Examining Soil Compositions as an Indicator of Ventenata Susceptibility

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Ventenata is an invasive grass species known for disrupting native ecosystems and agricultural lands. Currently, there are few methods of controlling this species, including chemical sprays, mowing, and mechanical removal. Although these methods can reduce the spread of this species, the purpose of this project is to indicate which areas are more susceptible to this plant. If areas susceptible to Ventenata are identified, then efforts can be made to prevent Ventenata from invading these areas in the first place, and allow people to know their area is vulnerable and should be closely monitored. There were several notable patterns: depressed levels of phosphorus, potassium, and magnesium, and elevated levels of calcium that could have a role in the growth of Ventenata. Seeds were then planted in the four different soils to observe growth. Only one soil type (mutated farm) supports plant growth. After comparing the already contaminated soil (forest) to the mutated farm soil, it was noted that both had very similar pH levels, organic matter percentages, and organic carbon percentages. These findings suggest that there are possible chemical indicators for Ventenata growth, which need further investigation. In my experiment, I compared the composition of soils already hosting Ventenata with soils from sites within Toole County.

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