

Supplementary Tables and Figures

Table 1. Location of selected *Gmelina arborea* farm forestry plantations.

≤ 5 Years Age Class (AC I)		5–10 Years Age Class (AC II)		10–15 Years Age Class (AC III)	
Plantation Code	GPS Location	Plantation Code	GPS Location	Plantation Code	GPS Location
AC I Bt 1	26°25'01.8''N 89°20'17.5''E	AC II Pd 1	26°24'09''N 89°22'49''E	AC III Bt 1	26°25'01.2''N 89°20'22.3''E
AC I Bt 2	26°25'00.1''N 89°20'18.4''E	AC II P 2	26°24'09''N 89°22'04''E	AC III S 2	26°24'4.4''N 89°21'37.5''E
AC I Bt 3	26°25'01.2''N 89°20'21.7''E	AC II P 3	26°24'28''N 89°22'42''E	AC III Bt 3	26°24'01.7''N 89°20'23.7''E
AC I B 4	26°55'09.2''N 89°20'23.0''E	AC II P 4	26°24'40''N 89°22'55''E	AC III B 4	26°55'07.3''N 89°20'26.3''E
AC I S 5	26°24'53.4''N 89°21'16.6''E	AC II P 5	26°24'54''N 89°22'27''E	AC III S 5	26°24'39.7''N 89°21'36.6''E
AC I S 6	26°24'54.2''N 89°21'18.6''E	AC II P 6	26°24'40''N 89°22'57''E	AC III So 6	26°30'09.2''N 89°22'21.6''E
AC I S 7	26°30'04''N 89°22'19''E	AC II Bt 7	26°25'00.1''N 89°20'18.4''E	AC III P 7	26°23'59.1''N 89°23'05.2''E

AC- age class; Bt- Bahannagar near Torsa; B- Bahannagar; S- Sajerpar, So- Sonapur; Pd- Pitcherdanga; P- Pundibari

Table 2. Frequency and relative frequency of *Gmelina* farm forestry plantations.

Species	Frequency				Relative Frequency			
	Overall	Age Class (Years)			Overall	Age Class (Years)		
		≤ 5	5–10	10–15		≤ 5	5–10	10–15
<i>A. houstonianum</i>	100.0	100.0	100.0	100.0	4.95	4.86	5.07	4.92
<i>Abroma augusta</i>	35.0	42.86	28.57	33.33	1.73	2.08	1.45	1.64
<i>A. auriculiformis</i>	5.0	14.29	14.29	–	0.25	0.69	0.72	–
<i>A. bettzickiana</i>	35.0	42.86	42.86	16.67	1.73	2.08	2.17	0.82
<i>A. cadamba</i>	20.0	14.29	28.57	16.67	0.99	0.69	1.45	0.82
<i>A. conyzoides</i>	95.0	100.0	100.0	83.33	4.70	4.86	5.07	4.10
<i>A. grandis</i>	30.0	42.86	14.29	33.33	1.49	2.08	0.72	1.64
<i>A. lebbeck</i>	5.0	14.29	–	–	0.25	0.69	–	–
<i>B. ceiba</i>	80.0	100.0	57.14	83.33	3.96	4.86	2.90	4.10
<i>C. dactylon</i>	80.0	71.43	85.71	83.33	3.96	3.47	4.35	4.10
<i>C. esculenta</i>	85.0	85.71	85.71	83.33	4.21	4.17	4.35	4.10
<i>C. infortunatum</i>	95.0	85.71	100.0	100.0	4.70	4.17	5.07	4.92
<i>C. velutina</i>	35.0	42.86	42.86	16.67	1.73	2.08	2.17	0.82
<i>D. esculentum</i>	85.0	71.43	85.71	100.0	4.21	3.47	4.35	4.92
<i>D. sissoo</i>	5.0	14.29	–	–	0.25	0.69	–	–
<i>E. muricata</i>	30.0	42.86	42.86	–	1.49	2.08	2.17	–
<i>E. acuminata</i>	5.0	–	–	16.67	0.25	–	–	0.82
<i>E. crista-galli</i>	15.0	–	–	50.0	0.74	–	–	2.46
<i>E. floribundus</i>	10.0	14.29	–	16.67	0.50	0.69	–	0.82
<i>F. glomerata</i>	5.0	–	–	16.67	0.25	–	–	0.82
<i>F. vesca</i>	80.0	71.43	100.0	66.67	3.96	3.47	5.07	3.28
<i>G. arborea</i>	100.0	100.0	100.0	100.0	4.95	4.86	5.07	4.92
<i>L. aspera</i>	85.0	85.71	85.71	83.33	4.21	4.17	4.35	4.10

