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**PEACH FLOWER BUD THINNING BY DORMANT SEASON APPLICATIONS OF ETHEPHON PLUS VEGETOIL®**

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Removal of flower buds, flowers or small fruitlets significantly increases peach fruit size at harvest. Due to the lack of labeled or consistent thinning chemicals, peach growers wait ~30 days after full bloom when fruit set is obvious before hand-thinning fruit, which also limits potential fruit size. Experiments were conducted near Clemson, South Carolina to determine the efficacy of combining Vegetoil® (VO), an emulsified soybean oil adjuvant (93% soybean oil), with Ethrel® (a.i. 21.7% ethephon) for pre-bloom thinning of peach cultivars. Contender in February 2005 and Contender, Cresthaven and Rubyprince in January 2006 were sprayed with 10% VO except for Rubyprince (8% VO). Ethrel® concentrations were 50, 100, or 150 ppm. Dormant oil at 3% was the control treatment. VO (10%) plus Ethrel® at 100 and 150 ppm significantly delayed bloom in Contender and Cresthaven. VO (10%) significantly reduced the number of live flower buds at bloom for these two cultivars, but 8% VO did not significantly affect Rubyprince flower bud survival. The addition of Ethrel® to the VO spray significantly reduced live flower bud numbers at bloom versus just the VO treatment for Contender and Cresthaven, but there were no differences observed among the Rubyprince treatments. Generally, Rubyprince is easier to thin with soybean oil than Cresthaven, but the opposite was observed in this study. Chill hour accumulation and temperature at application and VO rates may have differentially influenced cultivar flower bud sensitivity to VO and Ethrel®.