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## Effect of Different Irrigation Levels on the Fiber Content of Sweetpotato Root

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### [ABSTRACT]

One of the major problems with sweetpotato (*Ipomoea batatas* Lam.) is the tough thread tissue that occurs in the storage root, which has a negative impact on the sales of sweet potato because it impairs the texture during cooking and the processing quality. The fiber contents in storage roots of sweetpotato is affected by cultivation conditions and environment. To investigate the effect of fiber generation at different levels of irrigation, the sweetpotato "Hogammi" was transplanted in greenhouse. Sweetpotato was grown in styrofoam beds (W1605\*D330\*H300mm) to block moisture flowing from the outside. The irrigation was carried out as 3 levels (5, 10, and 20 mm through drip irrigation facilities) at 20-day intervals. Five plants were harvested per plot at 90, 100 and 120 days after transplanting (DAT). The size of the storage root was large in the order of irrigation conditions 10mm>20mm>5mm treatment. And the longer cultivation period, the larger size of the storage root was observed. As a result of the analysis of the fiber content, it showed a tendency to decrease as the cultivation period increased (90days→120days). In addition, the fiber contents of sweetpotato harvested at 90, 100 and 120 DAT in the level of 5 mm irrigation plot were 351, 324 and 207 mg/100g, respectively, which were higher than those of other irrigation level plots. During all cultivation periods, the 10mm treatment group showed the lowest fiber content of 280, 228 and 127 mg/100g. At 20 mm irrigation level, the fiber content was less than that of 5mm irrigation level, but showed a tendency to increase compared to that of 10 mm irrigation level. These results suggested that drought stress or excessive-irrigation increases the fiber content of sweetpotato, which reduces their commercial value.

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