

Short Communication

Observations on Weed Flora of Medicinal Significance in Oil Palm Plantations

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Oil palm is one of the important plantation crops grown in Andhra Pradesh state of India. It occupies nearly 1.72 lakh hectare area in coastal parts of the state. In oil palm plantations, inter-culture is not practicable for initial up to four years after planting as the roots are arranged like a mat in the upper soil layer. During rainy season, weed flora naturally germinate in the inter row spaces of oil palm plantation. Medicinal weeds of the Asteraceae, Amaranthaceae and Poaceae families have been reported from such plantations and most of these have been used for treatment of various ailments such as dysentery, wounds and skin diseases (Debabrata et al., 2014).

Weeds are known to have considerable medicinal utility especially in the folk medicines and these plants have been the only source of medicines in remote villages of India, where modern facilities or awareness about the modern medicine is lacking (Pattnaik and Mohapatra, 2010). In this context, a preliminary study was undertaken, where data on weed density and weed dry weight were recorded for estimating the yield potential of medicinally important weed species in oil palm plantations.

The present experimental site was located at Horticultural Research Station (16.81 °N, 81.03 °E) Vijayarai, Eluru District of Andhra Pradesh. Oil palm plantation was established in 2011 with a spacing of 9 m × 9 m × 9 m and the data on weed flora was recorded during 2017. The weeds were germinated in field after the receipt

of first monsoon shower in first fortnight of June and the observations at 30 d after germination of weeds were recorded. Later observations were taken at 60, 90 and 120 days after weeds emergence. The data was recorded in 1 m² quadrant from three random spots. Weed species were counted, separated and dried in open sun for one week before recording dry weights.

Perusal of data revealed that weed density was higher (113.5) at 30 days after germination. At 120 d after germination, weed density reduced due to death of some plant stands because of inter and intra weed species competition for space and other resources. Dry weight of weeds was very low at 30 days after weed emergence because they were slender with very less dry-matter accumulation. With increase in duration, the dry weight increased up to 90 days after germination. Dry weight of weeds (168.6 g) was recorded the maximum at 90 days after germination. Weed dry weight reduced at 120 days after germination due to leaf fall and also diversion of dry matter to seed production. In India, more than 43% of the total flowering plants are reported to be of medicinal importance (Puspagandhan, 1995 and Raut et al., 2012). In 3-4 months duration, up to 1,079 kg/ha of weed dry weight was harvested, which has medicinal values. These observations could open up opportunities for identifying potential weed species of medicinal importance in the existing oil palm plantations.

Table 1. Information on weeds and their medicinal uses

Name	Plant part used	Medicinal importance
<i>Ageratum conyzoides</i>	Whole plant	Kidney stones, cuts, Epilepsy and wounds
<i>Commelina benghalensis</i>	Whole plant	Leprosy, sore throat, ophthalmia, burns, pain and inflammation and also used as emollient and laxative.
<i>Convolvulus arvensis</i>	Roots	Diuretic, laxative and purgative
<i>Cynodon dactylon</i>	Leaf and Root	Nasal bleeding and Dysentery and astringent
<i>Cyperus rotundus</i>	Whole plant	Epilepsy, Dysentery anti inflammatory, pain killer and anti oxidant
<i>Spermacoce hispida</i>	Whole plant	Ring worm and Eczema
<i>Tridax procumbens</i>	Leaf	Wounds

Table 2. Weed species density/m² and dry weight at different time intervals during kharif in oil palm plantation

Weed species	Days after weeds germination								Total weed dry weight (kg/ha)
	30		60		90		120		
	Mean weed spp. density/m ²	Mean weed dry weight (g/m ²)	Mean weed spp. density/m ²	Mean weed dry weight (g/m ²)	Mean weed spp. density/m ²	Mean weed dry weight (g/m ²)	Mean weed spp. density/m ²	Mean weed dry weight (g/m ²)	
<i>Ageratum conyzoides</i>	27.0	5.2	24.0	11.8	30.0	15.6	15.0	17.8	126.0
<i>Commelina benghalensis</i>	21.5	9.4	25.5	20.2	17.0	25.6	13.0	30.1	213.3
<i>Convolvulus arvensis</i>	5.0	1.5	3.0	2.6	4.0	4.2	6.0	7.8	40.3
<i>Cynodon dactylon</i>	15.0	1.0	8.5	2.2	8.0	15.0	5.0	9.0	68.0
<i>Cyperus rotundus</i>	30.0	4.8	10.5	12.0	16.0	26.0	8.0	15.0	144.5
<i>Spermacoce hispida</i>	9.0	5.9	6.0	17.2	8.0	22.0	11.0	20.8	164.8
<i>Tridax procumbens</i>	6.0	8.8	4.0	30.2	5.0	60.2	3.0	30.0	323.0
Total	113.5	36.6	81.5	96.2	88.0	168.6	61.0	130.5	1079.0

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