

Evaluation of fumigants for management of Verticillium wilt in peanut, Gaines County, Texas, 2008

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MATERIALS AND METHODS:

Plot size: 4-rows by 50 feet, six replications
Cultivar: Flavorrinner 458
Locations: Rowland Doctor Field (Vapam Trial 1), Jackson East Field (Pic-Plus Trial 2), and Jackson West Field (Pic-Plus Trial 3)
Planted: 29-Arp to 6-May
Harvested: 17-Oct to 22-Oct

RESULTS:

Vapam trial. Applications were made 3 wk prior to planting. The application of Vapam reduced soil populations of *Verticillium dahliae*, causal agent of Verticillium wilt (Figure 1); however, levels were still high enough to cause substantial disease (Table 1). There were no differences in the level of disease control, yield, or grades for any of the Vapam rates evaluated.

Pic-plus trials. The application of Pic-plus (chloropicrin) had no effect on populations of *V. dahliae* (data not shown). There were no differences in Verticillium wilt or Sclerotinia blight control among the treatments. Likewise, the application of Pic-plus did not affect pod yield, or grade.

DISCUSSION:

Fumigants are often used to manage soilborne diseases in other cropping systems. Results from these studies indicate that there were no benefits to using fumigants for Verticillium wilt control in peanut on the southern High Plains. Additional studies are needed to further evaluate the role of Vapam and Pic-plus in the peanut for this region.

Table 1. Effect of Vapam (metam sodium) on Verticillium wilt of peanut in west Texas, 2008

Treatment	Disease incidence (%)^a	Pod yield (lb/A)	Grade (smk+ss)
1. Untreated control	67.7	4556	71.3
2. Vapam (7 gal/A)	63.7	4188	71.5
3. Vapam (10 gal/A)	63.3	4157	70.8
4. Vapam (20 gal/A)	57.7	4536	71.1
LSD ($P \leq 0.05$)	ns	ns	ns

^a Percentage of row feet within a plot exhibiting symptoms of Verticillium wilt prior to digging.

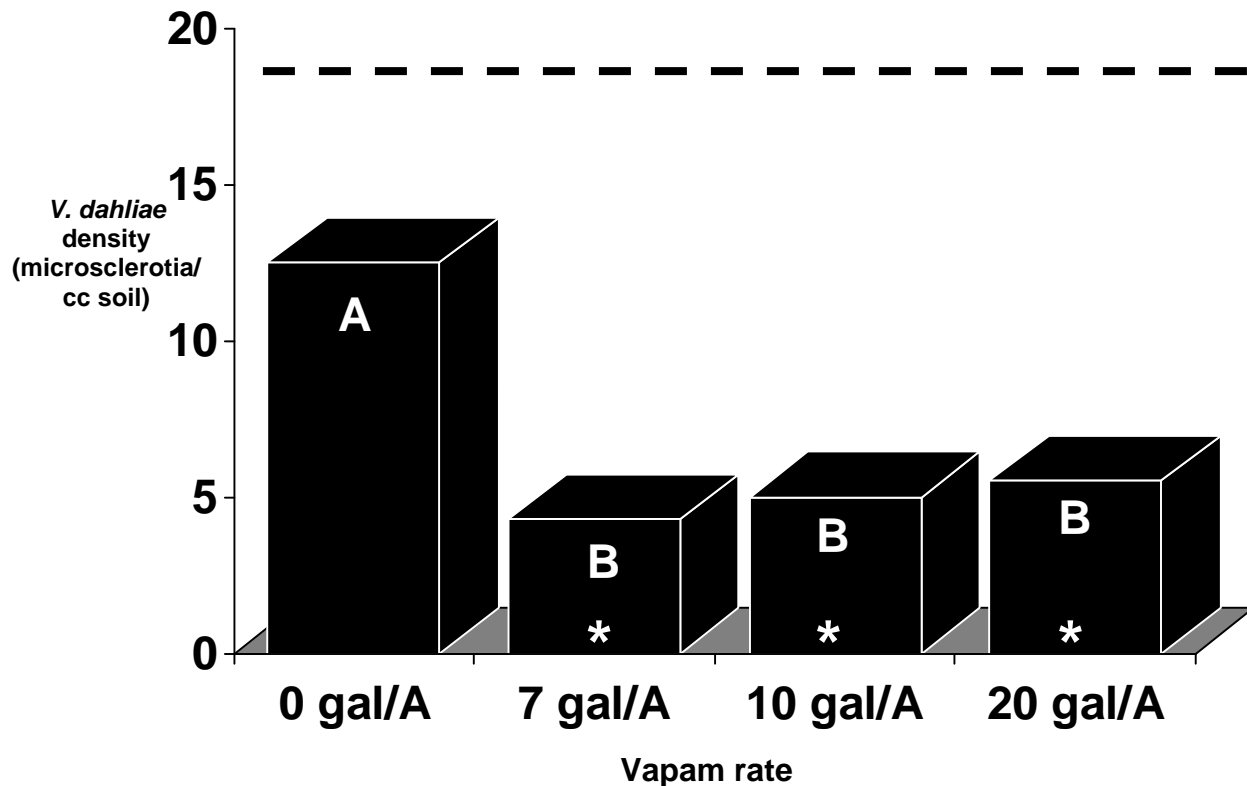


Figure 1. Effect of increasing Vapam rate on populations of *Verticillium dahliae* (causal agent of Verticillium wilt). Note the dotted line represents populations prior to the application of fumigant treatment. * indicate significant differences from initial populations.

Table 2. Effect of Pic-Plus (chloropicrin) on Verticillium wilt and Sclerotinia blight of peanut in west Texas, 2008

Treatment	Disease incidence (%) ^a	Sclerotinia blight (%) ^b	Pod yield (lb/A)	Grade (smk+ss)
1. Untreated control	51.0	8.7	4147	71.5
2. Pic-plus (5 gal/A)	47.4	8.2	4479	71.2
3. Pic-plus (10 gal/A)	45.8	9.3	4012	70.9
LSD ($P \leq 0.05$)	ns	ns	ns	ns

^a Percentage of row feet within a plot exhibiting symptoms of Verticillium wilt prior to digging.

^b Percent of row feet showing signs or symptoms of *S. minor* just before to digging.