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The Match Made in Heaven project seeks to understand the state of the art of livestock and crop integration on farms in the Upper Mississippi River Basin. This is one of six profiles of farmers who have honed their craft and successfully built livestock and crop integration systems on their farms. We hope you enjoy getting to know them!

Key Points:

1. Mac (Macauley) Kincaid farms 1,000 acres in southwest Missouri. In any given year, there will be 140 to 150 acres of corn, soybeans and pasture each. Approximately 175 to 185 acres are double-cropped with small grains. Multiple cover crops species are incorporated into all acres.
2. Cover crops are grown in a 12-month span to supply forage for his beef cow/calf and sheep operation. Eighty percent of his acres are grazed every year.
3. Mac owns a cover crop seed business and produces much of his own seed. Decisions for the seed business have a major influence on cropping decisions. The interaction of the cropping, grazing, and seed business is what makes each of them more profitable than they would be as stand-alone enterprises.

Adversity and challenges are not necessarily a bad thing because they may also offer opportunities. And, if you are able to see possibilities, you will grow from it. That is exactly what Macauley Kincaid faced ten years ago when he lost his father to cancer. His father had farmed with the larger family farm operation but actually owned very little land individually. As a result, Mac, then 20 years old, did not have a stake in the operation. The Kincaid farm had operated a small seed business which needed a lead person, and Mac had an interest in managing the seed business like his dad had. Producing seed for the cover crop retail seed business became part of the cropping plans and part of the forage chain for his beef and sheep. By using rotation and timing of production, it was possible to graze and harvest seed from the same cover crop acres.

The cover crops became an added benefit to the cash crop enterprises as well, resulting in increased soil health and added fertility. There is a particular benefit from the legume cover crops that fix nitrogen, reducing nitrogen fertilizer costs for the grain crop that follows. Farming in southwest Missouri presents unique challenges and opportunities, much like any area. It is important for Mac's profitability to grow crops that are a good match to the local climate, and that offer opportunities to add income to the farm. Adding new opportunities is valuable for those starting out farming or trying to add new people to an existing operation.

Mac does not do any tillage on the cropping operation, utilizing a no-till planter and drill to do the work. By adopting no-till, he saves a significant amount of time and labor. The cropping enterprise accounts for 80% of the investment of machinery, expenses and labor. Bringing livestock onto the farm as an additional enterprise required minimal additional labor and equipment. Most of the fixed costs and variable costs were already a part of the farm's operation. In this situation, the profit potential is good for a beef herd. Beef cattle make good use of fixed costs, require minimal additional labor, utilize management abilities that might otherwise go unused, and bring the added benefit of a biologically active fertilizer source. Channeling the sun energy capture of cover crop forage growth into animal growth through grazing is a revenue stream that would be missed without the livestock.

Mac farms 1,000 acres. He plants about 140 to 150 acres each of corn and soybeans each year, on mostly rented land. He raises a small grain crop on 180 to 185 acres, usually barley or oats. The small grain is typically harvested to fill seed demand. In addition to the cropping acres, Mac uses 150 acres of pasture. Mac's viewpoint on crop rotations: "I don't consider planting corn and soybeans to be a crop rotation, it is more of an oscillation." Mac's cropping system accomplishes a true rotation of corn, soybeans, small grain, forage and cover crops.

The small grain crop allows the interseeding of lespedeza, which is later harvested after the small grain crop. Mac says that lespedeza is the most versatile crop he grows. It is a non-bloating legume that can be used for hay or seed production, while also adding nitrogen to the soil that will be available to the next crop. Lespedeza has several subspecies, some of which have quite vigorous growth. More common in the south, it is related to sweet clover but does not produce the toxins that can occur in sweet clover hay.



Another combination of crops Mac utilizes is sunflower interplanted with red clover. Sunflower is a warm-season broadleaf annual that thrives in the southwest Missouri summer. The tall plant height of the sunflowers allows enough light through the canopy to enable good growth of the red clover, a cool-season perennial. Once sunflowers are harvested, the red clover is ready to add growth well into the fall. Sunflowers are cash grain crop for Mac; they garner a premium because they are grown in a regenerative cropping system and sold for human consumption.

Milo is a grain crop grown in the rotation with the sunflower-red clover mix. It is heat tolerant and requires less water to produce a grain crop. Heat and drought can be an issue in SW Missouri. This can affect both grain crops and forage supply for livestock producers. A coordinated and multi-layered forage plan utilizing cover crops allows Mac to fill in the gaps and low production points in his forage system.

Flexibility in animal movement is an important piece of the system and one Mac has needed to work on because he started out with little permanent perimeter fencing in place. He invests about \$9,000 per year installing and maintaining permanent perimeter fencing on his farms. Once that is in place, he can easily use portable single-strand electric cross-fencing for daily moves of cattle. The permanent perimeter fence plus portable cross-fencing allows him to adjust the stocking density on each grazed area from day to day, to match the animals' needs to the condition of the forage.

Every farm has a main driver to the income, to the profit, and to the practices used. In Mac's situation, he has fitted the pieces together so they join up smoothly and move in the same direction.



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