

Prairie grass nutrients on the map.

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Ranchers need information about the amount and nutritional value of forage plants growing in their pastures. Now a foundation has been laid for a system that will allow them to get detailed Web-based information about available forage material in their fields. Researchers analyzed commercial HyMap hyperspectral imagery taken by airplane to estimate the yield and protein content of rangeland forage plants in two markedly different North Dakota ecoregions. The technique's accuracy was the same for both regions: 82 percent for yield predictions, and 92 percent for protein content.

An important feature of this technology is the ability to measure the quantity and quality of both live and dead plant material--which is rarely possible using conventional remote-sensing technologies. In this region, cold weather hinders plant decomposition, and cattle get protein from dead and live grasses. By combining this technology with prior calculating methods, the researchers were able to compute and map the nutritional value of entire pastures in northern prairie grasslands. But further research is needed to determine whether the results apply in other regions. Rebecca Phillips, USDA-ARS Northern Great Plains Research Laboratory, Mandan, North Dakota; phone (701) 667-3002, e-mail rebecca.phillips@ars.usda.gov.

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