

# Qualitative and Quantitative Assessment of Common Weed Species in West Gondar Sesame Growing Area, Ethiopia

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## ABSTRACT

Weeds compete with crops grown for resource limits such as water, nutrients and light. Weed infestation is one of the major factors limiting sesame production, as its seedlings grow slowly during the first few weeks making it a weak competitor at earlier crop growth stages. Weed induced sesame yield reductions of up to 65 percent, and a need for a crucial weed-free duration of up to 50 days following planting. Weed surveys are useful for determining the occurrence and relative importance of weed species in crop production systems. Weed survey on farm basis is needed to establish efficient weed management and decision making mechanism and to evaluate weed control measures. Therefore this survey was conducted to assess qualitative and quantitative weed species in sesame growing areas of west Gondar, Ethiopia. Weed survey was conducted in 2012 at Metema and 2013 main cropping season at Metema, Tach Armachiho and Mirab Armachiho district data on weed species type and count were taken along the diagonal with 50cm x 50cm quadrat at 15 meter interval at three points. Visual identification, manuals, photographs, leaf lets, and books were used for identifying weed species. They conducted interviews with farmers, development agents and district experts working in the region. Weed species compositions were analyzed by frequency, abundance, dominance and similarity index. In the districts 31 common weed species or groups of species from 17 families were recorded. Ipomea cordofana Br., Grass spp', Commelina benghalensis L. Andropogon abyssinicus (Fresen) R. Br., Boerhaavia erecta L., Corchorus olitorius L.kudra, Corchorus trilocularis L., Leucas martinicensis (Jacq) ait.f. and Ipomea triloba are the most prevalent, abundant and important weeds in sesame fields in north Gondar. As to this on farm and practical training on identification and demonstration management options should be given on the low land of north Gondar farmers.

**Keywords:** Weed, Frequency, Abundance, Dominance and Similarity Index

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## INTRODUCTION

Sesame is an annual plant belonging to the family Pedaliaceae. It is a short-day plant and is normally self-pollinated although cross-pollination occurs between 5 and over 50 percent (Pathirana, 1994). It is an erect annual herbaceous plant with two characteristics of growth: indeterminate and determinate, with heights of up to two meters. Most varieties show an indeterminate habit of growth, which is also shown as a continuous production of new leaves, flowers and capsules so long as the environment remains suitable for growth (Carlsson *et al.*, 2008). The period of growth ranges from 70 to 150 days, depending on the variety and cultivation conditions (Ashri, 1998).

Weeds compete with crops grown for resource limits such as water, nutrients and light (Oudhia, 2004). Weeds infestation also causes disease issues, acts as an alternative habitat for deleterious insects and pathogens, delays harvesting operations, raises production costs, decreases crop market value and increases the risk of fire in perennial crops, plantations and forest reserves (Holm *et al.*, 1977; Oudhia, 2004).

Weed infestation is one of the major factors limiting sesame production, as its seedlings are growing slowly during the first few weeks, making it a weak competitor at earlier crop growth stages (Grichar *et al.*, 2011). Consequently, insufficient weed control during the early growth period of sesame can cause a significant reduction in yield (Narkheda *et al.*, 2000). Kropff & Spitters (1991) stated that, in a competitive situation, the key factor affecting sesame yield is the ratio between the relative leaf area of the weed and the crop at the time the crop canopy is closed. The impact on the establishment and development of sesame from weeds have been well known. Balyan (1993) and Singh *et al.* (1992) recorded weed-induced sesame yield reductions of up to 65 per cent and a crucial weed-free duration of up to 50 days following planting. Eagleton *et al.* (1987) estimated a weed biomass six times that of sesame 48 days after planting under weedy conditions and Bennett (1993) registered a weed biomass 1.3 fold that of sesame 42 days after planting.

