

Chemical Composition of Kernels in Virginia Market Type Cultivars Based on Pod Mesocarp Color

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Pod mesocarp color is used to determine relative maturity of pods and subsequently to estimate kernel development and mass. Expression of the oleic acid content can be influenced by pod maturity in some cultivars. Research was conducted over two years in two separate fields each year to determine if expression of the high oleic trait in the cultivars Emery, Sullivan, and Wynne was maintained across pods expressing yellow, orange, brown, and black mesocarp colors. The main effect of cultivar and the interaction of cultivar by pod mesocarp color were not significant for oleic acid concentration in kernels and percent of maximum pod mass. However, the main effect of pod mesocarp color was significant for these measurements. When pooled over cultivars, percent of maximum pod mass was 36%, 61%, 74%, 83%, and 92% for pods expressing yellow, orange no. 1, orange no. 2, brown, and black pod mesocarp color designations, respectively, based on official USDA standards. Oleic acid content was similar for brown and black pods, and expression exceeded that of pods expressing yellow, orange no. 1, and orange no. 2 colors. The order for oleic acid expression for other pod mesocarp colors was orange no. 2>orange no. 1>yellow. Regardless of pod mesocarp color, oleic acid expression was adequate for peanut to be considered high oleic based current industry standards.