<i>L. camara</i>	90.0	71.43	100.0	100.0	4.46	3.47	5.07	4.92
<i>L. monopetala</i>	5.0	–	–	16.67	0.25	–	–	0.82
<i>L. speciosa</i>	5.0	–	14.29	–	0.25	–	0.72	–
<i>M. struthiopteris</i>	70.0	71.43	71.43	66.67	3.47	3.47	3.62	3.28
<i>M. azedarach</i>	30.0	57.14	14.29	16.67	1.49	2.78	0.72	0.82
<i>M. indica</i>	45.0	42.86	71.43	16.67	2.23	2.08	3.62	0.82
<i>M. koenigii</i>	5.0	–	14.29	–	0.25	–	0.72	–
<i>M. micrantha</i>	75.0	71.43	71.43	83.33	3.71	3.47	3.62	4.10
<i>M. oleifera</i>	5.0	–	–	–	0.25	–	–	–
<i>M. pustulata</i>	5.0	–	–	16.67	0.25	–	–	0.82
<i>O. corniculata</i>	60.0	71.43	57.14	50.0	2.97	3.47	2.90	2.46
<i>P. annua</i>	30.0	28.57	28.57	33.33	1.49	1.39	1.45	1.64
<i>P. distichum</i>	60.0	71.43	57.14	50.0	2.97	3.47	2.90	2.46
<i>P. hexagonoptera</i>	45.0	57.14	42.86	33.33	2.23	2.78	2.17	1.64
<i>P. hydropiper</i>	50.0	71.43	28.57	50.0	2.48	3.47	1.45	2.46
<i>P. zeylanica</i>	75.0	71.43	71.43	83.33	3.71	3.47	3.62	4.10
<i>S. villosa</i>	55.0	–	14.29	16.67	2.72	–	0.72	0.82
<i>S. cumini</i>	20.0	–	28.57	33.33	0.99	–	1.45	1.64
<i>S. macrophylla</i>	5.0	14.29	–	–	0.25	0.69	–	–
<i>S. viarum</i>	30.0	42.86	–	33.33	1.49	2.08	–	1.64
<i>T.divaricata</i>	80.0	85.71	85.71	66.67	3.96	4.17	4.35	3.28
<i>T. grandis</i>	25.0	–	42.86	33.33	1.24	–	2.17	1.64
<i>T. orientalis</i>	5.0	–	–	16.67	0.25	–	–	0.82
<i>U. lobata</i>	5.0	71.43	42.86	50.0	0.25	3.47	2.17	2.46
Unidentified-1	5.0	–	–	16.67	0.25	–	–	0.82
Unidentified-2	5.0	–	–	16.67	0.25	–	–	0.82
Unidentified-3	5.0	–	–	16.67	0.25	–	–	0.82
Unidentified-4	5.0	–	–	16.67	0.25	–	–	0.82

Table 3. Density and relative density of *Gmelina* farm forestry plantations.

Species	Density				Relative Density			
	Overall	Age Class (Years)			Overall	Age Class (Years)		
		≤ 5	5–10	10–15		≤ 5	5–10	10–15
<i>Ageratum houstonianum</i>	5.2	4.71	4.71	6.33	3.96	3.59	3.62	4.76
<i>Abroma augusta</i>	0.95	1.29	0.71	0.83	0.72	0.98	0.55	0.63
<i>Acacia auriculiformis</i>	0.05	–	0.14	–	0.04	–	0.11	–
<i>Alternanthera bettzickiana</i>	1.3	1.71	1.57	0.5	0.99	1.31	1.21	0.38
<i>Anthocephalus cadamba</i>	0.40	0.43	0.43	0.33	0.30	0.33	0.33	0.25
<i>Ageratum conyzoides</i>	4.3	4.0	4.57	4.33	3.27	3.05	3.51	3.26
<i>Ailanthus grandis</i>	1.10	1.86	0.71	0.67	0.84	1.42	0.55	0.50
<i>Albizia lebbek</i>	0.05	0.14	–	–	0.04	0.11	–	–
<i>Bombax ceiba</i>	2.00	1.86	1.57	2.67	1.52	1.42	1.21	2.01
<i>Cynadon dactylon</i>	4.65	4.14	5.43	4.33	3.54	3.16	4.17	3.26
<i>Colocasia esculenta</i>	2.4	2.71	2.43	2.0	1.83	2.07	1.87	1.5
<i>Clerodendron infortunatum</i>	7.65	6.14	7.57	9.50	5.82	4.68	5.82	7.14
<i>Chukrasia velutina</i>	1.10	1.29	1.43	0.5	0.84	0.98	1.1	0.38
<i>Diplazium esculentum</i>	4.0	3.0	3.71	5.5	3.05	2.29	2.85	4.14
<i>Dalbergia sissoo</i>	0.05	0.14	–	–	0.04	0.11	–	–
<i>Echinochloa. muricata</i>	1.30	1.43	2.29	–	0.99	1.09	1.76	–
<i>Ehretia acuminata</i>	0.20	–	–	0.67	0.15	–	–	0.50
<i>Erhthrina crista-galli</i>	0.30	–	–	1.0	0.23	–	–	0.75
<i>Elaeocarpus floribundus</i>	0.20	0.29	0.33	–	0.15	0.22	–	0.25

