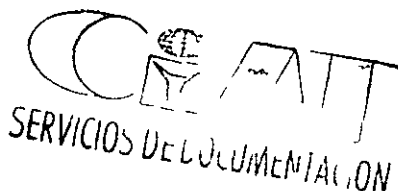


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Agroclimatology Study



Climatic Data Base

The climatic data base being utilized for this study the South American Monthly Meteorological Data SAMM DATA (CIAT Bean Prog 1979 Ann Rept) now contains data from about 3000 meteorological stations. Considerable effort was directed this year to data validation and error correction. A sensitive technique of error detection was developed based on the relative amplitudes of the high and low frequencies of the Fourier transform. The technique uncovered errors not only in transcription but also in the source documents.

Bean Production Areas subject to Anthracnose

As an example of the utilization of the climatic data base Bean Program staff desired to obtain a characterization and listing including production figures of those areas susceptible to anthracnose attack. At the present level of information in the microregion cropping system files this was not possible for the entire target area on the basis of observed occurrence of the disease thus the alternative method was chosen of defining climatic limits for the disease.

A mean growing season temperature of between 17 and 22 C and a daily rainfall of more than 3 mm during the flowering period were chosen as preliminary limits. The lower temperature limit failed to include such known anthracnose regions as Chihuahua and Valle de Mexico but these were included after lowering the minimum temperature limit to 15 C. Likewise Chihuahua and the Highlands of Guatemala were excluded by the 3 mm/day rainfall limit their inclusion was obtained by dropping this requirement to 1.5 mm/day. While this would appear to be a rather low figure it may reflect the large year to-year rainfall variability in these regions. Thus anthracnose may be present in only those years that are wet.

The total at risk bean production amounts to 57% of the total target area production according to results of the above search. This is likely an overestimate since these figures do not account for year to year fluctuations. It is hoped that as meteorological data become available effects of this variability may be estimated.

Appendix A

Description of *Phaseolus vulgaris* L Growth Habits

Type I Determinate growth habit reproductive terminals on the main stem with no further node production on the main stem after flowering commences

Type II Indeterminate growth habit vegetative terminals on the main stem with node production on the main stem after flowering commences erect branches borne on the lower nodes of the main stem erect with relatively compact canopy variable guide development depending on environmental conditions and genotype

Type IIIa Indeterminate growth habit vegetative terminals on the main stem with node production on the main stem after flowering, relatively heavily branched with variable number of facultatively climbing branches borne on the lower nodes variable main stem guide development but generally showing climbing ability

Type IIIb Indeterminate growth habit vegetative terminals on the main stem with node production on the main stem after flowering, relatively heavily branched with variable number of facultatively climbing branches borne on the lower nodes variable main stem guide development but generally showing climbing ability

Type IVa Indeterminate growth habit vegetative terminals on the main stem with heavy node production after flowering commences branches not well-developed compared to main stem development moderate climbing ability on supports and pod load carried evenly along the length of the plant

Type IVb Indeterminate growth habit, vegetative terminals on the main stem with heavy node production after flowering commences branches not well-developed compared to main stem development strong climbing tendency with pod load mostly borne on the upper nodes of the plant

Notes The growth habit classification has been expanded for the climbing types since the 1977 Annual Report Type III materials with some tendency to climb are now recognized as Type IIIb and Type IV has been divided on the basis of vigor and pod distribution

The most important distinguishing features of the growth habits are as follows terminal raceme on main stem for Type I indeterminate with erect branches for Type II indeterminate with prostrate branches for Type IIIa indeterminate with semi-climbing main stem and branches for Type IIIb indeterminate with moderate climbing ability and pods distributed evenly up the plant for Type IVa indeterminate with aggressive climbing ability and pods carried mainly on the upper nodes of the plant for Type IVb

Growth habit is not necessarily a stable characteristic since changes in growth habit may occur from one location to another The classification of growth habit for a particular genotype is only useful in a defined environment particularly with regard to climbing ability -

