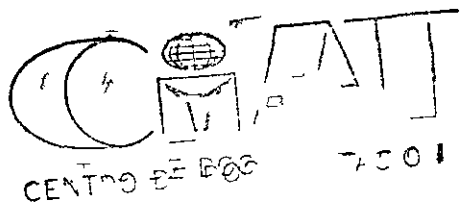


## Central America

The year 1980 saw the initiation of a cooperative project between Central American countries and CIAT in support of increased bean production in the region This Swiss funded project stimulated the following activities

**Interinstitutional technology transfer** Numerous nurseries from CIAT (including nurseries for yield and adaptation heat and drought tolerance *Empoasca* tolerance *Apion* tolerance web blight tolerance rust tolerance) plus early and advanced breeding lines tailor made for specific countries were distributed for the February May September and December plantings Some 1500 kg of seed were given to participating countries

Yield and adaptation nurseries from the national programs (i e VINARs) in Guatemala and Costa Rica were distributed throughout the region Bean researchers in each of the countries receiving these VINARs freely added selections from CIAT or their own breeding materials The recently developed black varieties ICTA Jutiapan ICTA Quetzal and Talamanca as well as the red seeded varieties Acacia 4 and Revolucion 79 per formed well throughout the region

**Seed production** Throughout the year emphasis was put on the development of strong seed programs in participating countries of the region The countries receiving strong project support were Guatemala Hon duras Costa Rica Nicaragua and Cuba At the same time large quantities of CIAT produced foundation seed was passed on to national programs in El Salvador Cuba Honduras and Nicaragua The production of foundation seed at CIAT was a collaborative effort between the Bean Program and the CIAT Seed Unit

**Training** In support of the project s objective to strengthen the bean research and development capabilities of national programs in the region project scientists identified some 25 young bean researchers in the region who received postgraduate training in CIAT Also under the auspices of the project technical and organizational assistance was provided for an in-country short course on bean production held in Cuba for 25 agronomists

**Screening for bean golden mosaic virus** Most of the project s screening efforts for bean golden mosaic virus (BGMV) concentrated on the development of tolerant red materials These efforts resulted in the identification of various promising tolerant materials of the red and red mottled type At the same time black materials with improved BGMV tolerance were identified

## Peru

The Swiss funded project in Peru completed its second year of operation This project is designed to strengthen local research and seek solutions to Peruvian bean production problems One important aspect of the project is to help achieve coordination among the various research efforts through meetings and integrated research plans for the coastal and Sierra regions These efforts concentrate mostly on beans for local consumption

CIAT's IBYAN materials are an important source of genetic variability and are being used in regional trials together with superior local materials Also foundation seed is being increased with black-seeded superior entries from the 1979 IBYAN among them Porrillo Sintético which is especially promising Over 400 hectares have been planted for seed production partly for commercial use

Training at CIAT of local researchers is also an important component of the project

# 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 lenght 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 | Cali Fasulya | PI 165078 | USA |
| G00489 | Raytal | PI 175269 | USA |
| G00687 | Wonder Long Pod | PI 182026 | USA |
| G01507 | Ojo de Cabra | PI 281988 | USA |
| G01820 | Negro Jamapa | PI 309804 | USA |
| G01854 | Nima | PI 310512 | USA |
| G02005 | | PI 310739 | USA |
| G02006 | | PI 310740 | USA |
| G02047 | | PI 310805 | USA |
| G02258 | Morada del Agua | PI 311904 | USA |
| G02333 | Colorado de Teopisca | PI 311998 | USA |
| G02525 | Magdalena 3 | PI 313624 | USA |
| G02618 | Col No 168 | PI 313755 | USA |
| G02858 | Zacatecano | PI 319665 | USA |
| G02959 | Teco Amarillo | GTA-014 | GTA |
| G03353 | Puebla 152 | | MEX |
| G03607 | CCGB-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 | Basil 2 Rico de Oro | I 1098 | VNZ |
| G03834 | 51051 | I 1138 | VNZ |
| G03942 | Michelite | B-33 | CRA |
| G04000 | NLI Bayo 22 | C 286 | CRA |
| G04122 | S 166 A N | N 555 | CRA |
| G04393 | Tlaxcala 62 C | | MEX |
| G04421 | S 630 B | C-63 | CRN |
| G04434 | Antoqui 11 | P 111 | CRA |
| G04435 | Diacol Calima | P 146 | CRA |
| G04445 | El Rico 23 | | CLB |
| G04446 | Ex Puebla 152 Brown Seeded | | MEX |
| G04449 | Pat UI 114 | | USA |
| G04451 | 9 Al 2 | | USA |

App d B( t d)

| CIAT No | Identification | Local register | Source |
|---|---|---|---|
| G04452 | ICA Guali | | CLB |
| G04454 | ICA Tui | | CLB |
| G04459 | NEP 2 | | CRA |
| G04460 | Pompadour 2 | | CRA |
| G04470 | Pompadour | | DOM |
| G04482 | Zamorano 2 | | HDR |
| G04489 | Guilapa 72 | | GTA |
| G04494 | Diacol Calima | | CLB |
| G04495 | Porr llo 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 Iibagi (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 | Cargamanto | | 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 | A oana | | BZL |
| G09446 | Imuna | FRC 542 | FRC |
| G11249 | Pinto | IVT 771004 | NLD |
| G11274 | B as l 343 Mulatinho | IVT 77039 | NLD |
| G11488 | CENA 164 2 CM CM (12 B) F5 | | BZL |
| G12631 | Ancash 143 | | PER |
| G12709 | Mort no | Sanudo 45 | CLB |
| G13497 | AETE 1/37 | | BZL |
| G13499 | Fet o 132 | | BZL |

Ih C d f h mb gn d by th g mpla m b k f h CIAT Ge R rce U t BAT A EMP
BAC DOR d V d b l g ma l mp d by CIAT Be P g m

AH A I BZI B I CLB C I mb CRA C R ca DOM D m R p bl ELS El Sal d FRC
F G1A C m l HI R H d MEX M PER P UTK U d K gd m VNZ V l