

ADAPTACION Y RENDIMIENTO DE GRAMINEAS Y LEGUMINOSAS FORRAJERAS
EN TARAPOTO - COPERHOLTA - PERU

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INIPA/PERU

El ensayo se realizó en el Campo Experimental "COPERHOLTA", Estación Experimental "El Porvenir" del INIPA, situado a 6° 31' 17" latitud Sur y a 76° 21' 9" de longitud Oeste, a una elevación de 360 m.s.n.m. La precipitación media anual (1983-84) fue de 1,180 mm. y la temperatura media de 26.8°C (Figura 1). La región corresponde al ecosistema de Bosque Tropical semi-siempre verde estacional. Las características físicas y químicas del suelo se presentan en el Cuadro 1.

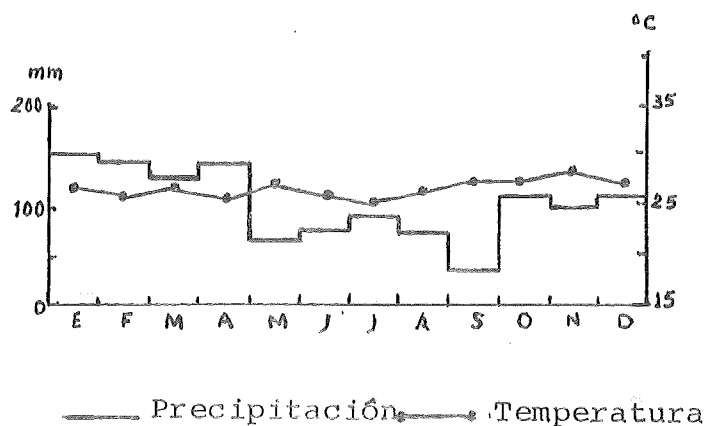


Fig. 1: Características climáticas de la región de Tarapoto, Perú.

Se evaluaron en los periodos que aparecen en el Cuadro 2, 5 ecotipos de gramíneas y 22 de leguminosas.

Se han obtenido del ensayo las siguientes conclusiones:

1. Por su rapidez de establecimiento, producción de forraje, tolerancia a plagas y enfermedades y por su persistencia, sobresalen los siguientes ecotipos:

Andropogon gayanus 621
Brachiaria dyctioneura 6133
Brachiaria decumbens 606
Stylosanthes guianensis 64-A

Stylosanthes guianensis 136
 " " 191
Centrosema macrocarpum 5065

2. La variación de producción de forraje en las épocas húmeda y seca depende de cada ecotipo. Es notable la persistencia productiva durante la época seca de los ecotipos Andropogon gayanus 621, Stylosanthes guianensis 1283, 191 y 64-A.
3. En ambos períodos de evaluación, de máxima y mínima precipitación al aumentar la edad del pasto, hasta las 12 semanas - aumentó también la producción forrajera. Este aumento fue mayor entre las 6 y 9 semanas de edad.

Cuadro 1. Características físicas y químicas del Suelo de Tarapoto (COPERHOLTA) Perú.

Profundidad cm	Arena %	Limó %	Arcilla %	MO %	P. ppm	NºTotal ppm	pH	Al ---	Ca meq/100gr	Mg	K
0-20	68	12	20	2.2	11.2	728	4.8	1.3	1.2	0.23	0.11
20-40				0.3	1.5	392	4.6	2.0	0.15	0.02	0.04

Cuadro 2. Evaluaciones realizadas durante el establecimiento y en las épocas de mínima y máxima precipitación

<u>Siembra</u>	<u>Establecimiento</u>	<u>Producción</u>	
		<u>Máxima</u>	<u>Mínima</u>
28-12-82	28-12-82	02-02-83	22-06-83
	25-03-83	27-04-83	14-09-83

Cuadro 3. Producción de MS de los ecotipos sobresalientes a diferentes edades de corte en época lluviosa y seca. Coperholta-Tarapoto, Perú.

P A S T O S	E D A D D E C O R T E						P R O M E D I O			
	(Semanas)									
	3	6	9	12						
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
<u>GRAMINEAS</u>										
A. gayanus 621	213	289	1002	423	1701	1258	3756	2306	1668	1069
B. dictyoneura 6133	130	223	678	532	1282	822	2370	1010	1115	647
B. decumbens 606	113	160	630	486	1056	1062	2172	1232	993	735
B. humidicola 679	113	207	413	541	695	787	1057	1187	570	681
<u>LEGUMINOSAS</u>										
S. guianensis 64 A	83	287	794	473	1403	939	1924	1129	1051	707
" 191	110	280	669	587	972	769	2047	1198	950	709
" 136	100	83	933	484	1093	664	2089	901	1054	533
" 1283	83	367	413	664	726	993	1096	1490	580	879
C. macrocarpum 5065	120	83	337	458	1105	729	1328	1309	722	644

E.C.U.T.I.P.	3 SEMANAS		6 SEMANAS		9 SEMANAS		12 SEMANAS	
	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN
GRANIMIS :	MEDIA=216	D.E.=117	MEDIA=722	D.E.=294	MEDIA=391	D.E.=680	MEDIA=1078	D.E.=339
BRACHIARIA	-93	9	531	8	489	B	934	BC
BRACHIARIA	-94	BA	531	B	326	B	646	C
PASPALUM	-95	B	695	B	701	BA	991	BC
PANICUM	604	B	486	B	604	BA	801	BC
BRACHIARIA	606	B	549	B	939	BA	1418	BA
ANDROPOGON	621	A	1305	A	1909	A	1829	A
MELINIS	-102	B	858	BA	892	BA	1071	BC
PANICUM	-104	BA	675	B	1268	BA	931	BC
LEGUMINOSAS :	MEDIA=178	D.E.=68	MEDIA=497	D.E.=251	MEDIA=536	D.E.=198	MEDIA=945	D.E.=248
CENTROSEMA	-3	FGDE	430	RDC	436	FGEGD	613	FGED
CALOPOGONIUM	-4	FG	216	D	353	FG	724	GF
ZORNIA	-27	FG	206	D	273	FG	3	GF
PUERARIA	-96	FGDE	356	DC	356	FG	517	GF
DESMODIUM	-97	G	90	D	86	G	120	G
DESODIUM	-98	FGDE	838	BAC	2521	A	12093	A
BRACHIARIA	-99	BDEC	445	BDC	410	FGD	643	FED
STYLOSANTHES	136	BA	1042	A	845	CB	1061	CRD
STYLOSANTHES	184	BA	958	BA	834	CRD	1085	CRD
STYLOSANTHES	349	FGDEC	566	BDC	356	FG	323	GF
DESODIUM	350	BAC	632	BDC	490	FGED	744	FED
DESODIUM	438	FGDE	285	DC	443	FGED	457	GFE
CENTROSEMA	726	FGDE	486	BDC	543	FGED	834	CRD
ZORNIA	-100	FG	90	D				
RHYCHOSTIA	1057	FBDEC	538	BDC	410	FGD	873	CRD
STYLOSANTHES	1403	A	1033	A	640	FGED	580	FGED
STYLOSANTHES	3001	B	379	DC	981	B	1249	CB
DESODIUM	9690	FGDE	498	BDC	773	CRD	1500	B
PUERARIA	9900	BDC			373	FG	567	FGED