<i>Ficus glomerata</i>	0.30	–	–	1.0	0.23	–	–	0.75
<i>Fragaria vesca</i>	3.25	2.86	4.57	2.17	2.47	2.18	3.51	1.63
<i>Gmelina arborea</i>	55.8	58.43	54.86	54.0	42.5	44.5	42.1	40.60
<i>Lucas aspera</i>	3.00	2.86	3.43	2.67	2.28	2.18	2.63	2.01
<i>Lanta camara</i>	4.15	2.86	5.14	4.50	3.16	2.18	3.95	3.38
<i>Litsea monopetala</i>	0.40	–	–	1.33	0.30	–	–	1.0
<i>Lagerstroemia speciosa</i>	0.05	–	0.14	–	0.04	–	0.11	–
<i>Matteuccia struthiopteris</i>	2.00	2.14	2.0	1.83	1.52	1.63	1.54	1.38
<i>Melia azedarach</i>	0.85	1.29	0.71	0.5	0.65	0.98	0.55	0.38
<i>Maesa indica</i>	1.15	1.0	1.86	0.5	0.88	0.76	1.43	0.38
<i>Murraya koenigii</i>	0.30	–	0.86	–	0.23	–	0.66	–
<i>Mikania micrantha</i>	2.7	2.0	2.0	4.33	2.06	1.53	1.54	3.26
<i>Moringa oleifera</i>	0.05	0.14	–	–	0.04	0.11	–	–
<i>Macaranga pustulata</i>	0.25	–	–	0.83	0.19	–	–	0.63
<i>Oxalis corniculata</i>	2.10	2.71	2.0	1.5	1.60	2.07	1.54	1.13
<i>Poa. annua</i>	1.40	1.29	1.14	1.83	1.07	0.98	0.88	1.38
<i>Paspalum distichum</i>	2.35	3.14	2.0	1.83	1.79	2.4	1.54	1.38
<i>Phegopteris hexagonoptera</i>	1.75	2.57	1.57	1.0	1.33	1.96	1.21	0.75
<i>Polygonum hydropiper</i>	1.85	3.29	1.0	1.17	1.41	2.51	0.77	0.88
<i>Pouzolzia zeylanica</i>	2.6	2.57	2.57	2.67	1.98	1.96	1.98	2.01
<i>Sterculia villosa</i>	1.85	–	–	0.67	1.41	–	–	0.50
<i>Syzigium cumini</i>	0.45	–	1.0	0.33	0.34	–	0.77	0.25
<i>Swietenia macrophylla</i>	0.10	0.29	–	–	0.08	0.22	–	–
<i>Solanum viarum</i>	0.70	1.29	0.14	0.67	0.53	0.98	0.11	0.50
<i>Tabernaemontana divaricata</i>	2.75	3.0	3.0	2.17	2.09	2.29	2.31	1.63
<i>Tectona grandis</i>	0.70	–	1.43	0.67	0.53	–	1.10	0.50
<i>Trema orientalis</i>	0.35	–	–	1.17	0.27	–	–	0.88
<i>Urena lobata</i>	0.20	2.29	1.43	1.83	0.15	1.74	1.1	1.38
Unidentified-1	0.10	–	–	0.83	0.08	–	–	0.63
Unidentified-2	0.25	–	–	0.67	0.19	–	–	0.50
Unidentified-3	0.20	–	–	0.50	0.15	–	–	0.38
Unidentified-4	0.15	–	–	0.33	0.11	–	–	0.25

Table 4. Abundance and relative abundance of *Gmelina* farm forestry plantations.

Species	Abundance				Relative Abundance			
	Overall	Age Class (Years)			Overall	Age Class (Years)		
		≤ 5	5–10	10–15		≤ 5	5–10	10–15
<i>A. houstonianum</i>	5.2	4.71	4.71	6.33	2.21	2.71	2.61	2.97
<i>A. augusta</i>	2.71	3.0	2.5	2.5	1.15	1.73	1.38	1.17
<i>A. auriculiformis</i>	1.0	–	1.0	–	0.42	–	0.55	–
<i>Alternanthera bettzickiana</i>	3.71	4.0	3.67	3.0	1.58	2.3	2.03	1.41
<i>A. cadamba</i>	2.0	3.0	1.5	2.0	0.85	1.73	0.83	0.94
<i>A. conyzoides</i>	4.53	4.0	4.57	5.2	1.92	2.3	2.53	2.44
<i>A. grandis</i>	3.67	4.33	5.0	2.0	1.56	2.49	2.77	0.94
<i>A. lebbeck</i>	1.0	1.0	–	–	0.42	0.58	–	–
<i>B. ceiba</i>	2.5	1.86	2.75	3.2	1.06	1.07	1.52	1.5
<i>C. dactylon</i>	5.81	5.8	6.33	5.2	2.47	3.34	3.51	2.44
<i>C. esculenta</i>	2.82	3.17	2.83	2.4	1.2	1.82	1.57	1.12
<i>C. infortunatum</i>	8.05	7.17	7.57	9.5	3.42	4.12	4.19	4.45
<i>Chukrasia velutina</i>	3.14	3.0	3.33	3.0	1.34	1.73	1.85	1.41
<i>D. esculentum</i>	4.71	4.2	4.33	5.5	2.0	2.42	2.4	2.58

