Solving World Hunger: One Family at a Time

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The topic I researched was the production of green beans using bags of soil. I chose this topic because my grandfather was having both of his knees replaced in early spring and would not be able to tend to his normal garden. If my research was successful, it would be a procedure helpful to families without the space to plant a garden. The first step of my procedure was to construct a framework to elevate the beans so they could be harvested from a standing position. I created an elevated gardening bench with materials from around our farm using hog and cattle panels. I purchased green bean seeds and 20 plastic bags of soil. After placing the 20 bags of soil on the bench, I cut drainage holes in the bottom of the bags. The next step was to set up five sets of repetitions by cutting three, six, nine and 12 holes in the top of the bags for the plants. I watered and fertilized the plants as needed. I tilled and planted controls for each test in my grandfather's garden (20 control repetitions). My purpose was to determine the maximum number of bean plants that could be produced in a soil bag. My conclusion was that with daily watering and weekly fertilizing, the bags with 12 plants produced the most beans. However, they did not compete with the control repetition plants in the established garden. Although the production level of the bags overall was lower than that of the traditional garden, if all 20 bags had 12 plants each, 379.06 ounces of beans could be produced. Thus, at 12.5 cents per ounce, $47.38 worth of beans could be produced. The production cost was significantly lower than the potential yield. The reusable soil bags cost $1.25, the package of seeds cost $1.98 and the fertilizer cost $3.87. A 4 x 16 foot elevated garden can produce 95 servings of green beans.

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