

II - 7. Exploration for Cereals and Legumes in Pakistan, 1989

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パキスタンにおけるイネ、雑穀、豆類遺伝資源の探索、 IBPGR, 1989年

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1. 目的

パキスタンは南アジアと西アジアの接点に位置し、栽培されている雑穀、豆類の種類は豊富であるが、在来植物遺伝資源の十分な調査がなされていない。また、この国は、イネの伝播経路のうち多様性中心地から西進した経路上にあり、イネの分化を研究するために貴重な材料を有する地域と考えられるが、収集は不十分である。そこで、パキスタンにおけるイネ、雑穀、豆類遺伝資源の分布を広く明らかにするため探索収集を実施した。本探索の予算は日本政府外務省拠出による IBPGR の特別予算であり、パキスタン国立農業研究センターとの共同探索として行った。

2. 探索・収集活動の概要

1990年10月10日から11月28日の50日間にわたり、パキスタンの4州のうち、政情が不安定なシンド州を除くパンジャブ州、北西辺境州 (NWFP)、バルチスタン州のほぼ全域、およびギルギット地区、バルティスタン地区、アザド・カシミール地区を車を利用して探索調査した。全土を広く効率良く調査するため、4隊に分かれて探索を実施した。基本的にパキスタン人研究者1名と日本人研究者1名がチームを組み、運転手と合計3名で行動した。チームA (中川原, BHATTI) はNWFPとパンジャブ州を、チームB (河瀬, AHMAD) はギルギット地区とパ

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ルティスタン地区を、チームC（長峰, ANWAR, BHATTI）はアザト・カシミール地区とバルチスタン州を、チームD（河瀬, AFZAL）はパンジャブ州とバルチスタン州をおもに担当した（Table 1a~1d）。4チームの走行距離はのべ15,000kmであった。収集点数は合計705点（イネ科478, マメ科148, その他79）で、イネ（*Oryza sativa*）191, トウジンビエ（*Pennisetum americanum*）45, ソルガム（*Sorghum bicolor*）43, トウモロコシ（*Zea mays*）43, アワ（*Setaria italica*）35, コムギ（*Triticum aestivum*）33などが主であった（Table 2）。Table 2ではチームAおよびチームCをチーム1, チームBおよびチームDをチーム2とまとめて示した。

パキスタン北西部山岳地域のNWFP, とくにスワート渓谷などで日本型と思われるイネが多く作られていた。改良品種も導入されているが、多くの在来品種を収集することができた。ひとつの圃場にさまざまな形態のイネが作られていた。北東部のギルギット地区やバルチスタン地区では奥地を中心にアワ, キビ（*Panicum miliaceum*）などの雑穀が盛んに作られており、様々な在来品種を収集した。形態的に変異があり、利用法（料理法）も多く、きわめて重要な作物として古くから栽培されていることが理解できた。しかし、高度2,000m以下では近年トウモロコシの栽培が急速に広がり、アワ, キビは消滅しつつある。普通ソバ（*Fagopyrum esculentum*）やダツタンソバ（*F. tataricum*）の栽培も盛んである。

パキスタン中部平原地帯のパンジャブ州ではインド型のイネ, ワタ, サトウキビの栽培が多い。雑穀はトウジンビエ, ソルガムが主であり、インドビエ（*Echinochloa frumentacea*）, アワ, シコクビエ（*Eleusine coracana*）もまれではあるが収集した。インド型のイネとしてはバスマティ品種が広く栽培されているが、その水田に入ると均一なことは少なく、形態や出穂期の異なる個体が多数混在していることが多くみられた。古い品種の混入は現地の農家に対する聞き取り調査でも裏付けられた。

南西部のバルチスタン州は半砂漠に近い自然条件で、高原が多く、ポンプ井戸やカレース（地下灌漑水路）による灌漑農耕と天水を利用したバンド農法がみられるが、絶対的な水不足のため耕地面積は限られている。冬作にはコムギ, オオムギ（*Hordeum vulgare*）を、夏作にはタマネギなどの野菜類を作り、カラチやクエッタなどの都市に供給している。コムギは近代品種の導入もみられるが、耐旱性や食味の点で在来品種が優れているという。自然条件から考えて耐塩性も期待できる。水田稲作はきわめて限られている。雑穀類はソルガム, トウジンビエ等が栽培されているが盛んとはいえない。アワは農家もほとんど知らず、キビは知ってはいるが15~20年程前に栽培をやめたという聞き取り情報が多かった。わずかにバザール（市場）でアワ, キビを入手できた。