<i>D. sissoo</i>	1.0	1.0	–	–	0.42	0.58	–	–
<i>E. muricata</i>	4.33	3.33	5.33	–	1.84	1.92	2.95	–
<i>E. acuminata</i>	4.0	–	–	4.0	1.7	–	–	1.87
<i>E. crista-galli</i>	2.0	–	–	2.0	0.85	–	–	0.94
<i>E. floribundus</i>	2.0	2.0	–	2.0	0.85	1.15	–	0.94
<i>F. glomerata</i>	6.0	–	–	6.0	2.55	–	–	2.81
<i>F. vesca</i>	4.06	4.0	4.57	3.25	1.73	2.3	2.53	1.52
<i>G. arborea</i>	55.8	58.4	54.9	54.0	23.7	33.6	30.4	25.31
<i>L. aspera</i>	3.53	3.33	4.0	3.2	1.5	1.92	2.21	1.5
<i>L. camara</i>	4.61	4.0	5.14	4.5	1.96	2.3	2.85	2.11
<i>L. monopetala</i>	8.0	–	–	8.0	3.4	–	–	3.75
<i>L. speciosa</i>	1.0	–	1.0	–	0.42	–	0.55	–
<i>M. struthiopteris</i>	2.86	3.0	2.8	2.75	1.21	1.73	1.55	1.29
<i>M. azedarach</i>	2.83	2.25	5.0	3.0	1.2	1.29	2.77	1.41
<i>M. indica</i>	2.56	2.33	2.6	3.0	1.09	1.34	1.44	1.41
<i>M. koenigii</i>	6.0	–	6.0	–	2.55	–	3.32	–
<i>M. micrantha</i>	3.6	2.80	2.8	5.2	1.53	1.61	1.55	2.44
<i>M. oleifera</i>	1.0	1.0	–	–	0.42	0.58	–	–
<i>M. pustulata</i>	5.0	–	–	5.0	2.12	–	–	2.34
<i>O. corniculata</i>	3.5	3.8	3.5	3.0	1.49	2.19	1.94	1.41
<i>P. annua</i>	4.67	4.50	4.0	5.5	1.98	2.59	2.21	2.58
<i>P. distichum</i>	3.92	4.4	3.5	3.67	1.66	2.53	1.94	1.72
<i>P. hexagonoptera</i>	3.89	4.5	3.67	3.0	1.65	2.59	2.03	1.41
<i>P. hydropiper</i>	3.7	4.0	3.5	2.33	1.57	2.65	1.94	1.09
<i>P. zeylanica</i>	3.47	3.6	3.6	3.2	1.47	2.07	1.99	1.5
<i>S. villosa</i>	3.36	–	–	4.0	1.43	–	–	1.87
<i>S. cumini</i>	2.25	–	3.5	1.0	0.96	–	1.94	0.47
<i>S. macrophylla</i>	2.0	2.0	–	–	0.85	1.15	–	–
<i>S. viarum</i>	2.33	3.0	1.0	2.0	0.99	1.73	0.55	0.94
<i>T. divaricata</i>	3.44	3.5	3.5	3.25	1.46	2.01	1.94	1.52
<i>T. grandis</i>	2.80	–	3.33	2.0	1.19	–	1.85	0.94
<i>T. orientalis</i>	7.0	–	–	7.0	2.97	–	–	3.28
<i>U. lobata</i>	4.0	3.20	3.33	3.67	1.7	1.84	1.85	1.72
Unidentified–1	2.0	–	–	5.0	0.85	–	–	2.34
Unidentified–2	5.0	–	–	4.0	2.12	–	–	1.87
Unidentified–3	4.0	–	–	3.0	1.7	–	–	1.41
Unidentified–4	3.0	–	–	2.0	1.27	–	–	0.94

Table 5. Important value index of *Gmelina* farm forestry plantations.

