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Solar Reflectance from Soil and Crop Surfaces. Agronomy Abstracts  
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Solar reflectance from soil and crop surfaces was measured with two Eppley pyrhemometers, one mounted upward and the other downward. Periodic measurements of one to several days' duration were taken over corn, sugar beets, alfalfa and barley at various stages of growth during the growing season. In addition, reflectance values were obtained for bare soil (Fort Collins clay loam), both wet and dry, and for other cultural variations including irrigation, cultivation, crop removal, etc. Results are expressed as the ratio of reflected to incoming short-wave radiation for a solar day.

The reflectance ratio generally varied from 0.10 to 0.24 over the cropped surfaces investigated. Values for alfalfa ranged from 0.15 to 0.21, beginning at date of cutting, and for sugar beets from 0.13 to 0.20 from thinning to mid-July. Cultivation of corn when 6 inches high reduced the reflectance ratio from 0.20 to 0.15 indicating that cultural variations can influence reflectivity of soil surface.