E.C.U.T.I.P.	3 SEMANAS		6 SEMANAS		9 SEMANAS		12 SEMANAS	
	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN
GRANIMIS :	MEDIA=299	D.E.=93	MEDIA=758	D.E.=221	MEDIA=1198	D.E.=435	MEDIA=2039	D.E.=355
BRACHIARIA	-93	BAC	420	C	898	BC	1784	EC
BRACHIARIA	-94	BAC	672	CB	989	BC	1969	CRD
PASPALUM	-95	BC	585	CB	1000	BC	1555	CRD
PANICUM	604	PC	460	C	722	C	1757	CRD
BRACHIARIA	606	BC	756	CB	1240	PC	2126	CB
ANDROPOGON	621	A	1857	A	2196	A	4010	A
MELINIS	-102	C	376	C	947	BC	1174	E
PANICUM	-104	BA	942	B	1601	BA	2207	B
LEGUMINOSAS :	MEDIA=288	D.E.=165	MEDIA=470	D.E.=213	MEDIA=758	D.E.=316	MEDIA=1212	D.E.=383
CENTROSEMA	-3	CBD	390	BDC	727	B	1246	CEBD
CALOPOGONIUM	-4	CBD	350	BDC	638	B	929	CRD
ZORNIA	-27	CD	320	BDC	480	B	904	CRD
PUERARIA	-96	D	166	D	336	B	753	ED
DESODIUM	-97	D	373	BDC	591	B	606	E
DESODIUM	-98	CD	426	BDC	794	B	874	CRD
DESODIUM	-99	CD	210	DC	320	B	1109	CEBD
STYLOSANTHES	136	CD	260	DC	893	B	1735	B
STYLOSANTHES	184	CB	558	BDC	933	B	873	CRD
DESODIUM	349	CBD	360	BDC	722	B	1148	CEBD
DESODIUM	350	CBD	634	BAC	520	B	1311	CEBD
CENTROSEMA	438	CD	443	BDC	722	B	1311	CEBD
ZORNIA	728	B	737	BA	905	B	1503	CRD
STYLOSANTHES	1097	A	990	A	797	B	1237	CEBD
STYLOSANTHES	1405	CRD	518	BDC	984	B	1414	CRD
DESODIUM	3001	CD	395	BDC	984	B	1535	CB
AESCHYNOMENE	9600	CRD	612	BDC	1816	A	2630	A
PUERARIA	9900	CRD	545	BDC	45	B	931	CRD

ECOTIPO	3 SEMANAS		6 SEMANAS		9 SEMANAS		12 SEMANAS	
	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN
GAMINEAS :	MEDIA=55	D.E.=12	MEDIA=67	D.E.=10	MEDIA=65	D.E.=9	MEDIA=83	D.E.=11
BRACHIARIA	-93	BA	80	A	70	BA	93	A
MUMIDICO	-94	A	83	A	80	A	98	A
PLICATUL	-95	C	55	B	66	BAC	78	BA
MAXIMUM	604	9C	53	B	56	BC	71	R
BRACHIARIA	606	BC	56	R	56	RC	90	BA
ANDROPAGON	621	BC	86	A	65	BAC	93	A
MELINIS	-102	BC	76	A	80	A	93	A
MINUTIFL	-104	C	51	B	48	C	50	C
MAXIMUM	-104	C	51	B	48	C	50	C
LEGUMINOSAS :	MEDIA=53	D.E.=16	MEDIA=63	D.E.=16	MEDIA=54	D.E.=10	MEDIA=79	D.E.=12
CENTROSEMA	-3	RDAC	53	EDCF	43	FEDG	71	BC
MUCONOID	-4	BDAC	65	EBDAC	75	BA	86	BA
CALOPOGONIUM	-27	EF	31	EF	28	FHG	48	DC
ZORNIA	-27	EF	31	EF	28	FHG	48	DC
PUERARIA	-98	EDCF	70	BDAC	65	BOC	91	BA
PHASEOLO	-98	EDCF	28	F	25	HG	33	D
DISTORTU	-97	EDCF	50	EDCF	40	FEDG	90	BA
DISTORTU	-98	EDF	60	EBDACF	45	FEDG	53	DC
DESODIUM	-99	EDF	65	EBDACF	52	REDC	98	A
DESODIUM	-99	EDF	65	EBDACF	52	REDC	98	A
STYLOSANTHES	136	60	85	A	67	A	83	BA
STYLOSANTHES	184	65	85	A	67	A	83	BA
DESODIUM	349	70	80	BAC	60	BEDC	93	BA
DESODIUM	350	80	93	A	90	A	100	A
OVALIFOL	350	BA	55	EBDCF	50	FEDC	81	BA
PUBESCEN	438	F	68	BDAC	56	BEDC	85	BA
ZORNIA	728	EDCF	25	F	20	H	55	DC
MINUTIFL	-100	F	25	F	20	H	55	DC
MINUTIFL	-100	F	25	F	20	H	55	DC
CAPITATA	1097	EDCF	45	EDF	50	FEDC	85	BA
CAPITATA	1405	EDCF	90	BA	56	BEDC	95	BA
GYROIDES	3001	A	80	EBDACF	45	FEDG	85	BA
GYROIDES	3001	A	80	EBDACF	45	FEDG	85	BA
HISTRIX	9690	BC	60	BDAC	70	BAC	98	A
PHASEOLO	9900	BDAC	80	BDAC	70	BAC	98	A

ECOTIPO	3 SEMANAS		6 SEMANAS		9 SEMANAS		12 SEMANAS	
	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN
GAMINEAS :	MEDIA=62	D.E.=11	MEDIA=64	D.E.=10	MEDIA=66	D.E.=14	MEDIA=83	D.E.=6
BRACHIARIA	-93	R	63	RC	68	BA	95	A
MUMIDICO	-94	A	93	A	76	BA	96	A
PLICATUL	-95	B	58	C	44	BA	76	B
MAXIMUM	604	9	51	C	44	B	53	C
BRACHIARIA	606	B	63	BC	63	BA	91	A
ANDROPAGON	621	B	79	BA	63	A	93	A
MELINIS	-102	B	50	C	75	BA	90	A
MINUTIFL	-102	B	50	C	75	BA	90	A
MAXIMUM	-104	B	56	C	61	BA	65	B
LEGUMINOSAS :	MEDIA=55	D.E.=14	MEDIA=65	D.E.=15	MEDIA=73	D.E.=20	MEDIA=92	D.E.=12
CENTROSEMA	-3	BEDC	55	EGDFC	76	BA	100	A
MUCONOID	-4	BEDC	78	BDAC	85	BA	98	A
CALOPOGONIUM	-27	G	86	BA	81	BA	96	A
ZORNIA	-27	G	86	BA	81	BA	96	A
PUERARIA	-96	FEDCG	45	EGF	55	BAC	90	A
PHASEOLO	-97	FEDCG	56	EBDFC	53	BC	64	R
DISTORTU	-97	FEDCG	38	GF	48	BC	66	R
DESODIUM	-99	FG	25	G	30	C	56	R
DESODIUM	-99	FG	25	G	30	C	56	R
STYLOSANTHES	136	33	38	GF	65	BAC	96	A
STYLOSANTHES	184	53	38	EBDFC	73	BA	81	BA
DESODIUM	349	78	75	EBDAC	85	BA	95	A
DESODIUM	350	96	95	A	90	BA	100	A
CENTROSEMA	438	43	63	EBDFC	78	BA	99	A
ZORNIA	728	78	83	EBDFC	96	A	100	A
STYLOSANTHES	1097	66	81	EBDAC	87	BA	96	A
STYLOSANTHES	1405	38	55	EGDFC	87	BA	90	A
DESODIUM	3001	50	73	EBDFC	83	BA	95	BA
GYROIDES	9690	66	51	EBDAC	83	BA	96	A
GYROIDES	9690	66	51	EBDAC	83	BA	96	A
HISTRIX	9900	70	95	A	75	BA	100	A
PHASEOLO	9900	70	95	A	75	BA	100	A