Weed surveys are useful for determining the occurrence and relative importance of weed species in crop production systems (Frick & Thomas, 1992; McCully *et al.*, 1991). Weed survey on farm basis is needed to establish efficient weed management and decision making mechanism and to evaluate weed control measures. Besides, it is useful to record population changes of potentially dangerous weeds, to high light area where changes in species diversity occur, and to give guidelines for setting up research and extension priorities in weed control activities. This survey was therefore conducted to assess qualitative and quantitative weed species in sesame growing areas of north Gondar, Ethiopia.

## MATERIALS AND METHODS

Two kinds of surveys can be done on fields; qualitative survey which involves simply determining weeds species. It does not indicate the infestation level or degree of economic importance of the weeds. Quantitative survey is more informative and better recognized than the qualitative determination as it reports characteristics or parameters which can be used to describe a weed community quantitatively.

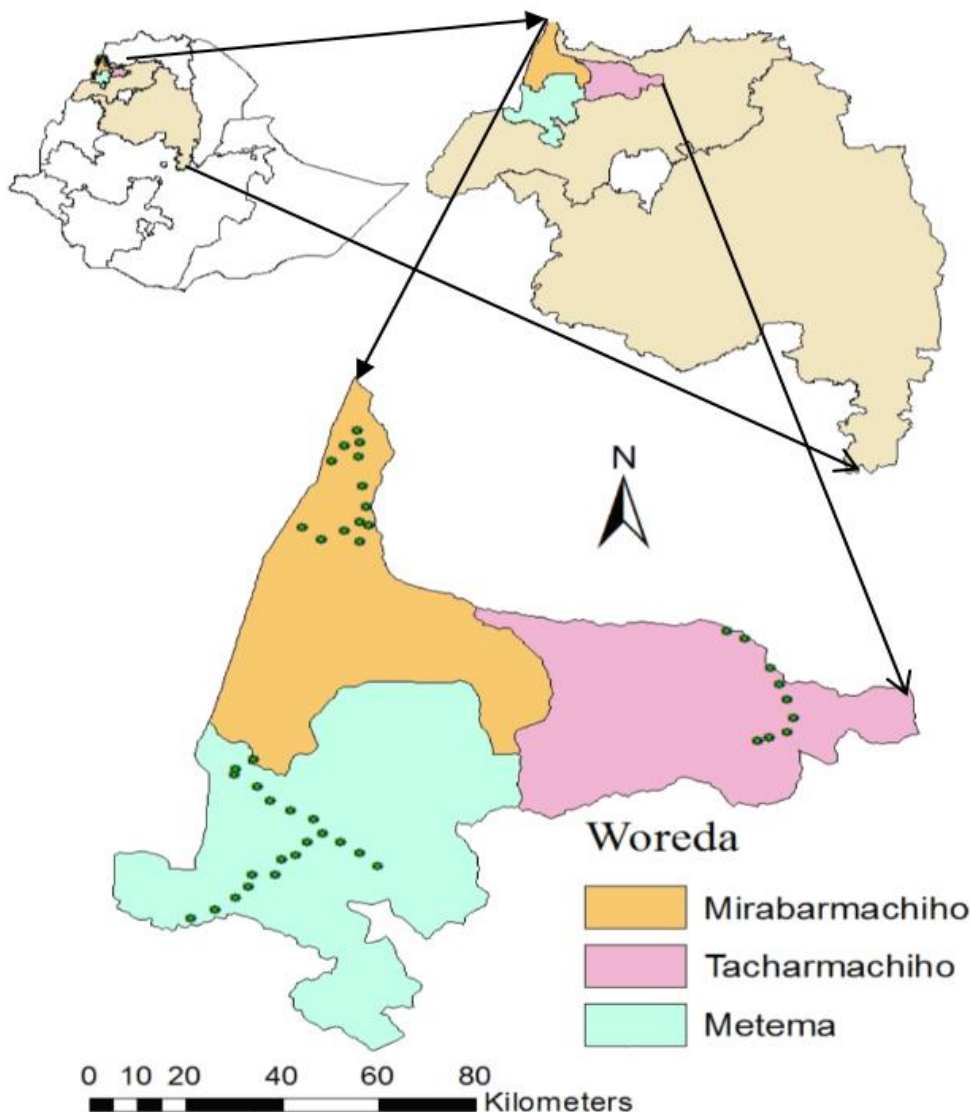
### Intensity of weed species

Weed survey was conducted in 2012 at Metema and 2013 main cropping season at Metema, Tach Armachiho and Mirab Armachiho district in North Gondar Zone Ethiopia. Sample fields were randomly assessed in the districts and data on weed species type and count were

