

Proven Technologies Ready for Transfer to Extension

1. Cow Pea

Parameters	Description
Variety	TEMESGEN (ተመገን) (12668)
Agronomic and morphological characteristics	
Adaptation area	For low and relatively higher moisture areas of lowland zone of Tigray and similar Agro ecologies of Ethiopia.
Altitude (m.a.s.l.)	590-1200
Rainfall (mm)	400-800
Mean annual temperature c^o	25-27
Seeding rate (Kg/ha)	
Broadcasting	30
Row planting	26
Spacing between row (cm)	0.40
Spacing for between plant (cm)	0.20
Planting date	End June to early July
Fertilizer rate (Kg/ha)	No fertilizer is applied
P 05	
N ₂	
Days to forage harvesting (50% flowering)	48
Days to maturity	76.44
Plant height at forage harvest (cm)	75 cm
Flower color	Pink white
1000 seed weight (gm)	169.4 gram
Seed color	coral
Seed size	Bold
Yield	
Forage(DMY ton/ha)	11.4
Seed (Qt/ha)	29.3
Maturity group	Early
Number of branch(Number)	7-8
Growth type	Erect
Forage Quality	
CP (%)	17.62
Ash (%)	13.43
OM (%)	86.57
DM (%)	89.43
DOMD (%)	56.17
NDF (%)	60.63
ADF (%)	54.44
Lignin (%)	13.00
Year of release	2014
Breeder (Maintainer)	Humera Agricultural Research Center (HuARC) /TARI



Temesgen (Cowpea)



Temesgen (Cowpea)

2. Pigeon Pea

Parameters	Description
Variety	KIBRET (ክብረት) (11555)
Agronomic and morphological characteristics	
Adaptation area	For relatively high moisture areas of lowland of Tigray as well as similar ecologies of Ethiopia.
Altitude(m.a.s.l.)	967-1200
Rainfall (mm)	600-800 mm
Mean annual temperature c°	25-27
Seeding rate (Kg/ha)	3 - 4 K.g
Row planting	
Spacing between row (Meter)	1.00
Spacing for between plant	0.50
Planting date	End June up to early July
Fertilizer rate (Kg/ha)	No fertilizer is applied
P 05	
N ²	
Days to forage harvesting (50% flowering)	116
Days to maturity	135
Plant height at forage harvest (cm)	210 cm
Flower color	Yellow
1000 seed weight (gm)	81.6 gram
Seed color	Light Brown
Seed size	Bold
Yield	
Forage(DMY ton/ha)	15.62
Seed (Qt/ha)	48

Maturity group	Early
Number of branch(Number)	38-45
Growth type	Erect
	Forage Quality
CP (%)	21
Ash (%)	8.92
OM (%)	91.08
DM (%)	91.86
DOMD (%)	52.51
NDF (%)	41.55
ADF (%)	36.28
Lignin (%)	12.09
He-cellulose	5.27
Leaf to stem ratio	55 to 45
Special advantage	Multipurpose (Feed and food)
Year of release	2014
Breeder (Maintainer)	Humera Agricultural Research Center (HuARC) /TARI



Kibet (Pigeon pea)



Kibet (Pigeon pea)

3. Pigeon Pea

Parameters	Description
Variety	TSEGAB (ጸጋብ) (11566)
Agronomic and morphological characteristics	
Adaptation area	For low moisture areas of lowland of western zone of Tigray as well as similar agro ecologies of Ethiopia.
Altitude(m.a.s.l.)	590-1000
Rainfall (mm)	400-650 mm
Mean annual temperature c ^o	25-27
Seeding rate (Kg/ha)	3 - 4 K.g
Row planting	
Spacing between row (Meter)	1.00
Spacing for between plant (Meter)	0.50
Planting date	End June up to early July
Fertilizer rate (Kg/ha)	No fertilizer is applied
P 05 N ₂	
Days to forage harvesting (50% flowering)	104
Days to maturity	126
Plant height at forage harvest (cm)	200 cm
Flower color	Yellow
1000 seed weight (gm)	82.7 gram
Seed color	Saddle Brown
Seed size	Bold
Yield	
Forage(DMY ton/ha)	14.29
Seed (Qt/ha)	53
Maturity group	Early
Number of branch(Number)	50-55
Growth type	Erect
Forage Quality	
CP (%)	24
Ash (%)	9.77
OM (%)	90.22
DM (%)	91.06
DOMD (%)	58.00
NDF (%)	41.22
ADF (%)	38.83
Lignin (%)	10.84
He-cellulose	2.38
Leaf to steam ratio	54.03 to 45.7
Special advantage	Multipurpose (Feed and food)
Year of release	2014
Breeder (Maintainer)	Humera Agricultural Research Center (HuARC) /TARI