ECOTIPO	R	LINEAL		NIVEL DE SIGNIFI.	CUADRADO		R	CUADRADO		NIVEL DE SIGNIFI.	C U A D R A T I C O		NIVEL DE SIGNIFI.
		CONSTA.	LINEAL		CONSTA.	LINEAL		CONSTA.	LINEAL		CONSTA.	LINEAL	
GRAMINEAS :													
BRACHIARIA	-93	0.91	71.4	0.001	0.91	59.9	0.070	1.15	0.700				
BRACHIARIA	-94	0.81	57.5	0.001	0.85	112.6	0.010	-5.44	0.110				
PASPALUM	-95	0.86	84.4	0.001	0.86	96.4	0.050	-1.20	0.790				
MAXIMUM	604	0.87	69.5	0.001	0.87	60.7	0.040	-1.20	0.730				
BRACHIARIA	606	0.97	109.4	0.001	0.99	55.6	0.020	5.28	0.820				
ANDROPOGON	621	0.72	179.0	0.001	0.72	263.5	0.100	-8.44	0.560				
MELINIS	-102	0.81	97.7	0.001	0.82	128.8	0.050	-3.12	0.610				
PANICUM	-104	0.83	101.5	0.001	0.80	164.8	0.001	-6.33	0.170				
LEGUMINOSAS :													
PUBESCENT	-3	0.86	53.1	0.001	0.86	70.0	0.030	-1.68	0.550				
MUCONOID	-4	0.84	49.8	0.001	0.88	7.9	0.750	4.20	0.110				
CALOPOGONIUM	-27	0.81	28.6	0.001	0.81	32.4	0.100	-0.38	0.830				
ZORRIA	-96	0.94	44.1	0.001	0.94	54.9	0.001	-1.09	0.450				
PHASEOLO	-97	0.93	10.6	0.001	0.94	15.6	0.001	-0.50	0.170				
DISTORTU	-98	0.73	641.2	0.070	0.96	-819.2	0.210	146.03	0.080				
BARBATUM	-99	0.94	54.3	0.001	0.95	73.5	0.010	-1.87	0.390				
GUIANENS	136	0.86	90.1	0.001	0.91	183.1	0.010	-8.06	0.150				
STYLOSANTHES	184	0.99	98.8	0.001	0.92	167.9	0.010	-6.62	0.210				
HETEROPH	349	0.66	40.8	0.001	0.80	116.5	0.001	-7.57	0.620				
DESODIUM	350	0.85	66.9	0.001	0.88	116.6	0.010	-4.97	0.160				
PUBESCENT	438	0.94	42.9	0.001	0.95	59.1	0.001	-1.62	0.220				
ZORRIA	728	0.84	67.6	0.001	0.94	64.5	0.020	0.30	0.890				
HYMENOGLIA	100	0.98	16.0	0.090	1.00	25.0	0.001	-1.67	0.001				
MINIVIA	1097	0.89	66.6	0.001	0.89	65.2	0.140	0.14	0.370				
CAPITATA	1405	0.92	56.5	0.010	0.96	139.4	0.150	-7.59	0.330				
GYROIDES	3001	0.89	115.5	0.001	0.91	185.4	0.001	-6.99	0.160				
DESODIUM	9690	0.77	102.1	0.001	0.82	-2.9	0.970	10.49	0.130				
HISTRIX	9900	0.89	51.7	0.001	0.93	95.3	0.001	-4.36	0.040				
PHASEOLO													

ECOTIPO	R	LINEAL		NIVEL DE SIGNIFI.	R	CUADRADO		R	CUADRADO		NIVEL DE SIGNIFI.	C U A D R A T I C O		NIVEL DE SIGNIFI.
		CONSTA.	LINEAL			CONSTA.	LINEAL		CONSTA.	LINEAL		CONSTA.	LINEAL	
GRAMINEAS :														
BRACHIARIA	-93	0.95	104.4	0.001	0.95	57.1	0.080	4.73	0.120					
BRACHIARIA	-94	0.70	180.1	0.001	0.92	47.6	0.380	9.26	0.100					
PLICATUL	-95	0.97	120.0	0.001	0.98	66.8	0.020	5.32	0.040					
PANICUM	604	0.89	114.5	0.001	0.95	-8.7	0.890	12.32	0.001					
BRACHIARIA	606	0.92	154.8	0.001	0.95	48.9	0.330	10.59	0.050					
ANDROPOGON	621	0.95	298.2	0.001	0.96	169.5	0.050	12.87	0.110					
MELINIS	-102	0.91	94.1	0.001	0.92	53.3	0.170	4.08	0.270					
PANICUM	-104	0.95	150.1	0.001	0.96	119.3	0.040	6.08	0.250					
LEGUMINOSAS :														
PUBESCENT	-3	0.92	91.0	0.001	0.94	37.4	0.240	5.36	0.090					
MUCONOID	-4	0.96	73.6	0.001	0.96	62.1	0.010	1.15	0.570					
CALOPOGONIUM	-27	0.97	59.8	0.001	0.98	33.5	0.020	0.50	0.050					
ZORRIA	-96	0.81	49.9	0.001	0.85	-4.2	0.930	5.37	0.100					
PHASEOLO	-97	0.92	55.8	0.001	0.92	64.3	0.010	-0.85	0.650					
DISTORTU	-98	0.77	74.9	0.001	0.77	80.5	0.150	-0.56	0.920					
BARBATUM	-99	0.99	36.2	0.001	1.00	43.9	0.140	-0.99	0.560					
DESODIUM	136	0.86	86.0	0.001	0.89	29.4	0.500	5.76	0.180					
STYLOSANTHES	184	0.78	126.0	0.001	0.79	68.1	0.450	5.79	0.500					
HETEROPH	349	0.87	65.8	0.001	0.88	45.6	0.190	-1.20	0.690					
DESODIUM	350	0.94	93.3	0.001	0.94	105.4	0.010	-1.20	0.690					
PUBESCENT	438	0.79	87.3	0.001	0.83	11.7	0.830	7.56	0.160					
ZORRIA	728	0.95	110.2	0.001	0.95	123.8	0.001	-0.45	0.890					
CAPITATA	1097	0.91	118.9	0.001	0.92	239.4	0.001	-12.04	0.030					
STYLOSANTHES	1405	0.91	105.3	0.001	0.91	68.2	0.140	3.71	0.390					
DESODIUM	3001	0.89	111.5	0.001	0.93	20.5	0.630	9.11	0.050					
GYROIDES	9690	0.91	193.4	0.001	0.93	27.6	0.640	16.57	0.010					
HISTRIX	9900	0.90	72.1	0.001	0.90	61.4	0.030	-0.93	0.770					
PHASEOLO														