taken along the diagonal with 50cm x 50cm quadrat at 15 meter interval at three points. For identification of weed species type visual identification, manuals, photographs, leaf lets and books were used. Interviewing with farmers, development agents and the districts experts working in the area were made. Weed species compositions were analyzed by frequency (F), abundance (A), dominance (D) and similarity index (SI) determinations using the formulae described by (Taye and Yohannes, 1998).

Frequency (F) is the percentage of sampling plots on which a particular weed species is found. It explains how often a weed species occurs in the survey area in which a species occurred in at least one quadrat (Thomas, 1985).

$F = \frac{X}{N} \times 100$ , where F-frequency, X-number of occurrences of a weed species and N-sample number



### The Study Areas

North Gondar Zone is located at 110 27'31" - 13°46'10"N latitude and 350 16'41"- 38°46'30"E longitude, within altitudes ranges of 978.4-1828.9 m.a.s.l. The annual average rain fall was 1115mm. The mean maximum and minimum temperature of the area is 100C and 42°C, respectively.

Abundance (A) is population density of a weed species expressed as the number of individuals of weed plants per unit area.

$A = \sum W/N$ , where A- Abundance, W-number of individuals of species and N-sample number

Dominance (D) is abundance of an individual weed species in relation to total weed abundance.

$D = A*100 / \sum A$ , where D- Dominance, A- Abundance and  $\sum A$ -total abundance

Similarity index (SI) is similarity of weed communities among different locations.

$SI = 100 \times E_{pg} / (E_{pg} + E_{pa} + E_{pb})$ , where, SI- Similarity index,

$E_{pg}$ - number of species found in both locations,  $E_{pa}$ - number of species found in only locations I

$E_{pb}$ - number of species found in only locations II

### Data Analysis

The data collected were subjected to descriptive statistical analysis. The geographical distribution and intensity of weed species map was prepared using Computer Software (Archview, GIS) Version.

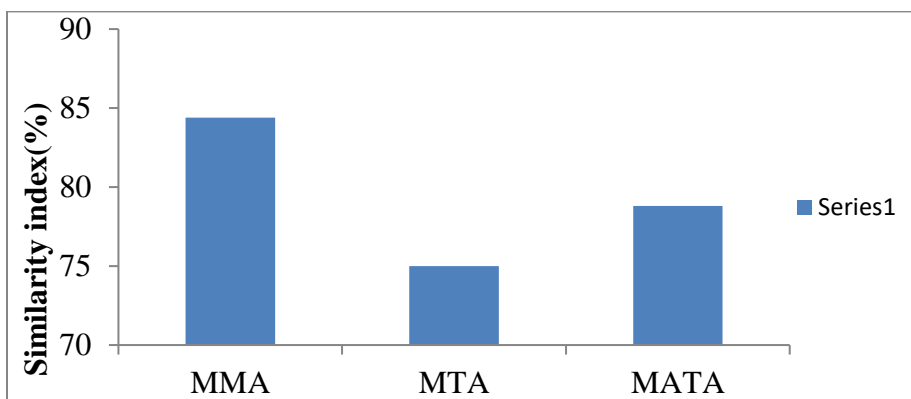
## RESULTS AND DISCUSSIONS

Weed survey was done at Metema for two years in 2012 and 2013 and Armachiho were done in 2013 on the rainy season. Within cropping sites, 31 common weed species or groups of species from 17 families were recorded, the most common being the Gramineae (7), Convolvulaceae (3), and 21 from other family. Vegetation assessment showed weed flora in the survey areas consisted of grassy and broad leaved weeds. Broad leaf types were the most dominant than narrow (grass) type of weeds and twenty seven of them were annual and *Capparis tonantosa* (lam), *Acacia* spp and *Ziziphus spina Christi* were perennial type of weeds (Table 1).

