Plastic Mulch and Organic Amendments: Can They Help Us Control Nutsedge?

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Sedges, such as purple and yellow nutsedge, are extremely harmful weeds that are hurting the agricultural industry. It is imperative that we find a solution to control nutsedge growth in Florida. This experiment focused on finding if plastic mulch and organic amendments can help control nutsedge and determine the impact on tomato plants. The effect of organic amendments and plastics on the number, length, and weight of tubers and shoots of nutsedge was studied. A tomato plant was planted and the number of fruits, the plant length, root disease, and fruit weight were recorded. The data were analyzed using analysis of variance (ANOVA) and SAS 9.4. The statistical analysis was done at the alpha level equal to 0.05. Statistical analysis at $p=0.05$ showed a significant difference for the number of emerging shoots with $p<0.0001$, the plastic and sedge interaction showed a significant difference in root length with $p=0.0362$, and the amendments showed a significant difference in shoot length with $p=0.0048$ and shoot weight with $p=0.0345$. The effect of plastic mulches was statistically significant on per tuber weight with $p=0.034$, shoot number with $p=0.0080$ and shoot length with $p<0.0001$. The amendments showed a statistically significant difference in tomato fruit number with $p=0.0013$ and fruit weight with $p=0.0070$. The results showed that HDPE (High-Density Polyethylene) significantly caused a reduction in nutsedge. The organic amendments (OM) resulted in healthier plants. These plastic mulches can be used in the agricultural industry to control the growth of purple and yellow nutsedge, saving crops and the economy.

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