Tsegab Pigeon pea



Tsegab Pigeon pea

4. Local Grass Forage (Mezrut)

Parameters	Description
Variety	Mezrut (መዘሩጥ) (ትግርኛ)
Agronomic and morphological characteristics	
Adaptation area	For relatively low to high moisture areas of lowland Tigray and similar agro ecologies of Ethiopia.
Altitude (m.a.s.l.)	550-1500
Rainfall (mm)	500-850
Mean annual temperature c^o	17.5 - 41.7
Seeding rate (Kg/ha) Broad casting	10-12
Planting date	End June to early July
Fertilizer rate (Kg/ha) P 05 N²	No fertilizer is applied
Days to forage harvesting (50% flowering)	51
Days to maturity	87
Plant height at forage harvest (cm)	130-135 cm
Flower color	white
Seed color	white
Seed size	Small
Yield	
Forage(DMY ton/ha)	16.32
Seed (Qt/ha)	30.8
Maturity group	Early
Number of tillers (Number)	12-50
Growth type	Erect
Forage Quality	
CP (%)	13.88
Ash (%)	16.29
OM (%)	83.71
DM (%)	91.59
IVOMD (%)	67.16
NDF (%)	64.55
ADF (%)	42.29
Lignin (%)	7.28
Leaf to Stem Ratio	60 to 40
Utilization information	Cut and carry system, Direct grazing, Hay and silage making
Mode of offer	As green feed, hay and silage
Proper stage of harvesting for quality hay	50% flowering
Year of release	2017
Breeder (Maintainer)	Humera Agricultural Research Center (HuARC) /TARI



5. Local Grass (Mucholo/ሙራሎ)

Parameters	Description
Variety	Mechello (ሙራሎ) (ትግርኛ)
Agronomic and morphological characteristics	
Adaptation area	For low moisture areas of lowland of Tigray as well as similar agro ecologies of Ethiopia.
Altitude (m.a.s.l.)	500-1000
Rainfall (mm)	380- 803 mm
Mean annual temperature c ^o	21.6 - 42.40
Seeding rate (Kg/ha) Broad casting	10 - 13
Planting date	End June up to early July
Fertilizer rate (Kg/ha) P ₂ O ₅ N	No fertilizer is applied
Days to forage harvesting (50% flowering)	65
Days to maturity	80
Plant height at forage harvest (cm)	150- 160 cm
Flower color	Red
Seed color	Red
Seed size	Small
Yield	
Forage(DMY ton/ha)	18.9
Seed (Qt/ha)	29
Maturity group	Early
Number of tillers (Number)	8-30
Growth type	Erect
Forage Quality	
CP (%)	13.56
Ash (%)	12.10
OM (%)	87.90
DM (%)	92.34
IVOMD (%)	63.81
NDF (%)	65
ADF (%)	44.65
Lignin (%)	5.59
Leaf to Stem Ratio	55 to 45
Utilization information	Cut and carry system, Direct grazing, Hay and silage making
Mode of offer	As green feed, hay and silage
Proper stage of harvesting for quality hay	Onset of flowering
Year of release	2017
Breeder (Maintainer)	Humera Agricultural Research Center (HuARC) /TARI

Muchelo



Potential Forages adapted at Humera RC /To be released in near future/

	Morphological and other characteristics	Description of Vetch variety
1	Variety	Vicia vilosa
	Agronomic and morphological characteristics	
	<ul style="list-style-type: none"> • Adaptation area 	For higher moisture areas of midland zone of Tigray and similar Agro ecologies of Ethiopia.
	<ul style="list-style-type: none"> ▪ Forage(DMY ton/ha) 	9.5 ton/ha
2	Variety	Vicia dyascarpa
	Agronomic and morphological characteristics	
	<ul style="list-style-type: none"> • Adaptation area 	For higher moisture areas of highland zone of Tigray and similar Agro ecologies of Ethiopia.
	<ul style="list-style-type: none"> ▪ Forage(DMY ton/ha) 	7.0 ton/ha
		Description of Oat variety
3	Variety	Oats -CI- 2252
	Agronomic and morphological characteristics	
	<ul style="list-style-type: none"> • Adaptation area 	For higher moisture areas of highland zone of Tigray and similar Agro ecologies of Ethiopia.
	<ul style="list-style-type: none"> ▪ Forage(DMY ton/ha) 	11.66ton/ha
4	Variety	Oats-579-D-27
	Agronomic and morphological characteristics	
	<ul style="list-style-type: none"> • Adaptation area 	For higher moisture areas of midland zone of Tigray and similar Agro ecologies of Ethiopia.
	<ul style="list-style-type: none"> ▪ Forage(DMY ton/ha) 	16.41 ton/ha
		Description of Lablab variety
5	Variety	Dolichus Lablab -147
	Agronomic and morphological characteristics	
	<ul style="list-style-type: none"> • Adaptation area 	For higher moisture areas of lowland zone of Tigray and similar Agro ecologies of Ethiopia.
	<ul style="list-style-type: none"> ▪ Forage(DMY ton/ha) 	17.1 ton/ha

Poultry

1. Production performance evaluation of Potchefstroom koekoek chicken under farmer management practice in Tigray, northern Ethiopia

Abstract:

The breed is adaptable to all zones except Western (we have not yet tested them in this zone) and they were non-selective for feed. The average weight was recorded as 1.33, 1.87 and 2.47 kg at five, eight, eight and twelve month's age for male koekoek respectively, whereas as 1.2, 1.64 and 1.59 kg was recorded for female at five, eight and twelve month's age respectively. Sexual maturity of both male and female koekoek was at 6 months age and their egg production potential was ranging from 180-240 hen⁻¹ year¹ depending on the farmers management practice. Egg weight of the koekoek chicken was ranging from 50.63 to 53.67 gram and 87.5% of the eggs were brown and 12.5% white. This breed has good acceptance in terms of their body weight, egg weight, adaptability to wide climatic conditions, their color, which has market value and non-feed selective. Therefore, this breed is suitable and recommended under semi-scavenging chicken production system.

Leading Research Centers: Mekelle RC, Axum RC, Abergelle RC, Alamata RC, Shire-Mitsebri RC.



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