

are located in small tracts of 40 acres or less in well-drained toeslopes and swale positions of the landscape where they receive runoff water. The greater depth of topsoil and subsoil on these prime soils was derived in part from the deposition of topsoil eroded from the surrounding hilltops and hillsides. Prime soils in North Dakota are commonly derived from the same material as adjacent nonprime land and are differentiated from the nonprime soils mainly by depth of topsoil and related parameters such as depth to carbonates. The higher productivity of prime soils results primarily from thicker topsoil and subsoil and additional runoff water. Results of recent research suggests that the thickness of topsoil and subsoil available on these prime soils often exceeds that necessary for maximum crop production on these soils.

Currently, prime topsoils and subsoils are stripped, stockpiled, and replaced separately from nonprime topsoils and subsoils. Limited research on prime land in North Dakota suggests that overall productivity of the landscape could be improved and the productivity of the prime soils maintained by distributing the available topsoil and subsoil more uniformly throughout the landscape.

Reclamation of mined land can improve productivity over that of premine cropland and create productive cropland from land that was formerly suitable only for rangeland or pasture. These possibilities exist where they are well planned as part of postmining land use goals.

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