EVALUACION : 1

MINIMA PRECIPITACION		EVALUACION DE INSECTOS					LOCALIDAD: COPEROLTA			PERU	
ECOTIPO		TRIPS AC.	PULGUILLA	COMEDOR	HEMIPTERO	SALIVAZO	BARRENAD.	PERFORAD.	OTRO1	OTRO2	
GRAMINEAS :											
BRACHIARIA	-93	0.17	1.92	0.17	0.33	1.33	0.17	0.17	0.00	0.00	
HUMIDICO	-94	0.33	0.83	0.50	0.50	0.58	0.17	0.17	0.00	0.00	
PALICATUL	-95	0.50	1.75	0.50	0.33	0.33	0.17	0.17	0.00	0.00	
MAXIMUM	604	0.75	1.50	0.25	0.33	0.33	0.17	0.17	0.00	0.00	
BRACHIARIA	606	0.17	2.25	0.67	0.17	0.92	0.17	0.25	0.00	0.00	
ANDROPOGON	521	0.25	1.92	0.17	0.17	0.75	0.17	0.17	0.00	0.00	
MELINIS	-102	0.17	1.00	0.17	0.17	1.08	0.17	0.17	0.00	0.00	
MAXIMUM	-104	0.33	1.50	0.17	0.33	0.17	0.17	0.17	0.00	0.00	
LEGUMINOSAS :											
PUBESCENT	-3	0.17	1.42	3.08	0.17	0.17	0.17	0.17	0.00	0.00	
MUCONOID	-4	0.17	1.50	1.67	1.00	0.17	0.17	0.17	0.00	0.00	
SP TARAP	-27	0.75	1.42	0.42	0.50	0.17	0.17	0.17	0.00	0.00	
PUERARIA	-96	0.42	2.00	2.83	0.17	0.17	0.17	0.17	0.00	0.00	
DESODDIUM	-97	0.25	1.33	1.17	1.00	0.17	0.17	0.17	0.00	0.00	
DESODDIUM	-98	0.50	1.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	
BARBATUM	-99	0.67	0.89	1.00	0.78	0.11	0.11	0.00	0.00	0.00	
GUIANENS	136	0.11	2.00	1.33	0.33	0.11	0.11	1.44	0.00	0.00	
GUIANENS	194	0.33	1.56	1.00	0.11	0.11	0.11	1.67	0.00	0.00	
METEROPH	349	0.25	1.58	0.33	0.50	0.17	0.17	0.00	0.00	0.00	
DESODDIUM	350	0.17	0.33	1.25	0.63	0.17	0.17	0.17	0.00	0.00	
CEMPOSEMA	438	0.17	1.33	2.83	0.17	0.17	0.17	0.17	0.00	0.00	
ZORNIA	728	0.17	2.75	0.67	0.33	0.17	0.17	0.17	0.00	0.00	
RHYNCHOSTIA	-100	0.50	1.50	1.50	0.50	0.50	0.50	0.50	0.00	0.00	
STYLOSANTHES	1397	0.13	2.50	0.88	0.63	0.13	0.13	1.13	0.00	0.00	
CAPITATA	1405	0.00	1.75	0.50	0.25	0.00	0.00	1.00	0.00	0.00	
GYROIDES	3001	0.17	0.83	1.00	0.33	0.17	0.17	0.17	0.00	0.00	
ACHYROMENE	9690	0.50	1.42	0.17	0.67	0.17	0.17	0.17	0.00	0.00	
PUERARIA	9900	0.50	1.33	1.67	0.67	0.17	0.17	0.17	0.00	0.00	

MAXIMA PRECIPITACION		EVALUACION DE INSECTOS					LOCALIDAD: COPEROLTA			PERU	
ECOTIPO		TRIPS AC.	PULGUILLA	COMEDOR	HEMIPTERO	SALIVAZO	BARRENAD.	PERFORAD.	OTRO1	OTRO2	
GRAMINEAS :											
BRACHIARIA	-93	0.17	1.92	0.63	0.63	0.42	0.00	0.00	0.00	0.00	
HUMIDICO	-94	0.00	1.50	0.67	0.67	0.42	0.00	0.00	0.00	0.00	
PALICATUL	-95	0.17	1.50	1.33	0.67	0.00	0.00	0.00	0.00	0.00	
MAXIMUM	604	0.33	1.92	1.00	0.67	0.00	0.00	0.00	0.00	0.00	
BRACHIARIA	606	0.17	2.67	1.08	0.92	0.50	0.00	0.00	0.00	0.00	
ANDROPOGON	521	0.50	1.50	0.33	1.08	0.00	0.00	0.00	0.00	0.00	
MELINIS	-102	0.00	0.58	0.17	0.00	0.17	0.00	0.00	0.00	0.00	
MAXIMUM	-104	0.00	0.17	0.17	0.67	0.00	0.00	0.00	0.00	0.00	
LEGUMINOSAS :											
PUBESCENT	-3	0.00	1.57	2.75	1.50	0.30	0.00	0.00	0.00	0.00	
MUCONOID	-4	0.33	1.50	2.00	1.92	0.00	0.00	0.00	0.00	0.00	
CALOPOGONIUM	97	0.42	1.63	2.00	1.58	0.00	0.00	0.33	0.00	0.00	
STYLOSANTHES	-27	0.33	1.67	1.83	1.83	0.00	0.00	0.00	0.00	0.00	
ZORNIA	728	0.73	1.55	2.55	1.36	0.00	0.00	0.00	0.00	0.00	
PUERARIA	-96	0.58	0.75	1.33	1.33	0.00	0.00	0.00	0.00	0.00	
DESODDIUM	-97	0.33	0.67	1.57	0.75	0.00	0.00	0.00	0.00	0.00	
DESODDIUM	-98	0.00	0.00	1.33	2.00	0.00	0.00	0.00	0.00	0.00	
BARBATUM	-99	0.33	1.50	1.92	1.33	0.00	0.00	0.00	0.00	0.00	
GUIANENS	136	0.00	1.92	1.83	1.67	0.00	0.00	0.17	0.00	0.00	
GUIANENS	184	0.33	2.08	0.83	1.67	0.00	0.00	0.00	0.00	0.00	
METEROPH	349	0.00	0.42	1.83	1.67	0.00	0.00	0.00	0.00	0.00	
OVALIFOL	350	0.33	2.00	1.83	1.67	0.00	0.00	0.00	0.00	0.00	
PUBESCENT	438	0.33	2.00	2.83	1.50	0.00	0.00	0.00	0.00	0.00	
ZORNIA	728	0.50	1.67	1.50	1.83	0.00	0.00	0.00	0.00	0.00	
STYLOSANTHES	1405	0.17	1.92	1.83	1.58	0.00	0.00	0.33	0.00	0.00	
DESODDIUM	3001	0.00	0.92	1.67	1.50	0.00	0.00	0.00	0.00	0.00	
ACHYROMENE	9690	0.17	1.42	1.00	1.50	0.00	0.00	0.00	0.00	0.00	
PUERARIA	9900	0.33	1.00	2.08	1.58	0.00	0.00	0.00	0.00	0.00	

