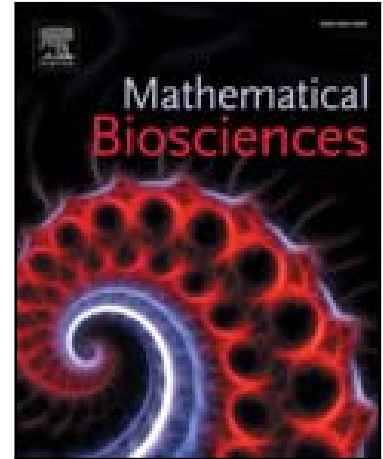


## Accepted Manuscript

On the dynamics of brucellosis infection in bison population with vertical transmission and culling

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## 1 Highlights

- 2 • Two new mathematical models of brucellosis infection are considered.
- 3 • The influence of seasonal variations on brucellosis dynamics is investigated.
- 4 • Both the epidemic and endemic analysis of the models has been explored.
- 5 • Optimal control theory has been utilized to investigate the impact of culling.

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