Species	Overall	Age Class (years)		
		≤ 5	5–10	10–15
<i>A. houstonianum</i>	11.12	11.17	11.30	12.65
<i>A. augusta</i>	3.61	4.79	3.38	3.44
<i>A. auriculiformis</i>	0.71	–	1.39	–
<i>A. bettzickiana</i>	4.30	5.69	5.41	2.60
<i>A. cadamba</i>	2.14	2.75	2.61	2.01
<i>A. conyzoides</i>	9.90	10.21	11.12	9.79
<i>A. grandis</i>	3.88	5.99	4.04	3.08
<i>A. lebeck</i>	0.71	1.38	–	–
<i>B. ceiba</i>	6.55	7.35	5.63	7.60
<i>C. dactylon</i>	9.97	9.97	12.02	9.79

<i>C. esculenta</i>	7.23	8.06	7.78	6.73
<i>C. infortunatum</i>	13.95	12.97	15.08	16.51
<i>C. velutina</i>	3.91	4.79	5.12	2.60
<i>D. esculentum</i>	9.25	8.18	9.60	11.63
<i>D. sissoo</i>	0.71	1.38	–	–
<i>E. muricata</i>	4.32	5.09	6.88	–
<i>E. acuminata</i>	2.10	–	–	3.20
<i>E. crista-galli</i>	1.82	–	–	4.15
<i>E. floribundus</i>	1.50	2.06	–	2.01
<i>F. glomerata</i>	3.02	–	–	4.38
<i>F. vesca</i>	8.16	7.95	11.12	6.43
<i>G. arborea</i>	71.20	83.03	77.59	70.83
<i>L. aspera</i>	7.99	8.26	9.20	7.60
<i>L. camara</i>	9.57	7.95	11.87	10.41
<i>L. monopetala</i>	3.95	–	–	5.57
<i>L. speciosa</i>	0.71	–	1.39	–
<i>M. struthiopteris</i>	6.20	6.83	6.71	5.95
<i>M. azedarach</i>	3.34	5.05	4.04	2.60
<i>M. indica</i>	4.19	4.19	6.49	2.60
<i>M. koenigii</i>	3.02	–	4.70	–
<i>M. micrantha</i>	7.30	6.61	6.71	9.79
<i>M. oleifera</i>	0.71	1.38	–	–
<i>M. pustulata</i>	2.56	–	–	3.79
<i>O. corniculata</i>	6.06	7.73	6.37	4.99
<i>P. annua</i>	4.53	4.96	4.54	5.60
<i>P. distichum</i>	6.42	8.40	6.37	5.56
<i>P. hexagonoptera</i>	5.21	7.33	5.41	3.80
<i>P. hydropiper</i>	5.46	8.62	4.16	4.43
<i>P. zeylanica</i>	7.16	7.50	7.59	7.60
<i>S. villosa</i>	5.56	–	–	3.20
<i>S. cumini</i>	2.29	–	4.16	2.36
<i>S. macrophylla</i>	1.17	2.06	–	–
<i>S. viarum</i>	3.01	4.79	1.39	3.08
<i>T. divaricata</i>	7.51	8.47	8.59	6.43
<i>T. grandis</i>	2.96	–	5.12	3.08
<i>T. orientalis</i>	3.49	–	–	4.98
<i>U. lobata</i>	2.10	7.06	5.12	5.56
Unidentified-1	1.17	–	–	3.79
Unidentified-2	2.56	–	–	3.20
Unidentified-3	2.10	–	–	2.60
Unidentified-4	1.64	–	–	2.01

Table 6. Soil moisture (%) in *Gmelina* farm forestry plantations.

Plantation in Age Classes	0–20 cm	20–40 cm	40–60 cm
AC I1	23.92a	21.20a	18.98a
AC I2	30.40bc	24.73b	19.06a
AC I3	31.18c	26.57	24.49c
AC I4	30.25b	24.57b	19.89b
AC I5	24.49a	21.90a	19.98b
AC I6	27.43	24.90b	21.37
AC I7	29.97b	28.09	24.81c

Mean	28.23	24.56	21.22
AC II1	21.30a	18.76a	17.86a
AC II2	24.80a	19.09ab	19.01ab
AC II3	26.70a	26.21d	22.10e
AC II4	30.80a	28.84	26.47
AC II5	29.80a	25.46cd	21.53de
AC II6	25.10a	20.04b	19.55bc
AC II7	30.10a	25.16c	20.54cd
Mean	26.94	23.36	21.01
AC III1	29.42	24.45b	20.26
AC III2	32.22a	28.91	25.02a
AC III3	32.37a	30.24	28.24
AC III4	32.36a	25.05bc	20.87
AC III5	25.38	21.48a	19.16
AC III6	28.18	25.06bc	22.03
AC III7	27.18	25.68c	24.92a
Mean	29.59	25.84	22.93
Overall mean	28.25	24.59	21.72
SEM	1.10	1.15	1.02
CD	3.38	3.54	3.13
CV	9.52	11.45	11.46

AC I (Age class I– ≤5 years); AC II (5–10 years); AC III (10–15 years); the notations (a,b,c, d, bc, cd, ab, de etc.) used in the table indicates treatments with different alphabets are non-significant among themselves while treatments carrying same alphabets are significant at $p < 0.05$.