MINIMA PRECIPITACION EVALUACION DE ENFERMEDADES LOCALIDAD: COPEROLTA PERU

Table with columns: ECOTIP, GRAMINEAS, BRACHARIA, HUMIDICO, PLICATUL, MAXIMUM, DECUMBEN, GAYANUS, MINUTIFL, MAXIMUM, LEGUMINOSAS, CENTROSEMA, CALPOPOGIUM, ZORNIA, PUERARIA, PHASEOLU, DISTORTU, DESMODIUM, BARBATUM, GUIANENS, STYLOSANTHES, GUANENS, METEOPH, OVALIFOL, CENTROSEMA, LAFIFOLI, ZORNIA, RYCHTISIA, STYLOSANTHES, CAPITATA, STYLOSANTHES, GYRIDES, DESMODIUM, HISTRPIX, PHASEOLU. Rows contain numerical values for different categories.

MAXIMA PRECIPITACION EVALUACION DE ENFERMEDADES LOCALIDAD: COPEROLTA PERU

Table with columns: ECOTIP, GRAMINEAS, BRACHARIA, HUMIDICO, PLICATUL, MAXIMUM, DECUMBEN, GAYANUS, MINUTIFL, MAXIMUM, LEGUMINOSAS, CENTROSEMA, CALPOPOGIUM, ZORNIA, PUERARIA, PHASEOLO, DISTORTU, DESMODIUM, BARBATUM, GUIANENS, STYLOSANTHES, METEOPH, OVALIFOL, CENTROSEMA, LAFIFOLI, ZORNIA, RYCHTISIA, STYLOSANTHES, CAPITATA, STYLOSANTHES, GYRIDES, DESMODIUM, HISTRPIX, PHASEOLO. Rows contain numerical values for different categories.

ECOTIPO	3 SEMANAS		6 SEMANAS		9 SEMANAS		12 SEMANAS	
	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN
GRAMIneas :	MEDIA=230	D.E.=58	MEDIA=353	D.E.=109	MEDIA=687	D.E.=248	MEDIA=897	D.E.=120
BRACHIARIA	-93	B	240	B	493	C	740	CB
BRACHIARIA	-94	B	276	B	648	C	613	C
PASPALUM	-95	B	333	B	370	C	795	CB
PANICUM	504	B	236	B	416	C	678	C
BRACHIARIA	606	B	360	B	1139	BA	1082	B
ANDROPOGON	621	A	854	A	1236	A	1779	A
MELINIS	-104	B	313	B	475	C	658	C
PANICUM	-104	B	450	B	720	BC	822	CB
LEGUMINOSAS :	MEDIA=111	D.E.=45	MEDIA=245	D.E.=90	MEDIA=401	D.E.=205	MEDIA=636	D.E.=293
CENTROSEMA	-3	DEC	150	BDC	303	EDC	650	FBDAC
CALOPOGONIUM	-4	DEC	146	BDC	226	EDC	383	EDC
ZORNIA	-27	DEC	310	EDC	240	EDC	280	ED
PUERARIA	-96	DE	125	OC	170	ED	170	F
DESODIUM	-97	DE	60	D	83	E	106	F
DESODIUM	-98	E	233	BDAC	483	BEDC	1130	A
STYLOSANTHES	136	E	240	BAC	423	BEDC	1057	A
STYLOSANTHES	184	E	326	BA	590	BAC	978	BA
DESODIUM	349	BAC	276	BAC	330	EDC	190	F
DESODIUM	350	BDEC	253	BAC	306	EDC	623	FBDAC
CENTROSEMA	438	BDAC	255	BAC	306	EDC	413	EBCD
ZORNIA	728	A	387	A	793	BA	939	RAC
STYLOSANTHES	1097	BA	346	A	932	A	1071	A
CAPITATA	1405	F	246	BAC	443	BEDC	630	EDAC
STYLOSANTHES	3001	DE	213	BDAC	265	EDC	853	BDAC
DESODIUM	9680	DE	216	BDAC	376	EDC	566	FBDAC
PUERARIA	9900	BA	283	BAC	542	BDC	841	BDAC

ECOTIPO	3 SEMANAS		6 SEMANAS		9 SEMANAS		12 SEMANAS	
	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN	MS, KG/HA	DUNCAN
GRAMIneas :	MEDIA=598	D.E.=90	MEDIA=984	D.E.=249	MEDIA=1029	D.E.=196	MEDIA=1591	D.E.=447
BRACHIARIA	-93	BC	989	BAC	698	BCD	1690	BAC
BRACHIARIA	-94	BA	983	BAC	1051	CB	1323	BAC
PASPALUM	-95	BA	905	RC	903	CBD	1420	BAC
PANICUM	604	C	734	BC	790	CD	972	BC
BRACHIARIA	606	BC	1101	PA	1243	B	1961	A
ANDROPOGON	621	A	1391	A	1214	B	2255	A
MELINIS	-102	A	603	C	548	D	742	C
PANICUM	-104	BAC	1166	BA	1588	A	1740	RA
LEGUMINOSAS :	MEDIA=194	D.E.=107	MEDIA=638	D.E.=257	MEDIA=839	D.E.=251	MEDIA=1221	D.E.=426
CENTROSEMA	-3	B	580	BDAC	607	ED	716	FCD
CALOPOGONIUM	-4	BA	644	BA	793	EDC	1290	CEFD
ZORNIA	-27	B	742	BDAC	582	ED	914	CEFD
PUERARIA	-95	B	180	D	400	E	300	F
PHASEOLO	-96	B	555	BDAC	575	ED	3013	A
DISTORTUM	-97	B	675	BDAC	875	EDC		
DISTORTUM	-98	B	400	BDC	635	ED	842	FED
STYLOSANTHES	136	B	360	BDC	638	ED	1082	CEFD
STYLOSANTHES	184	B	260	DC	815	EDC	932	CEFD
DESODIUM	349	B	675	BDAC	1209	BAC	1569	CEFD
DESODIUM	350	B	630	BDAC	891	EDC	811	CEFD
CENTROSEMA	438	B	630	BDAC	891	EDC	1773	CP
ZORNIA	728	BA	1074	A	1392	BA	1773	CP
CALOPOGONIUM	-103	B	540	BDAC	549	ED	551	FF
STYLOSANTHES	1097	A	783	SAC	950	BDC	1421	CEFD
STYLOSANTHES	1405	A	433	SAC	1300	ED	1109	CEFD
DESODIUM	3001	B	545	BDAC	1109	ED	2054	B
DESODIUM	9680	B	801	BA	1683	A	2054	B
PUERARIA	9900	B	520	BDAC	670	ED	1319	CEFD