Table 1: Weeds leaf type and life cycle in low land of N. Gondar in 2012 and 2013 main cropping seasons

Districts	Weed leaf type (%)		Weed life cycle (%)	
	Broad	Narrow	Annual	Perennial
Metema	16	7	22	4
Tach Armachiho	20	8	24	4
Mirab Armachiho	21	8	26	4

The similarity index of weed species in different cropping systems was determined using the method described by Ogbeibu in 2005 in Adesina *et al.* (2012) the critical level = 50 % (i. e. > 50 % = similar, < 50 % = dissimilar). As to this the weeds in the three districts was similar was similar in type as critical level of more than fifty percent assessed in the cropping sites (Graph 1).



Graph 1. Similarity index of weeds among the districts in sesame fields for 2013 cropping season

**NB:** M=Metema, MA=Mirab Armachiho and TA= Tach Armachiho

In sesame fields, weeds with frequency of *Ipomea cordofana* (60%), 'Kok sar'(73.3%), *Phyllanthus niruri* (66.6%). *Andropogon abyssinicus* (73.3%), and 'Awnda' (70%) in 2012 cropping season and 'Kok sar'(85%), *Corchorus trilocularis*(70%), *Ipomea triloba* (65%), *Andropogon abyssinicus* (60%), and 'Awnda' (65%) in 2013 cropping season were the most prevalent weeds at Metema while the rest weeds were less than 60% frequency in each sesame fields. At Tach armachiho, *Commelina benghalensis* (70%), *Andropogon abyssinicus* (70%), *Kyllinga bulbosa* (80%) and *Corchorus trilocularis* (78%) were the most prevalent weeds in sesame fields in 2013 cropping season. *Ipomea cordofana* (70%), 'Kok sar'(65%), 'Awnda' (70%), *Corchorus trilocularis* (75%) and 'Yelam Ayin'(85%) were the most frequent weeds at Mirab armachiho in 2013 cropping seasons in sesame fields (Table 3, 4, and 5).

Table 2: Frequency, Abundance and Dominance of common weeds on sesame in 2012 at Metema in North Gondar

Local (Amharic)name	Weed species		Family	Life cycle		Leaf type		F (%)	A	D
	Common name	Scientific name		Annual	Pere.	broad	narrow			
Wuha ankur	Wondering Jew	<i>Commelina benghalensis</i> L.	Commelinaceae	x		x		36.6	1.24	0.03
Kok sar	Grass spp.	<i>Grass spp.</i>	Gramineae	x			x	73.3	4.82	0.10
-	Gripeweed	<i>Phyllanthus niruri</i> L.		x			x	66.6	1.48	0.03
Ras kimr	Bobbin weed	<i>Leucas martinicensis</i> (Jacq) ait.f.	Labiataea	x		x		46.6	2.58	0.06
Dememo	Foxtail grass	<i>Setaria pumila</i> Roem. and schult	Gramineae	x			x	56.6	3.06	0.07
Zemen sar		<i>Andropogon abyssinicus</i> R.Br.	Gramineae	x			x	73.3	3.21	0.07
Gid zemedede (Lekelek)	Erect Spiderling	<i>Boerhaavia erecta</i> L.	Nyctaginaceae	x				33.3	1.13	0.02
Kudra		<i>Corchorus olitorius</i> L.kudra	Tiliaceae	x		x		33.3	0.23	0.01
Gicha		<i>Kyllinga bulbosa</i> P.Beauv.	Cyperaceae	x			x	40	2.83	0.06
-	Astma weed	<i>Euphorbia hirta</i> L.	Euphorbiaceae					10	0.23	0.01
Amira	Hummera weed	<i>Corchorus trilocularis</i> L.	Tiliaceae	x		x		53.3	8.35	0.18
Hareg	Ipomia	<i>Ipomia triloba</i>	Convolvulaceae	x		x		36.6	0.18	0.004

