# Integration of Expert Models as a Management Strategy for Peanut Production in Georgia. (A04-beasley091320-Poster)

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## Abstract:

Managing production inputs and costs and judicious use of pesticides are critical to assuring a profitable and environmentally sound agricultural production system. Limited water resources dictate the need for more timely and efficient use of water. Three independently researched expert models in peanut, were merged into a single system and compared to conventional management strategies. Irrigator Pro (irrigation), HADSS (weed management), and AU-Pnut (disease management) were collectively referred to as the FARM model (Field Adaptive Research Model). Two locations in 2000 and five in 2001 were used to compare the FARM strategy and the conventional management strategy on a large-scale basis to determine differences in water and pesticide applications and net dollar return per acre. The FARM strategy averaged significantly less ($p<0.05$) variable costs per acre, 521.47 dollars, and fungicide applications, 5, compared to the conventional management, 560.79 dollars and 6.4. There were no differences for yield, grade factors, net returns, number of irrigation and fungicide applications, and amount of irrigation between the two management strategies.

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