Table 7. Soil pH and EC in *Gmelina* farm forestry plantations.

Plantation in Age Classes	pH			EC (m mhos cm ⁻¹)		
	0–20 cm	20–40 cm	40–60 cm	0–20 cm	20–40 cm	40–60 cm
AC I1	6.44	6.63	6.88	0.57 _b	0.55	0.54
AC I2	5.49	5.83	6.44	0.23 _a	0.19 _b	0.083 _b
AC I3	5.33 _b	5.41 _a	6.20 _b	0.20	0.19 _b	0.085 _b
AC I4	5.31 _b	6.32 _b	6.16 _b	0.24 _a	0.10 _a	0.092 _b
AC I5	5.07 _a	5.50 _a	5.96 _a	0.56 _b	0.23 _b	0.11
AC I6	5.32 _b	6.13 _b	6.21 _b	0.15	0.07 _a	0.049 _a
AC I7	5.98	7.50	8.27	0.26	0.71	0.19
Mean	5.56	6.19	6.59	0.31	0.29	0.17
AC II1	4.66 _a	5.35 _a	6.29 _b	0.39	0.22	0.071 _{ab}
AC II2	6.15	6.16 _b	6.92	0.18 _b	0.18	0.12
AC II3	5.21	5.41	5.85	0.18 _b	0.15 _a	0.13
AC II4	4.87 _b	5.35 _a	6.13 _a	0.30	0.16 _a	0.13 _c
AC II5	5.40	5.67	6.15 _a	0.2303	0.12	0.079 _b
AC II6	5.73	6.12 _b	5.98	0.12 _a	0.079	0.067 _a
AC II7	4.93 _b	5.43 _a	6.36 _b	0.34	0.24	0.075 _{ab}
Mean	5.28	5.65	6.24	0.25	0.16	0.09
AC III1	6.41	6.38	6.73 _d	0.64	0.52	0.62
AC III2	5.26 _b	5.57	5.78 _a	0.12 _a	0.11 _a	0.059 _a
AC III3	4.75 _a	5.44	6.01 _{ab}	0.16	0.22	0.11 _{bc}
AC III4	5.34 _b	6.10	6.16 _{bc}	0.29 _b	0.18	0.11 _c
AC III5	5.43 _b	5.70 _a	6.11 _b	0.11 _a	0.09 _a	0.067 _a
AC III6	5.29 _b	5.77	6.44 _{cd}	0.33 _b	0.14 _b	0.10 _b
AC III7	5.21 _b	5.69 _a	6.63 _d	0.333	0.15 _b	0.097 _b

Mean	5.39	5.81	6.27	0.28	0.20	0.17
Overall mean	5.42	5.88	6.37	0.28	0.22	0.14
SE	0.22	0.21	0.19	0.05	0.05	0.05
CD	0.66	0.65	0.59	0.15	0.17	0.15
CV	9.74	8.73	7.37	41.47	60.55	83.02

AC I (Age class I– ≤ 5 years); AC II (5–10 years); AC III (10–15 years); the notations (a,b,c, d, ab, bc, cd, etc.) used in the table indicates treatments with different alphabets are non-significant among themselves while treatments carrying same alphabets are significant at $p < 0.05$.

Table 9. Soil Organic Carbon (Mgha⁻¹) in *Gmelina* farm forestry plantations.

Plantation in Age Classes	0–20 cm	20–40 cm	40–60 cm
AC I1	32.73 _c	20.12 _{cd}	12.45 _b
AC I2	20.11 _a	13.08 _a	9.53 _a
AC I3	31.19 _{bc}	18.15 _b	9.07 _a
AC I4	25.06	21.10 _{de}	12.45 _b
AC I5	20.62 _a	18.97 _{bc}	9.53 _a
AC I6	19.43 _a	21.75 _e	13.37 _b
AC I7	30.34 _b	17.99 _b	13.06 _b
Mean	25.64	18.74	11.35
AC II1	30.50 _c	11.65 _b	13.59 _b
AC II2	27.31	18.20 _c	9.16 _a
AC II3	15.93 _{ab}	11.97 _b	12.67 _b
AC II4	29.89 _c	18.04 _c	9.01 _a
AC II5	18.06 _b	18.83 _c	9.62 _a
AC II6	15.78 _a	16.44	12.52 _b
AC II7	17.60 _{ab}	8.14 _a	12.37 _b
Mean	22.15	14.75	11.28
AC III1	30.60	17.43 _c	12.69 _a
AC III2	26.98 _b	17.28 _c	12.69 _a
AC III3	22.46	18.84	13.33 _{ab}
AC III4	26.08 _b	13.85 _{ab}	13.81 _{ab}
AC III5	16.28 _a	13.08 _a	12.85 _a
AC III6	16.73 _a	13.54 _{ab}	12.53 _a
AC III7	15.68 _a	14.98 _b	14.35 _b
Mean	22.11	15.57	13.18
Overall mean	23.3	16.35	11.94
SE	1.87	1.46	0.58
CD	5.77	4.50	1.79
CV	19.69	21.88	11.95

