Farming Takes Flight with Aerial Cover Cropping

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A helicopter appears over the horizon of standing field corn, the blades echoing off nearby hills. It slowly descends. The bucket attached to it contacts the ground as the pilot watches the ground man's hand signals. With the pull of a string from a suspended bulk agriculture bag, 400 pounds of rye seed empty into the bucket. Another hand signal and the chopper lifts away. Whole process: less than ten seconds. In about five minutes it returns, having seeded a 70 foot swath at 45 mph.

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Cover cropping is beneficial to soils, farms and waterways. For the farmer it adds an extra crop into the rotation to be harvested the following spring, or it can function as green manure, adding organic matter and improving soil structure. Cover crops protect fields from erosion while taking up excess nutrients, keeping soil on the farm and out of water bodies.

Despite the positives, implementing cover crops can be challenging to a farm operation. Every hour counts in the fall harvest, especially when wet weather shrinks the harvesting window. In that same window, time must be set aside to plant cover crops. This ties up precious man-hours and equipment during the busy season. Then there is the cost of fuel, seed, and equipment maintenance.

An additional problem arises when crops will not be taken off early enough to germinate cover crops. A wet fall pushes corn and soybean harvest back even further. Even as this article goes to press in December, there are still many acres of standing field corn in West Virginia's Eastern Panhandle.

There are two conventional planting methods for cover crops. Broadcast seeders which scatter seed on the ground or drilling of a grain crop which involves a planter that cuts a trench and places the seed directly in a row. Either way requires conditions dry enough to get a tractor in the field after the previous crop has been harvested.

This brings us back to aerial applications.

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Aerial field applications date back to the early 1920s. At the time dry pesticides were dusted over growing crops (hence, crop duster). Use of aircraft to perform field work has continued to grow since that time. By the 1930s the concept of spreading seed from airplanes had materialized.

While common in many grain producing areas, crop dusters are not often seen in Eastern states – especially so in West Virginia where many fields are not large, not square, and are surrounded by hills, trees, buildings or utility lines – all detrimental to the use of airplanes.

Helicopter applications, however, work well in these conditions and have several other advantages over fixed-wing aircraft. They spread more efficiently in smaller, oddly shaped fields. A helicopter can land practically anywhere, requiring no airport, and can reload, refuel, and have maintenance right in the field. This also leads to better relations and communication with the ground crew and the farmer.

The farmer has several advantages as well. Having a custom outfit do the seeding frees up a tractor and operator. Standing crops can be over-seeded. The speed of application is far superior to conventional broadcasting or drilling resulting in a smaller planting window. A wet field is not an issue, nor is soil compaction or ruts.

Aerial applications present another option for increasing the use of cover crops. Often working with the West Virginia Conservation Agency, the West Virginia Department of Agriculture, and the United States Department of Agriculture, West Virginia farmers are continually growing environmental solutions for protecting and improving soils and watersheds. West Virginia Commissioner of Agriculture Walt Helmick often expresses the theme of moving agriculture forward, and with cover cropping via helicopter, the sky is the limit. Literally.

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