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MULTI-TEMPORAL VS UNIT-TEMPORAL ANALYSIS OF MSS LANDSAT DATA ON A FULL STATE BASIS

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ABSTRACT

This report compares the use of multi-temporal MSS Landsat data with uni-temporal MSS data for making acreage estimates for corn, soybeans, sorghum, winter wheat, cotton, and rice on a full state basis for Missouri in 1984. A spring scene (April-May) was paired with a summer scene (July-August) for the multi-temporal analysis for all crop estimates. In addition, the spring scene was used to develop uni-temporal analysis for winter wheat planted and harvested, and the summer scene to develop uni-temporal analysis for corn, soybeans, sorghum, cotton, and rice. This study shows that multi-temporal analysis provides significant gains in efficiency over uni-temporal analysis for all crops with only moderate increases in cost.