

Survey of Weeds and Management Practices in Peanut (*Arachis hypogaea* L.) in the Savanna Ecology of Ghana¹

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Peanut (*Arachis hypogaea* L.) is the most popular legume cultivated for food and cash in the Guinea and Sudan savannah ecologies of northern Ghana. A three-year survey was conducted between 2003 and 2005 to: (1) document the prevalence of weed species, (2) determine current cropping systems and weed management practices, and (3) assess the response of peanut to weed management practices. Flora with more than 5% dominance included: (1) the dicotyledonous weeds, *Corchorus olitorius* L., *Commelina benghalensis* L., *Commelina diffusa* Burm., f., *Desmodium scorpluras* (Sw.) Desv., *Hyptis suaveolens* Poit., *Mimosa invisa* Mart., *Mimosa pigra* L., *Mitracarpus villosus* (Sw.) DC., *Oldenlandia corymbosa* L., *Phyllanthus amarus* Schum. & Thonn., *Scoparia dulcis* L., *Tridax procumbens* L., *Triumfeta cordiflora* A. Rich., and *Vernonia galamensis* (Cass.) Less.; (2) the monocotyledonous weeds *Axonopus compressus* (Sw.) P. Beauv., *Cyperus esculentus* L., *Cyperus rotundus* L., *Digitaria horizontalis* Willd., *Eragrostis tremula* Hochst. Ex Steud., *Hackelochloa granularis* (L.) O. Ktze., *Kyllinga erecta* Schumach. Var., *Kyllinga squamulata* Thonn. Ex Vahl., *Paspalum scrobiculatum* L., *Rottboellia cochinchinensis* (Lour.) Clayton, and *Setaria pallide-fusca* (Schum.) Stapf. & C.E. Hubbard; and (3) the parasitic weed *Striga hermonthica* (Del.) Benth. Land preparation practices included the use of tractors, followed by use of livestock, and lastly hand preparation. Cropping systems consisted of cereals preceding peanut, peanut preceding peanut, and intercropping peanut with sorghum (*Sorghum bicolor* L. Moench.), millet (*Pennisetum Americanum* L.), or corn (*Zea mays* L.). Genetically-improved peanut cultivars expressing bunch or erect growth habits were the most common cultivars although some farmers planted local cultivars expressing a distinct runner growth habit. The majority of farmers planted peanut from early June to early July based on rainfall pattern. Eighty-eight percent of peanut fields were hand weeded once, 3 to 5 weeks after planting (WAP) or twice, 2 to 3 and 5 to 6 WAP. Weed management was generally poorly timed and insufficient to prevent significant weed interference resulting in total oven-dried weed biomass ranging from 600 to 2400 kg/ha at harvest. Peanut haulm production ranged from 500 to 5500 kg/ha with improved cultivars. Pod yield production ranged from 200 to 1680 kg/ha. Results from this survey revealed the need for accelerated research and capacity building of farmers and agricultural extension agents for improved technology transfer to the peanut industry in the region.

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