Akakma	Puncture vine	<i>Tribulus terrestris</i> L.	Zygophyllaceae	x		x		23.3	0.18	0.004
Yebeg lat	Purslane	<i>Portulaca oleraceae</i> L.	Portulacaceae	x		x		23.3	0.49	0.01
Yehya abish	Siclepod	<i>Senna obtusifolia</i>	Caesalpinaceae	x		x		36.6	0.63	0.01
Nug ambesa	Dodder	<i>Cuscuta campestris</i>	Convolvulaceae	x			x	6.6	0.03	0.001
Yewsha dagusa	Wild finger millet	<i>Eleusine indica</i> L.	Gramineae	x			x	3.3		
Starbur	Starbur	<i>Acanthospermum hispidum</i>	Compositae	x		x		10		
Yemogn fikir (zemed begde)	Heart leaf Cocklebur	<i>Xanthium strumarium</i> L.	Asteraceae	x		x		3.3	0.01	0.0002
Aluma	Pig weed	<i>Amarantus spp.</i>	Amaranthaceae	x		x		10	0.13	0.003
Gumero	-	<i>Capparis tonantosa</i> (lam)	Capparidaceae		x	x		6.6	0.02	0.001
Girar	-	<i>Acacia spp</i>	Mimmosoideae		x	x		20	0.17	0.004
Kurkura	-	<i>Ziziphus spina Christi</i>	Rhamnaceae		x	x		<5		

F= Frequency, A=Abundance, D=Dominance

Table 3: Frequency, Abundance and Dominance of common weeds on sesame in 2013 at Metema in North Gondar

Local (Amharic) name	Weed species		Family	Life cycle		Leaf		F (%)	A	D
	Common name	Scientific name		Annual	Pere.	broad	narrow			
Dirya	Ipomea	<i>Ipomea cordofana</i> Br.	Convolvulaceae	x		x		35	1.67	3.91
Wuha ankur	Wondering Jew	<i>Commelina benghalensis</i> L.	Commelinaceae	x		x		50	1.03	2.42
Kok sar	Grass spp	<i>Grass spp.</i>	Gramineae	x			x	85	3.57	8.37
-	Gripweed	<i>Phyllanthus niruri</i> L.		x		x		54.6	1.12	2.62
Ras kimr	Bobbin weed	<i>Leucas martinicensis</i> (Jacq) ait.f.	Labiataea	x		x		42	1.42	2.66
Hareg	Ipomea	<i>Ipomea triloba</i>	Convolvulaceae	x		x		65	1.33	3.13
Dememo	Foxtail grass	<i>Setaria pumila</i> Roem. and schult	Gramineae	x			x	40	1.12	2.62
Zemen sar		<i>Andropogon abyssinicus</i> (Fresen) R.Br.	Gramineae	x			x	60	1.65	3.87
Gid zemedede (Lekelek)	Erect Spiderling	<i>Boerhaavia erecta</i> L.	Nyctaginaceae	x		x		40	2.45	5.75
Kudra		<i>Corchorus olitorius</i> L.kudra	Tiliaceae	x		x		45	1.37	3.21
Gicha		<i>Kyllinga bulbosa</i> P.Beauv.	Cyperaceae	x			x	20	0.47	1.10
-	Astma weed	<i>Euphorbia hirta</i> L.	Euphorbiaceae			x		15	0.23	0.55
Amira	Hummera weed	<i>Corchorus trilocularis</i> L.	Tiliaceae	x		x		70	1.48	3.48
Akakma	Puncture vine	<i>Tribulus terrestris</i> L.	Zygophyllaceae	x		x		10	0.07	0.16
Yehya abish	Siclepod	<i>Senna obtusifolia</i>	Caesalpinaceae	x		x		55	0.65	1.53
Nug ambesa	Dodder	<i>Cuscuta campestris</i>	Convolvulaceae	x		-	-	10	0.1	0.2
Yebeg lat	Purslane	<i>Portulaca oleraceae</i> L.	Portulacaceae	x		x		23.3	0.49	0.01
Yewsha dagusa	Wild finger millet	<i>Eleusine indica</i> L.	Gramineae	x			x	20	0.28	0.66
Sitar ber	Starbur	<i>Acanthospermum hispidum</i> DC.	Compositae	x		x		5	0.20	0.47
Yemogn fikir / zemed begde	Heartleaf Cocklebur	<i>Xanthium strumarium</i> L.	Asteraceae	x		x		5	0.17	0.39
Aluma	Pig weed	<i>Amarantus spp.</i>	Amaranthaceae	x		x		5	0.02	0.04
Gumero		<i>Capparis tonantosa</i> (lam)	Capparidaceae		x	x		6.6	0.02	0.001
Girar		<i>Acacia spp.</i>	Mimmosoideae		x	x		20	0.17	0.004
Kurkura		<i>Ziziphus spina Christi</i>	Rhamnaceae		x	x				

