Onfarm Research of Photoselective Shade Cloths in Parsley and Basil Herb Production

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Photoselective shade cloths are being developed to enhance crop production by specific modification of the levels and spectrum, such as in the photosynthetically active radiation (PAR) and/or UV regions, of the incident solar radiation. Recently such shade cloths developed for South African agriculture (Grow-Tex Spectral Net, Apollo Sunguard Company, Sarasota, FL) have been introduced to Florida. To evaluate their effectiveness under Florida conditions, an onfarm research program was begun with the SW Florida Small Farmers Network (SWFSFN). This poster reports the results of a March to June 2010 study with potted basil and parsley plants grown under 3 treatments of Grow-Tex compared to a non-shaded control, as measured by height, width, dry weights and marketability measurements. The 3 treatments were code 20 white (8 % shade factor, 20% UV block), code 40 white (15% shade factor, 40% UV block) and code 40 black/white (32% shade factor, 40% UV block), and there were 4 replications. Parsley demonstrated increases in height and width only at the last samplings and increases in harvest, total, and % harvest dry weights, as well as marketability, compared to the control with the greatest increases from code 40 black/white followed by code 40 white and code 20 white treatments. Basil demonstrated height growth increases at all sampling dates with the code 40 black/white treatment compared to the control, and increases in harvest and % harvest dry weights but decreases in nonharvest weights compared to the control with the greatest differences from code 40 black/white followed by code 40 white and code 20 white treatments. The micro-climates under all Grow-Tex treatments were similar in temperature and humidity to the control but levels of PAR and total incident radiation were changed, i.e., lowest levels with code 40 black/white followed at most sampling dates by code 40 white then code 20 white. Overall the code 40 black/white Grow-Tex Spectral Net produced the greatest benefits to parsley and basil herb production.

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