Influence of Irrigation and Organic Fertilizers on Nitrate Movement in Organic Broccoli Production. (S11-pasakdee192158-Poster)

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Abstract:

Organic agriculture faces the challenge of supplying adequate nutrients to optimize crop production while also protecting environmental heath. Several vegetable crops including broccoli require high N input and frequent water application to enhance yields. Broccoli has a shallow root system leading to a limited ability to take up water and nutrients from the deep soil profile. Broccoli growers tend to over-apply N and water to achieve a desired yield, which results in a high risk of nutrient and water loss from the system. Studies worldwide have reported nutrient loss from farmland mainly due to improper nutrient and water management and concerns about agricultural non-point source pollution are increasing. This study examined the effects of irrigation and organic nutrient application on nitrate movement for organic broccoli production. Irrigation treatments were based on predicted daily evapotranspiration at three different rates (80, 100, 150% ET), and crop coefficient. In addition, three different organic fertilizer sources; compost, fish powder, and Phytamin (bloodmeal and feathermeal mix) were applied. Results from the soil and plant tissue analyses will be discussed.

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