sup>th</sup> at the Boyd County Fairgrounds Expo Building. Call 474-6686 to register by January 25<sup>th</sup>.
- **Regional Farmer's Market Meeting** – February 8<sup>th</sup> at Morehead State University Farm – Call 474-6686 to register and for more details.