AC I (Age class I– ≤5 years); AC II (5–10 years); AC III (10–15 years); the notations (a,b,c, d, bc, cd, ab, de etc.) used in the table indicates treatments with different alphabets are non-significant among themselves while treatments carrying same alphabets are significant at $p < 0.05$.

Table 10. Soil available N (Kg ha⁻¹) in *Gmelina* farm forestry plantations.

Plantation in Age Classes	0–20 cm	20–40 cm	40–60 cm
AC I1	113.90 _a	89.90 _a	28.22 _a
AC I2	185.00	86.76 _a	39.72
AC I3	140.10 _b	114.99 _b	28.22 _a
AC I4	176.70	57.49	58.54
AC I5	168.30 _c	136.94	139.03
AC I6	170.40 _c	123.35 _b	83.63
AC I7	145.30 _b	45.99	48.09

Mean	157.10	93.63	60.78
AC II1	182.90	53.30 _a	123.35
AC II2	111.90 _a	82.60	59.58
AC II3	168.30	177.70 _b	143.21
AC II4	146.30 _b	118.10	30.31 _a
AC II5	244.60	233.10	83.63
AC II6	143.20 _b	48.10 _a	48.09
AC II7	207.00	174.06 _b	27.18 _a
Mean	172.03	126.79	73.62
AC III1	182.90 _c	90.90	75.26 _a
AC III2	125.40 _{ab}	120.20 _a	82.58 _{ab}
AC III3	128.60 _b	121.30 _a	24.04
AC III4	187.10 _c	62.70	59.58
AC III5	123.30 _{ab}	118.10 _a	90.94 _c
AC III6	119.20 _a	123.30 _a	90.94 _{bc}
AC III7	125.10 _{ab}	124.60 _a	90.62 _c
Mean	141.66	108.73	73.42
Overall mean	156.93	109.72	69.27
SE	15.45	17.60	16.39
CD	47.59	54.22	50.50
CV	24.11	39.30	57.95

AC I (Age class ≤ 5 years); AC II (5–10 years); AC III (10–15 years); the notations (a,b,c, ab, bc) used in the table indicates treatments with different alphabets are non-significant among themselves while treatments carrying same alphabets are significant at $p < 0.05$.

Table 11. Soil available P (Kgha⁻¹) in *Gmelina* farm forestry plantations.

Plantation in Age Classes	0–20 cm	20–40 cm	40–60 cm
AC I1	13.02 _a	16.63 _{bc}	16.63 _{ab}
AC I2	15.91 _a	13.74 _{ab}	14.46 _{ab}
AC I3	12.29 _a	16.63 _{bc}	11.57 _a
AC I4	13.02 _a	11.57 _a	17.36 _{ab}
AC I5	17.85 _a	11.57 _a	11.57 _a
AC I6	16.63 _a	16.63 _{bc}	13.02 _a
AC I7	13.74 _a	18.80 _c	19.53 _b
Mean	14.63	15.08	14.88
AC II1	13.02 _a	13.74 _a	10.85 _{ab}
AC II2	12.29 _a	10.85 _a	15.19 _{bc}
AC II3	13.74 _a	13.02 _a	6.87 _a
AC II4	15.19 _a	13.02 _a	16.63 _c
AC II5	13.02 _a	10.85 _a	12.37 _{abc}
AC II6	15.91 _a	13.02 _a	10.85 _{ab}
AC II7	15.91 _a	18.08	10.12 _{ab}
Mean	14.15	13.23	11.84
AC III1	13.74 _{ab}	35.44 _a	13.74 _a
AC III2	17.30 _c	10.85 _a	13.74 _a
AC III3	18.08 _c	13.02 _a	13.02 _a
AC III4	11.50 _a	12.51 _a	15.69 _a
AC III5	11.86 _a	13.52 _a	13.74 _a
AC III6	15.19 _{bc}	16.63 _a	12.87 _a
AC III 7	15.65 _{bc}	15.38 _a	13.51 _a
Mean	14.76	16.76	13.76
Overall mean	14.51	15.02	13.49

SE	0.92	1.93	0.89
CD	2.84	5.95	2.76
CV	15.58	31.47	16.23

AC I (Age class I- ≤ 5 years); AC II (5–10 years); AC III (10–15 years); the notations (a,b,c, bc, ab) used in the table indicates treatments with different alphabets are non-significant among themselves while treatments carrying same alphabets are significant at $p < 0.05$.

