# Does Soil Mounding Enhance Tree Seedling Survival and Growth in Bottomlands? (S07-kabrick100827-Poster)

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## Abstract:

Some attempts to reforest bottomland crop fields with oaks have not been successful. Of many factors contributing to regeneration failures are poorly-drained or frequently-flooded soils. Soil mounding is a common nursery practice known to enhance seedling survival and growth by concentrating organic matter and nutrients, decreasing bulk density, and improving drainage. We compared soil organic carbon, nutrients, bulk density, and water content as well as seedling survival and growth rates in mounded and un-mounded soils to determine the importance of soil mounding for bottomland reforestation. Our study was located on two, 80-acre sites on the Missouri River floodplain. We compared survival and growth of 7,600 pin oak and swamp white oak trees planted in rows that were randomly selected to be mounded or left un-mounded. We found no differences in soil organic carbon and nutrients between mounded and un-mounded soils. However, mounded soils were drier and had lower bulk densities than un-mounded soils. Despite lower densities and drier conditions, we found no differences in first- or second-year survival and growth of seedlings in mounded and un-mounded soil.

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