F= Frequency, A=Abundance, D=Dominance

Table 4: Frequency, Abundance and Dominance of common weeds on sesame in 2013 at Tach Armachiho in North Gondar

Local (Amharic) name	Weed species		Family	Life cycle		Leaf		F (%)	A	D
	Common name	Scientific name		Annual	Pere.	broad	narrow			
Dirya	Ipomea	<i>Ipomea cordofana</i> Br.	Convolvulaceae	x		x		30	1.2	3.23
Wuha ankur	Wondering Jew	<i>Commelina benghalensis</i> L.	Commelinaceae	x		x		70	1.87	5.03
Kok sar	Grass spp	<i>Grass spp.</i>	Gramineae	x			x	40	0.47	1.26
Ras kimr	Bobbin weed	<i>Leucas martinicensis</i> (Jacq) ait.f.	Labiataea	x		x		70	1.06	2.85
Hareg	Ipomea	<i>Ipomea triloba</i>	Convolvulaceae	x		x		40	0.33	0.89
Dememo (Yewsha sinde)	Foxtail grass	<i>Setaria pumila</i> (poir.) Roem. and schult	Gramineae	x			x	50	0.65	1.75
Zemen sar		<i>Andropogon abyssinicus</i> R.Br.	Gramineae	x			x	70	1.73	4.66
Gid zemedede (Lekelek)	Erect Spiderling	<i>Boerhaavia erecta</i> L.	Nyctaginaceae	x		x		50	0.57	1.53
Kudra	---	<i>Corchorus olitorius</i> L.kudra	Tiliaceae	x		x		10	0.2	0.54
Gicha		<i>Kyllinga bulbosa</i> P.Beauv.	Cyperaceae	x			x	80	10.9	29.3
-	Astma weed	<i>Euphorbia hirta</i> L.	Euphorbiaceae	x		x		10	0.07	0.19
Amira	Hummera weed	<i>Corchorus trilocularis</i>	Tiliaceae	x		x		78	10.4	27.9
Akakma	Puncture vine	<i>Tribulus terrestris</i> L.	Zygophyllaceae	x		x		30	0.93	2.50
Yehya abish	Siclepod	<i>Senna obtusifolia</i>	Caesalpiniaceae	x		x		40	0.23	0.62
Nug ambesa	Dodder	<i>Cuscuta campestris</i>	Convolvulaceae	x		-	-	20	0.5	1.46
Yewsha dagusa	Wild finger millet	<i>Eleusine indica</i> L.	Gramineae	x			x	20	4.16	11.2
Sitar ber	Starbur	<i>Acanthospermum hispidum</i>	Compositae	x		x		10	0.3	0.81
Aluma	Pig weed	<i>Amarantus spp.</i>	Amaranthaceae	x		x		5	0.02	0.04
Gumero		<i>Capparis tonantosa</i> (lam)	Capparidaceae		x	x		<5		
Girar		<i>Acacia spp</i>	Mimmosoideae		x	x		<5		
Kurkura		<i>Ziziphus spina Christi</i>	Rhamnaceae		x	x		<5		
Muja	-	<i>Snowdenia polystachya</i>	Gramineae	x			x	40	0.63	1.70
Yeseyitan merfie	Black jack	<i>Bidens pilosa</i>	Compositae	x		x		20	0.34	0.91
Yeberha Serdo	Bermuda grass	<i>Cynodon dactylon</i>	Gramineae	x			x	80	2.97	7.99