Table 12. Soil available K (Kgha⁻¹) in Gmelina farm forestry plantations.

Plantation in Age Classes	0–20 cm	20–40 cm	40–60 cm
AC I1	62.72 ^{bc}	45.99	87.81 ^d
AC I2	45.99 ^{ab}	62.72	58.54 ^c
AC I3	79.45 ^{cd}	104.53 ^c	58.54 ^c
AC I4	87.81 ^d	25.09 ^a	20.91 ^a
AC I5	37.63 ^a	33.45 ^{ab}	41.81 ^{bc}
AC I6	41.81 ^{ab}	37.63 ^{ab}	29.27 ^{ab}
AC I7	100.35 ^d	91.99 ^c	83.63 ^d
Mean	65.11	57.34	54.36
AC II1	87.80 ^a	91.99 ^c	83.63 ^c
AC II2	79.40 ^a	71.08 ^{bc}	45.99 ^a
AC II3	50.18	33.50 ^b	25.09
AC II4	97.20 ^a	79.45 ^{bc}	96.17 ^c
AC II5	83.60 ^a	75.26 ^{bc}	79.45 ^c
AC II6	108.70 ^c	62.72 ^b	100.35 ^c
AC II7	100.40 ^c	87.81 ^c	75.26 ^{bc}
Mean	86.37	71.68	72.28
AC III1	100.35	91.99 ^{bc}	79.45 ^b
AC III2	50.18 ^a	91.99 ^{bc}	83.63 ^b
AC III3	108.71 ^b	96.17 ^c	66.90 ^{ab}
AC III4	100.35 ^b	75.26 ^{bc}	58.54 ^a
AC III5	41.81 ^a	41.81 ^a	83.63 ^b
AC III6	100.35 ^b	83.63 ^{bc}	58.54 ^a
AC III7	107.14 ^b	69.19	67.69 ^{ab}
Mean	86.98	78.58	71.20
Overall mean	79.49	69.2	65.95
SE	8.30	10.14	9.79
CD	25.59	31.24	30.18
CV	25.55	35.89	36.38

AC I (Age class I- ≤ 5 years); AC II (5–10 years); AC III (10–15 years); the notations (a,b,c, d, bc, cd, ab) used in the table indicates treatments with different alphabets are non-significant among themselves while treatments carrying same alphabets are significant at $p < 0.05$.

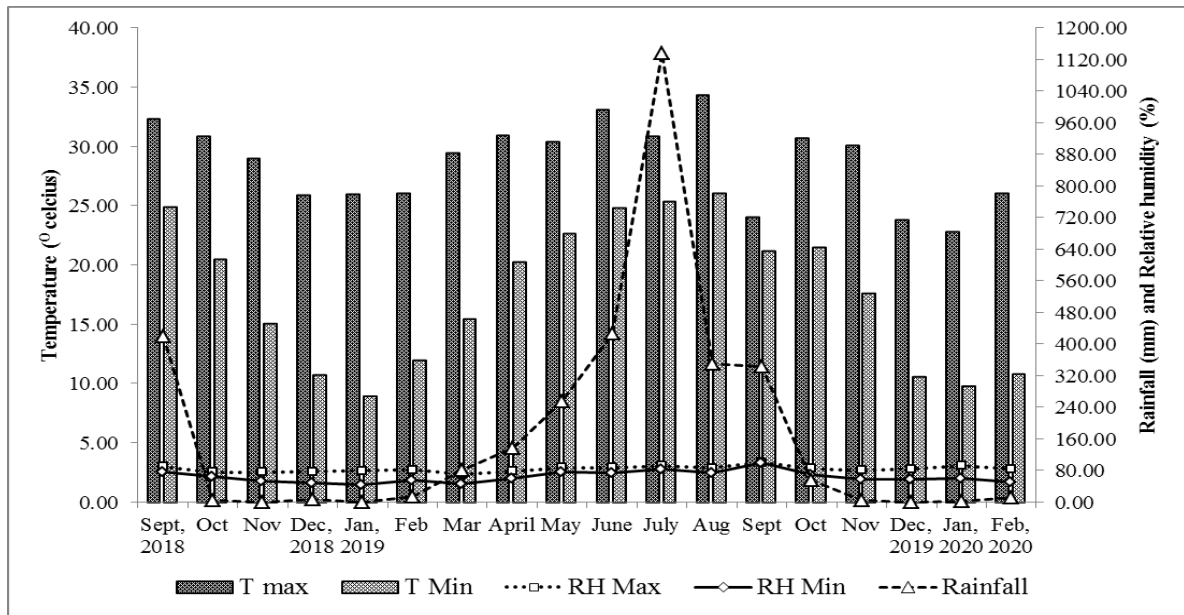


Figure 1. Meteorological data of the study site from September 2018 to February 2020.