ECOTIPO	3 SEMANAS		5 SEMANAS		9 SEMANAS		12 SEMANAS	
	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN
GRAMINEAS :	MEDIA=50	D.E.=9	MEDIA=60	D.E.=8	MEDIA=69	D.E.=11	MEDIA=70	D.E.=12
BRACHIARIA	-93	BA	65	9	81	BA	76	BAC
BRACHIARIA	-94	A	88	A	93	A	90	A
PASPALUM	-95	BDC	53	CB	61	RC	63	RC
PANICUM	604	BDC	55	CB	50	C	65	BC
BRACHIARIA	608	D	45	C	61	BC	71	BAC
ANDROPOGON	621	BAC	65	D	81	RA	80	RA
MELINIS	-102	D	56	C9	63	BC	65	RC
PANICUM	-104	DC	50	CB	61	BC	53	C
LEGUMINOSAS :	MEDIA=50	D.E.=10	MEDIA=62	D.E.=11	MEDIA=68	D.E.=14	MEDIA=70	D.E.=15
CENTROSEMA	-31	BDAC	53	EDFC	75	BAC	71	ADAC
CALOPOGONIUM	-41	BDC	58	EDC	60	DC	63	RDEC
ZORNIA	-27	BA	88	A	73	BAC	71	BDAC
PUERARIA	-96	DE	50	EOF	42	D	36	FE
DESODIUM	-97	DE	35	F	41	D	33	F
STYLOSANTHES	136	E	33	F	41	D	51	FDE
STYLOSANTHES	184	DE	53	EDFC	68	BAC	88	BA
DESODIUM	349	DE	51	EDFC	70	BAC	86	BAC
DESODIUM	350	A	70	BDAC	71	BAC	56	FDEC
CENTROSEMA	438	A	90	A	93	RA	95	A
ZORNIA	728	DEC	70	BDAC	63	DC	61	FDEC
STYLOSANTHES	1097	BAC	75	BAC	91	BA	82	BAC
STYLOSANTHES	1435	DE	68	EBDAC	81	BAC	85	BAC
DESODIUM	3001	E	45	EF	70	BAC	73	BDAC
AESCHYNOMENE	9690	E	50	EDF	41	D	32	RAC
PUERARIA	9900	BDAC	65	EBDC	71	BAC	80	RDAC
			86	BA	96	A	96	A

ECOTIPO	3 SEMANAS		6 SEMANAS		9 SEMANAS		12 SEMANAS	
	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN	COBERTU.	DUNCAN
GRAMINEAS :	MEDIA=60	D.E.=11	MEDIA=74	D.E.=16	MEDIA=80	D.E.=18	MEDIA=97	D.E.=24
BRACHIARIA	-93	BA	88	BA	90	A	100	A
BRACHIARIA	-94	A	95	A	100	A	100	A
PASPALUM	-95	C	68	BAC	71	BC	99	A
PANICUM	604	C	69	BAC	68	BC	95	A
BRACHIARIA	608	C	73	BAC	71	RC	100	A
ANDROPOGON	621	BC	96	A	95	A	100	A
MELINIS	-102	BC	45	C	61	C	70	R
PANICUM	-104	BC	63	9C	83	BA	93	A
LEGUMINOSAS :	MEDIA=60	D.E.=12	MEDIA=75	D.E.=14	MEDIA=82	D.E.=15	MEDIA=94	D.E.=17
CENTROSEMA	-31	A	79	BAC	90	A	100	A
CALOPOGONIUM	-41	BAC	91	A	100	A	100	A
ZORNIA	-27	A	99	A	100	A	96	A
PUERARIA	-96	C	45	D	25	C	85	BA
DESODIUM	-97	BC	55	EDC	55	SC	83	BA
STYLOSANTHES	136	BC	50	DC	50	BC	90	A
STYLOSANTHES	184	BC	47	DC	67	BA	94	A
DESODIUM	349	BAC	50	DC	50	BC	100	A
DESODIUM	350	BA	95	A	95	A	100	A
CENTROSEMA	438	BAC	76	BDAC	98	A	99	A
ZORNIA	728	BAC	97	A	100	A	100	A
CALOPOGONIUM	-105						70	B
STYLOSANTHES	1097	A	45	D	73	BA	95	A
STYLOSANTHES	1405		45	A	98	A	100	A
DESODIUM	3001	BAC	45	D	52	BC	90	A
AESCHYNOMENE	9690	BAC	92	A	100	A	100	A
PUERARIA	9900	BAC	70	BDAC	98	A	100	A

MINIMA PRECIPITACION REGRESIONES DE PRODUCCION MEDIA DE MATERIA SECA VS. EDAD LOCALIDAD: COPEROLTA PERU

ECOTIPO	R	CUADRADO	LINEAL		NIVEL DE SIGNIFI.	R	CUADRADO		C U A D R A T I C O		NIVEL DE SIGNIFI.
			CONSTA.	LINEAL			LINEAL	LINEAL	LINEAL	LINEAL	
GRAMINEAS :											
BRACHIARIA	-93	0.95	57.2	0.001	0.001	0.96	40.4	0.030	1.68	0.300	
HUMIDICO	-94	0.91	57.3	0.001	0.001	0.91	69.0	0.010	-1.17	0.620	
PASCALUM	-95	0.90	57.9	0.001	0.001	0.90	43.3	0.110	1.46	0.560	
MAXIMUM	604	0.90	52.0	0.001	0.001	0.90	41.6	0.100	1.04	0.650	
BRACHIARIA	606	0.89	95.5	0.001	0.001	0.89	69.9	0.140	2.56	0.550	
ANDROPOGON	621	0.95	144.7	0.001	0.001	0.95	140.1	0.010	0.47	0.910	
GAYANUS	-102	0.91	53.6	0.001	0.001	0.91	40.2	0.100	1.35	0.550	
MINUTIFL	-104	0.96	72.8	0.001	0.001	0.97	63.2	0.001	-1.04	0.570	
MAXIMUM											
LEGUMINOSAS :											
PUBESCENT	-3	0.79	43.6	0.001	0.001	0.83	1.9	0.940	4.17	0.140	
MUCONOID	-4	0.79	28.6	0.001	0.001	0.81	14.8	0.440	1.38	0.460	
SP TARAP	-27	0.82	28.4	0.001	0.001	0.87	58.2	0.001	-2.97	0.070	
ZORNIA	-96	0.78	16.3	0.001	0.001	0.81	29.7	0.070	-1.28	0.350	
PUERARIA	-97	0.90	9.2	0.001	0.001	0.91	11.4	0.080	0.22	0.600	
DESODIUM	-98	0.68	72.2	0.001	0.001	0.75	-22.4	0.710	8.46	0.120	
STYLOSANTHES	136	0.86	66.8	0.001	0.001	0.95	-23.9	0.230	9.07	0.001	
GUIANENS	184	0.87	71.0	0.001	0.001	0.90	15.6	0.620	5.54	0.090	
STYLOSANTHES	184	0.87	71.0	0.001	0.001	0.92	73.4	0.001	-4.87	0.001	
DESODIUM	349	0.74	24.7	0.001	0.001	0.95	25.9	0.080	1.98	0.150	
DESODIUM	350	0.68	45.7	0.001	0.001	0.99	50.2	0.010	-1.41	0.400	
PUBESCENT	438	0.88	36.1	0.001	0.001	0.93	72.6	0.030	0.69	0.810	
CENTROSEMA	438	0.88	36.1	0.001	0.001	0.89	61.8	0.170	2.70	0.520	
ZORNIA	728	0.93	79.4	0.001	0.001	0.89	24.7	0.310	2.52	0.280	
STYLOSANTHES	1097	0.88	88.8	0.001	0.001	0.84	-12.1	0.690	6.32	0.060	
CAPITATA	1405	0.88	49.9	0.001	0.001	0.85	19.2	0.430	2.29	0.330	
STYLOSANTHES	1405	0.88	49.9	0.001	0.001	0.90	38.6	0.001	2.54	0.020	
DESODIUM	3001	0.76	48.4	0.001	0.001						
GYROIDES	3001	0.84	42.0	0.001	0.001						
AESCHYNOME	9690	0.98	64.0	0.001	0.001						
MISTRIX	9690	0.98	64.0	0.001	0.001						
PUERARIA	9900	0.98	64.0	0.001	0.001						
PHASEOLO	9900	0.98	64.0	0.001	0.001						

