Determining the Effects of Natural Mulching Components on Bok-Choy (Brassica Rapa Chinensis) Plant Growth

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Farming is very significant in American Samoa, especially in the culture. Currently, the agricultural performance on the island has decreased due to the economic struggles and climate change. For a cheaper and effective alternative, organic mulch can be utilized. Mulch is a covering that enriches the soil. The objective of this project is to test various organic mulches to determine which mulch is the best alternative for farming. Over the span of four weeks, a randomized complete block design consisting of 4 different treatments which are shredded paper, grass, coconut husk, and soil, were used to lay out 25 Bok Choy plants (Brassica rapa chinensis) per treatment. Throughout the project, temperature, soil moisture, and canopy picture data were taken. The result illustrates that grass is the best mulch compared to the other treatments. The chemical components in the mulches were tested to see why the grass grew the healthiest. Compared to the other treatments, grass held an adequate amount of water into the soil, kept the soil temperature cool, contained the most nitrate, had a sufficient amount of sodium, and grew the heaviest crops. Furthermore, the result of this experimentation shows that organic mulching is a cheaper and environmentally friendly alternative for local farmers to use.

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