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Basing seeding rates on density, not mass, for cover crops

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Winter rye seeds can vary significantly in size, making density-based seeding rate recommendations a good option. Photo courtesy of Natalie Lounsbury.

Cover crops hold tremendous promise to help farmers cope with climate change and pest management while also reducing agriculture's impact on the environment. A growing body of literature and farmer experience have refined cover crop management practices. However, seeding rates—typically provided in mass-based units such as pounds per acre—have received little attention in research, and recommendations are wide-ranging.

In a commentary recently published in *Agricultural & Environmental Letters*, researchers argue that also including *density*-based seeding rates would improve cover crop seeding rate recommendations by allowing growers to tailor them to specific field conditions and objectives. This is because cover crop seed size varies tremendously, and mass-based seeding rates obscure important information about plant populations in the field. The authors found that, depending on the seed variety and lot, a seeding rate for winter rye of 112 lb (2 bu) per acre can result in seeding densities from 1.2 million to 2.3 million live seeds per acre, a nearly twofold difference.

As farmers and policymakers increasingly turn to cover crops for agronomic and environmental benefits, it's critical to refine best management practices. Including density-based seeding rates is an important step toward this.

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Lounsbury, N.P., Warren, N.D., Hobbie, J., Darby, H., Ryan, M.R., Mortensen, D.A., & Smith, R.G. (2022). Seed size variability has implications for achieving cover cropping goals. *Agricultural & Environmental Letters*, *7*, e20080. **https://doi.org/10.1002/ael2.20080**

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