MAXIMA PRECIPITACION

REGRESIONES DE PRODUCCION MEDIA DE MATERIA SECA VS. EDAD LOCALIDAD: COPEROLTA PERU

ECOTIPO	R	CUADRADO	LINEAL		NIVEL DE SIGNIFI.	R	CUADRADO		C U A D R A T I C O		NIVEL DE SIGNIFI.
			CONSTA.	LINEAL			LINEAL	LINEAL	LINEAL	LINEAL	
GRAMINEAS :											
BRACHIARIA	-93	0.95	129.4	0.001	0.001	0.95	103.5	0.020	2.59	0.500	
HUMIDICO	-94	0.95	121.9	0.001	0.001	0.95	159.4	0.001	-3.76	0.300	
PASCALUM	-95	0.92	117.7	0.001	0.001	0.93	141.0	0.010	-2.33	0.590	
MAXIMUM	604	0.86	87.9	0.001	0.001	0.87	119.2	0.020	3.13	0.490	
BRACHIARIA	606	0.95	155.4	0.001	0.001	0.95	125.8	0.020	2.97	0.530	
ANDROPOGON	621	0.90	176.6	0.001	0.001	0.90	173.4	0.040	0.32	0.370	
GAYANUS	-102	0.87	69.9	0.001	0.001	0.90	125.0	0.050	-5.97	0.290	
MINUTIFL	-104	0.96	160.1	0.001	0.001	0.97	206.4	0.001	-4.64	0.230	
MAXIMUM											
LEGUMINOSAS :											
PUBESCENT	-3	0.89	66.6	0.001	0.001	0.90	9A.0	0.010	-3.14	0.290	
MUCONOID	-4	0.93	105.9	0.001	0.001	0.93	122.2	0.010	-1.63	0.570	
SP TARAP	-27	0.90	78.5	0.001	0.001	0.90	107.4	0.010	-2.69	0.400	
ZORNIA	-96	0.93	31.8	0.010	0.010	0.95	48.6	0.160	1.68	0.510	
PUERARIA	-97	0.76	168.2	0.001	0.001	0.92	153.6	0.090	31.93	0.001	
DESODIUM	-98	0.89	102.0	0.001	0.001	0.90	143.2	0.240	-3.10	0.710	
STYLOSANTHES	136	0.95	69.9	0.001	0.001	0.95	65.7	0.150	0.40	0.910	
GUIANENS	184	0.87	80.1	0.001	0.001	0.89	20.7	0.310	5.74	0.500	
STYLOSANTHES	184	0.93	76.5	0.001	0.001	0.84	39.8	0.220	3.61	0.250	
DESODIUM	349	0.91	126.4	0.001	0.001	0.92	78.3	0.150	4.81	0.340	
DESODIUM	350	0.93	81.8	0.001	0.001	0.95	126.3	0.001	-4.45	0.100	
PUBESCENT	438	0.97	152.1	0.001	0.001	0.97	161.1	0.001	-0.90	0.780	
CENTROSEMA	438	0.93	81.8	0.001	0.001	0.97	161.1	0.001	-0.90	0.780	
ZORNIA	728	0.92	46.0	0.040	0.040	0.92	-50.0	1.000	8.00	1.000	
STYLOSANTHES	1097	0.73	96.7	0.001	0.001	0.76	11.6	0.910	8.31	0.420	
STYLOSANTHES	1405	0.95	111.8	0.001	0.001	0.96	143.9	0.001	-3.20	0.320	
DESODIUM	3001	0.93	82.0	0.001	0.001	0.94	52.3	0.360	2.91	0.580	
GYROIDES	3001	0.92	168.1	0.001	0.001	0.92	102.0	0.140	6.60	0.310	
AESCHYNOME	9690	0.90	94.2	0.001	0.001	0.92	34.9	0.350	5.93	0.120	
MISTRIX	9690	0.90	94.2	0.001	0.001						
PUERARIA	9900	0.90	94.2	0.001	0.001						
PHASEOLO	9900	0.90	94.2	0.001	0.001						