Appendix B

CIAT Accessions of *Phaseolus* Referred to in this Report

CIAT No	Identification	Local register	Source ²
G00057	Swedish Brown	PI 136735	USA
G00076	Red Kloud		USA
G00118	Forty Days	PI 162566	USA
G00124		PI 163372	USA
G00159	Calí Fasulya	PI 165078	USA
G00489	Raytal	PI 175269	USA
G00687	Windsor Long Pod	PI 182026	USA
G01507	Ojo de Cabra	PI 281988	USA
G01820	Negro Jamapa	PI 309804	USA
G01854	Nima	PI 310512	USA
G0 005		PI 310739	USA
G0 006		PI 310740	USA
G0 047		PI 310805	USA
G0 58	Morada del Agua	PI 311904	USA
G0 333	Colorado de Teopisca	PI 311998	USA
G07525	Magdalena 3	PI 313624	USA
G02618	Col No 168	PI 313755	USA
G02858	Zacaticano	PI 319665	USA
G02959	Pecho Amarillo	GTA-014	GTA
G03353	Puebla 152		MEX
G03607	C C G B -44	I-462	VNZ
G03645	Jamapa	I-810	VNZ
G03652	Puebla 152	I-820	VNZ
G03658	Mexico 27N	I-867	VNZ
G03776	Venezuela 2	I 1062	VNZ
G03807	Brasil 2 Pico de Oro	I 1098	VNZ
G03834	51051	I 1138	VNZ
G03942	Michelite	B-33	CRA
G04000	NEP Bayo 22	C 286	CRA
G04122	S 166-A N	N 555	CRA
G04393	Tlaxcala 62 C		MEX
G04421	S-630-B	C-63	CRA
G04434	Antioquia 11	P 111	CRA
G04435	Dacol Calima	P 146	CRA
G04445	Ex Rico 23		CLB
G04446	Ex Puebla 152 Brown Seeded		MEX
G04449	Pinto UI 114		USA
G04451	9 AI 2		USA

Append B (continued)

CIAT No	Identification	Local register	Source
G04452	ICA Guah		CLB
G04454	ICA Tu		CLB
G04459	NEP 2		CRA
G04460	Pompadour 2		CRA
G04470	Pompadour		DOM
G04482	Zamorano 2		HDR
G04489	Guilapa 72		GTA
G04494	Diacol Caluma		CLB
G04495	Porrillo Sintetico		HDR
G04498	Sanilac		USA
G04503	Widusa		FRC
G04505	Top Crop		USA
G04523	Linea 17		CLB
G04525	Linea 32		CLB
G04727	Ancash 66		PER
G04816	Mulatinho		BZL
G04821	Iguacu (Lote 4)		BZL
G04824	Roxão		BZL
G04825	Carioca		BZL
G04830	Rio Tibagi (Lote 10)		BZL
G04978	Amanda		NLD
G05158	Bico de Ouro 1445	BZL 905	BZL
G05270	Sataya 425		MEX
G05653	Ecuador 299		ELS
G05694	Cornell 49 242		USA
G05702	Cargamento		CLB
G05708	Sangretoro		CLB
G05743	Preto 897		ATL
G05745	Redlands Greenleaf B		ATL
G05768	Pinto No 650		USA
G05773	ICA Pijao		CLB
G05897	Flor de Mayo		MEX
G06361	Great Northern		USA
G06520	AETE 2	CA 21	UTK
G06719	Jubila		NLD
G06721	Double White		NLD
G07932	Nahuizalco Rojo		ELS
G07951	Aroana		BZL
G09446	Imuna	FRC 542	FRC
G11249	Pinto	IVT 771004	NLD
G11274	Brasil 343 Mulatinho	IVT 77039	NLD
G11488	CENA 164-2 CM CM (12 B) F5		BZL
G12631	Ancash 143		PER
G12709	Mortino	Sañudo 45	CLB
G13497	AETE 1/37		BZL
G13499	Petro 132		BZL

The Global Access is the membership by the general public of the CIAT Gene x R source UBAT A, EMP BAC DOR and V codes belong to the membership by CIAT Be P g m

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