F= Frequency, A=Abundance, D=Dominance

Table 5: Frequency, Abundance and Dominance of common weeds on sesame in 2013 at Mirab Armachiho in North Gondar

Local (Amharic) name	Weed species		Family	Life cycle		Leaf type		F (%)	A	D
	Common name	Scientific name		Annual	Pere.	broad	narrow			
Dirya	Ipomea	<i>Ipomea cordofana</i> Br.	Convolvulaceae	x		x		70	3.02	9.25
Wuha ankur	Wondering Jew	<i>Commelina benghalensis</i> L.	Commelinaceae	x		x		25	0.14	0.41
Kok sar	-	<i>Grass spp.</i>	Gramineae	x			x	65	1.85	5.67
Ras kimr	Bobbin weed	<i>Leucas martinicensis</i> (Jacq) ait.f.	Labiataea	x		x		5	0.07	0.20
Hareg	Ipomea	<i>Ipomea triloba</i>	Convolvulaceae	x		x		13.3	0.09	0.002
Dememo (Yewsha sinde)	Foxtail grass	<i>Setaria pumila</i> (poir.) Roem. and schult	Gramineae	x			x	56.6	3.06	0.07
Awnda				x		x		70	11.3	0.24
Zemen sar		<i>Andropogon abyssinicus</i>	Gramineae	x			x	15	0.13	0.41

		(Fresen) R.Br.								
Gid zemedede (Lekelek)	Erect Spiderling	<i>Boerhaavia erecta</i> L.	Nyctaginaceae	x	x			25	1.3	3.99
Kudra		<i>Corchorus olitorius</i> L.kudra	Tiliaceae	x	x			10	0.28	0.87
Gicha		<i>Kyllinga bulbosa</i> P.Beauv.	Cyperaceae	x		x		5	0.03	0.10
-	Astma weed	<i>Euphorbia hirta</i> L.	Euphorbiaceae	x	x			10	0.23	0.01
Amira	Hummera weed	<i>Corchorus trilocularis</i> L.	Tiliaceae	x	x			75	2.92	8.94
Gorjijit				x				33.3	0.28	0.01
Akakma	Puncture vine	<i>Tribulus terrestris</i> L.	Zygophyllaceae	x	x			5	0.1	0.31
Yehya abish	Siclepod	<i>Senna obtusifolia</i>	Caesalpiniaceae	x	x			10	0.7	2.15
Gagrdra (Mechera)				x		x?		56.6	1.76	0.04
Nug ambesa	Dodder	<i>Cuscuta campestris</i>	Convolvulaceae	x		-		4	0.1	0.3
Yewsha dagusa	Wild finger millet	<i>Eleusine indica</i> L.	Gramineae	x		x		10	0.37	1.12
Sitar ber	Starbur	<i>Acanthospermum hispidum</i>	Compositae	x	x			10	0.17	0.004
Yemogn fikir/zemed begde	Heart leaf Cocklebur	<i>Xanthium strumarium</i> L.	Asteraceae	x	x			3.3	0.01	0.0002
Yelam Ayin	Yellow wood sorrel	<i>Oxalis</i> spp.		x	x			85	12.8	39.14
Aluma	Pig weed	<i>Amarantus</i> spp.	Amaranthaceae	x	x			10	0.13	0.003
Gumero		<i>Capparis tonantosa</i> (lam)	Capparidaceae		x	x		6.6	0.02	0.001
Girar		<i>Acacia</i> spp	Mimosoideae		x	x		5	0.05	0.15
Kurkura		<i>Ziziphus spina</i> Christi	Rhamnaceae		x	x		5	0.01	0.05
Gimel wayika	---	---	----	x	x			45	0.73	2.25
Muja		<i>Snowdenia polystachya</i>	Gramineae	x		x		25	0.43	1.33
Bolenta				x	x			70	1.1	3.37
Jib shinkurt				x	x			10	0.12	0.36
Chewchewit		<i>Dinebra retroflexa</i> (vahl.) panzer	Gramineae	x		x		30	0.57	1.74