MINIMA FCOTIPO	PRECIPITACION	EVALUACION DE INSECTOS					LOCALIDAD: CUPEROLTA					PERU OTRO2	
		TRIPS AC.	PULGUILLA	COMEDOR	HEMIPTERO	SALIVAZO	BARRENAD.	PERFORAD.	OTRO1	OTRO2			
GRAMINEAS :													
BRACHIARIA	DECUMBEN	-93	0.00	1.33	1.50	0.83	1.50	0.00	0.00	0.00	0.00	0.00	0.00
BRACHIARIA	HUMIDICO	-94	0.17	0.67	1.17	0.67	0.33	0.00	0.00	0.00	0.00	0.00	0.00
PASPALUM	PLICATUL	-95	0.00	1.00	2.00	0.67	0.17	0.00	0.00	0.00	0.00	0.00	0.00
	MAXIMUM	604	0.00	1.17	1.75	1.08	0.33	0.00	0.00	0.00	0.00	0.00	0.00
BRACHIARIA	DECUMBEN	605	0.17	1.75	1.67	0.83	1.42	0.00	0.00	0.00	0.00	0.00	0.00
ANDROPOGON	GAYANUS	621	0.17	0.50	1.00	1.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
	MINUTIFL	-102	0.00	0.67	0.33	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
PANICUM	MAXIMUM	-104	0.00	0.83	1.50	1.08	0.33	0.00	0.00	0.00	0.00	0.00	0.00
LEGUMINOSAS :													
CENTROSEMA	PUBESCEN	-3	0.17	1.00	2.58	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALOPOGONIUM	MUCONOID	-4	0.50	1.00	2.25	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZORNIA	SP TARAP	-27	0.17	0.92	1.92	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUERARIA	PHASEOLO	-96	0.44	1.33	2.59	1.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DESMODIUM	DISTORTU	-97	0.67	0.22	1.56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DESODIUM	DISTORTU	-96	0.31	0.33	2.08	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STYLOSANTHES	GUIANENS	136	0.50	1.17	1.83	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STYLOSANTHES	GUIANENS	184	0.50	1.00	2.08	1.58	0.00	0.00	0.00	0.33	0.00	0.00	0.00
DESODIUM	HECROPH	349	0.33	0.83	1.42	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DESODIUM	OVALIFOL	350	0.17	0.17	1.83	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CENTROSEMA	PUBESCEN	438	0.17	1.17	2.67	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZORNIA	LATIFOLI	728	0.33	0.92	2.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STYLOSANTHES	CAPITATA	1097	0.50	1.42	1.83	1.92	0.00	0.00	0.00	0.67	0.00	0.00	0.00
STYLOSANTHES	CAPITATA	1405	0.17	1.33	1.83	1.58	0.00	0.00	0.00	0.67	0.00	0.00	0.00
DESODIUM	GYROIDES	3001	0.18	0.00	1.55	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AESCHYLOME	HISTIFIX	9690	0.57	1.17	1.17	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUERARIA	PHASEOLO	9900	0.17	0.83	2.08	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MAXIMA FCOTIPO	PRECIPITACION	EVALUACION DE INSECTOS					LOCALIDAD: CUPEROLTA					PERU OTRO2	
		TRIPS AC.	PULGUILLA	COMEDOR	HEMIPTERO	SALIVAZO	BARRENAD.	PERFORAD.	OTRO1	OTRO2			
GRAMINEAS :													
BRACHIARIA	DECUMBEN	-93	0.00	2.17	1.67	1.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
BRACHIARIA	HUMIDICO	-94	0.00	0.33	1.33	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASPALUM	PLICATUL	-95	0.00	1.00	1.67	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PANICUM	MAXIMUM	604	0.00	1.17	1.67	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRACHIARIA	DECUMBEN	606	0.00	2.00	1.67	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANDROPOGON	GAYANUS	621	0.00	0.75	1.50	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VELINIS	MINUTIFL	-102	0.29	0.86	1.43	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PANICUM	MAXIMUM	-104	0.00	1.00	1.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEGUMINOSAS :													
CENTROSEMA	PUBESCEN	-3	1.50	1.33	2.83	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALOPOGONIUM	MUCONOID	-4	1.17	2.08	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZORNIA	SP TARAP	-27	0.67	1.33	1.83	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUERARIA	PHASEOLO	-96	1.00	1.50	2.75	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DESODIUM	DISTORTU	-97	0.73	0.91	2.27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DESODIUM	DISTORTU	-98	0.33	0.33	2.17	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STYLOSANTHES	GUIANENS	136	0.57	1.43	2.14	2.29	0.00	0.00	0.00	0.67	0.00	0.00	0.00
STYLOSANTHES	GUIANENS	124	0.67	1.33	2.00	1.83	0.00	0.00	0.00	0.67	0.00	0.00	0.00
DESODIUM	HECROPH	349	0.80	1.20	2.00	2.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DESODIUM	OVALIFOL	350	0.00	0.00	2.08	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CENTROSEMA	PUBESCEN	438	1.33	1.00	2.92	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZORNIA	LATIFOLI	728	0.33	0.92	2.17	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALOPOGONIUM	SP TARAP	-105	1.67	2.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STYLOSANTHES	CAPITATA	1097	0.69	1.11	2.22	1.78	0.00	0.00	0.00	0.22	0.00	0.00	0.00
STYLOSANTHES	CAPITATA	1405	0.83	1.83	1.92	1.33	0.00	0.00	0.00	0.33	0.00	0.00	0.00
DESODIUM	GYROIDES	3001	0.33	1.33	2.17	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AESCHYLOME	HISTIFIX	9690	0.17	0.17	1.67	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUERARIA	PHASEOLO	9900	0.67	0.50	2.08	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MINIMA PRECIPITACION EVALUACION DE ENFERMEDADES LOCALIDAD: COPEROLTA PERU

ECOTIPIJ	HOJA					TALLO					OTROS				
	NEGRA	MARON	NARAN.	CREMA	MARRP.	NARAP.	NEGRA	MARON	CHANC.	MARCN.	CLORO.	I.PEG.	I.G.PG		
GRAMINEAS :															
BRACHIAIRIA	0.0	1.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0		
MUMIDICO -94	0.0	1.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0		
PASPALUM	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0		
MAXIMUM	0.1	2.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
BRACHIAIRIA	0.0	1.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
ANDROPOGON	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
MELINIS	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0		
MINUTIFL -102	0.0	2.1	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0		
MAXIMUM															
LEGUMINOSAS :															
CENTROSEMA	0.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0		
PUBESCENT	0.0	1.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0		
MUCUNOID -4	0.0	2.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
SP TARAP -27	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0		
PUERARIA	0.0	2.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0		
PHASEOLO -95	0.0	2.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
DISTORTU -97	0.5	1.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0		
DESODIUM	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0		
STYLOSANTHES	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0		
GUIANENS 136	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
STYLOSANTHES	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0		
HEPESOPH 349	0.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0		
DESODIUM	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
PUBESCENT 438	0.0	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
CENTROSEMA	0.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0		
ZORNIA	0.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0		
LATIFOLI 728	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
CAPITATA 1097	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
STYLOSANTHES	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
CAPITATA 1405	0.0	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0		
STYLOSANTHES	0.0	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
GYROIDES 3001	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
DESODIUM	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
AESCHYNOME	0.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0		
MISTRIX 9690	0.1	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0		
PHASEOLO 9900															
PUERARIA															

MAXIMA PRECIPITACION EVALUACION DE ENFERMEDADES LOCALIDAD: COPEROLTA PERU

ECOTIPIJ	HOJA					TALLO					OTROS				
	NEGRA	MARON	NARAN.	CREMA	MARRP.	NARAP.	NEGRA	MARON	CHANC.	MARCN.	CLORO.	I.PEG.	I.G.PG		
GRAMINEAS :															
BRACHIAIRIA	0.0	0.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0		
MUMIDICO -94	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0		
PASPALUM	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0		
MAXIMUM	0.0	2.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0		
BRACHIAIRIA	0.0	1.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0		
ANDROPOGON	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0		
GAYANUS 621	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0		
MINUTIFL -102	0.0	2.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
MAXIMUM															
LEGUMINOSAS :															
CENTROSEMA	0.0	1.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0		
PUBESCENT	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
MUCUNOID -4	0.0	2.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0		
SP TARAP -27	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0		
PUERARIA	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
PHASEOLO -96	0.0	1.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
DISTORTU -97	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0		
DESODIUM	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0		
STYLOSANTHES	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
GUIANENS 135	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0		
STYLOSANTHES	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
HEPESOPH 349	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0		
DESODIUM	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		
PUBESCENT 438	0.0	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0		
CENTROSEMA	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0		
ZORNIA	0.0	2.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0		
LATIFOLI 728	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0		
SP TARAP -10K	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0		
STYLOSANTHES	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
CAPITATA 1097	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
STYLOSANTHES	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
CAPITATA 1405	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
STYLOSANTHES	0.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
GYROIDES 3001	0.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
DESODIUM	0.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
AESCHYNOME	0.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
MISTRIX 9690	0.0	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0		
PHASEOLO 9900															
PUERARIA															

