Peanut Disease Control Potential of Two Local Soaps in Northern Ghana Over Four Years.

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Groundnut field surveys in northern regions of Ghana (Northern, Upper East and West Regions) covering Latitudes N [8 50.333 to 11 04. 146] and Longitudes E [0 02.540] to W [2 42.272] revealed high disease incidence and severities of late leaf spot (Cercospora personatum), rust (Puccinia arachidis) and southern stem rot (Sclerotium rolfsii). Severe leaf defoliation (>80%) was recorded at most locations during harvest over the years, with associated poor pod formation. Pod loss due to Cercospora leaf spots was as high as 78% on-farm and varied considerably depending on the rainfall pattern and plot history. Two local soaps (Alata Samina and Local Black Soap) were evaluated at different levels alongside fungicides in disease management from 1999-2002. The soap levels were 1%, 2.5% and 3% wt/vol. Efficient disease control was achieved through the use of fungicide (tebuconazole [Folicur 3.6F @ 0.22 kg ai/ha]). Soap treated peanut plots had reduced disease severity and gave higher pod yields above the no spray plots throughout the four years of study. Alata Samina sprays gave 2.7-53.2% higher pod yield above the no sprayed plots whereas the black soap sprays gave 6.4-32.3% increase in yield across years. Alata Samina at higher concentration (3%) induced severe scorching on leaves while the black soap at the same level did not but rather induced dark green foliage on peanut plants. Alternative sprays of soaps and fungicides gave comparable yield with the sole fungicide spray plots and holds promise for future. Fungicide sprayed plots gave the highest pod yields as well as low disease severities compared to all other forms of spray regimes. In the absence of sprays, disease severities were high while pod and haulm yields were similarly low. Strategies and significance of alternative sprays of soaps and fungicides were discussed.