F= Frequency, A=Abundance, D=Dominance

The Relative Densities or abundances of the various weed species are shown in (Table 3-5). Weed with relative abundance, 'Kok sar' (4.82), *Leucas martinicensis* (2.58), *Setaria pumila* (3.06), 'Awnda'(11.31), *Andropogon abyssinicus* (3.21), *Kyllinga bulbosa* (2.83), and *Corchorus trilocularis* (8.35), were the most densely grown weeds in sesame fields in 2012 at Metema. 'Kok sar' (3.57), *Boerhaavia erecta* (2.45) and *Corchorus trilocularis* (8.35) were emerged the most abundant weeds in sesame fields in 2013 at Metema district. At Tach armachiho, *Ipomea cordofana* (1.2), *Commelina benghalensis* (1.87), *Leucas martinicensis* (1.06), *Andropogon abyssinicus* (1.73), *Kyllinga bulbosa* (10.9), *Corchorus trilocularis* (10.4), *Eleusine indica* (4.16) and *Cynodon dactylon* (2.97) were the most abundant weeds in 2013 cropping season. *Ipomea cordofana* (3.02), 'Grass spp (1.85), *Boerhaavia erecta* (1.3), and *Corchorus trilocularis* (2.92) were also the most densely grown weeds in sesame fields at Mirab armachiho.

Weeds those with high dominancy *Grass* spp (0.1), *Corchorus trilocularis* (0.18), were very important in sesame fields in 2012 at Metema and in 2013 *Ipomea cordofana* (3.91), 'Koksar'(8.37), *Ipomea triloba* (3.13), *Andropogon abyssinicu* (3.87), *Boerhaavia erecta* (5.75), *Corchorus olitorius* (3.21), and *Corchorus trilocularis* (3.48) were dominant at Metema. *Ipomea cordofana* (3.23), *Commelina benghalensis* (5.03), *Andropogon abyssinicus* (4.66), *Kyllinga bulbosa* (29.3), *Corchorus trilocularis* (27.9), *Eleusine indica* (11.2) and *Cynodon dactylon* (7.99) were important weeds at Tach armachiho in 2013 cropping season. *Ipomea cordofana* (9.25), *Grass* spp (5.67), *Boerhaavia erecta* (3.99), and *Corchorus trilocularis* (8.94) were the most dominant weeds at Mirab armachiho.



## CONCLUSIONS AND RECOMMENDATIONS

This survey has assessed the most abundant and troublesome weed species in sesame field in north Gondar. 31 common weed species or groups of species from 17 families are identified and quantified. *Ipomea cordofana* Br., Grass spp, *Commelina benghalensis* L. *Andropogon abyssinicus* (Fresen) R.Br., *Boerhaavia erecta* L., *Corchorus olitorius* L.kudra, *Corchorus trilocularis* L., *Leucas martinicensis* (Jacq) ait.f. and *Ipomea triloba* are the most prevalent, abundant and important weeds in sesame fields in north Gondar. Information that is vital for setting research and development priorities concerning sesame weed identification and management is developed. Furthermore, it has documented the current distribution and importance of the recently grown sesame weed species. As to this on farm and practical training on identification and demonstration management options should be given on the low land of north Gondar farmers.

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