マメ類は全国的にリョクトウ（*Vigna radiata*）, ケツルアズキ（*V. mungo*）, ササゲ（*V. unguiculata*）などの *Vigna* 類が多く、バルチスタン州ではモスピーーン（*V. aconitifolia*）も収集した。それ以外にインゲン（*Phaseolus vulgaris*）, ソラマメ（*Vicia faba*）, レンズマメ（*Lens culinaris*）, エンドウ（*Pisum sativum*）, ヒヨコマメ（*Cicer arietinum*）, 小粒のダイズ（*Glycine max*）などを収集した。マメ類遺伝資源に関してはパキスタンは在来品種の変異も大きく、組織的な探索・収集が必要である。

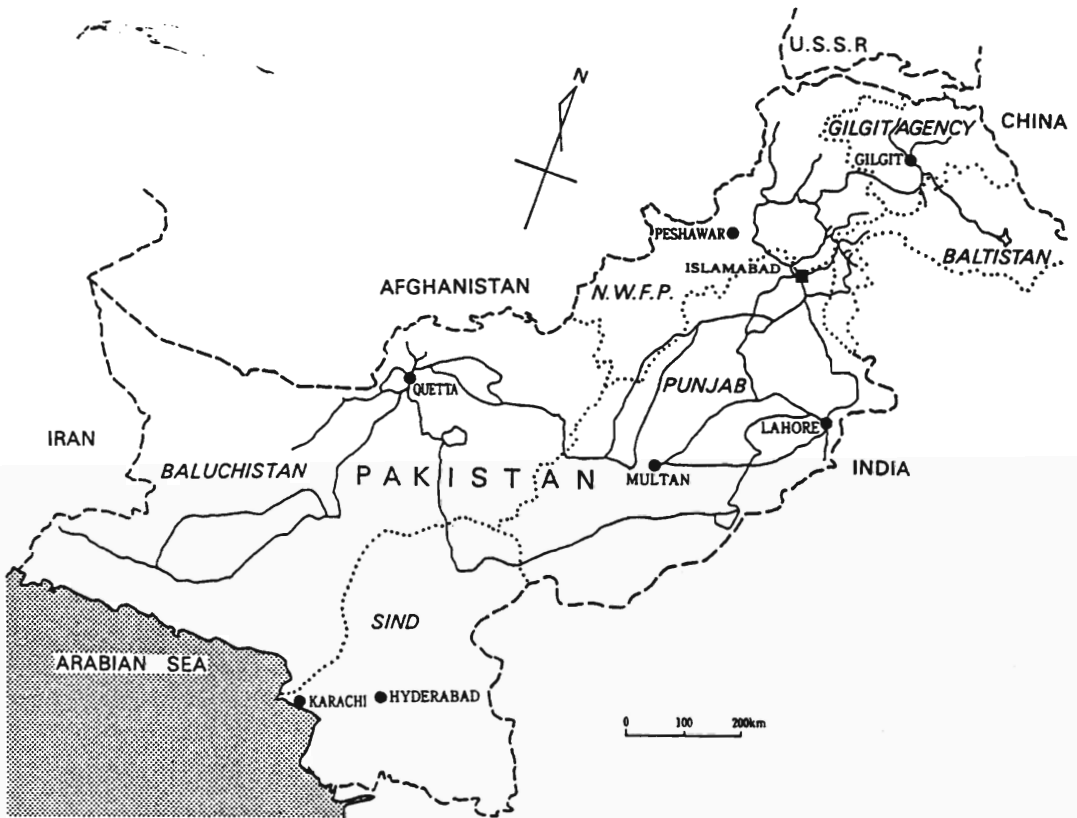


Fig. 1. The exploration routes in Pakistan, 1989.

パキスタンにおける探索経路

Table 1 a. Itinerary of Team A**探 索 日 程 (チ ー ム A)**

10月 10日 (火)	中川原 成 田—Bangkok—Karachi—
11日 (水)	—Karachi—Islamabad
12日 (木)	Islamabad で準備 BHATTI と合流
13日 (金)	Islamabad—Mingora
14日 (土)	Mingora—Dir
15日 (日)	Dir—Chitral
16日 (月)	Chitral—Garam—Chitral
17日 (火)	Chitral—Bumb—Chitral
18日 (水)	Chitral—Mingora
19日 (木)	Mingora—Kalam
20日 (金)	Kalam—Besham
21日 (土)	Besham—Mansehra
22日 (日)	Mansehra—Kagan
23日 (月)	Kagan—Chikal
24日 (火)	Chikal—Keran
25日 (水)	Keran—Islamabad
26日 (木)	Islamabad—Sialkot
27日 (金)	Sialkot—Lahore
28日 (土)	Lahore—Sahiwal
29日 (日)	Sahiwal—Multan
30日 (月)	Multan—Faizalabad
31日 (火)	Faizalabad—Khushab
11月 1日 (水)	Khushab—Islamabad
11月2-4日 (木-土)	Islamabad で種子整理
5日 (日)	Islamabad —成田

Table 1 b. Itinerary of Team B

探索日程 (チーム B)

10月 10日 (火)	河 瀬 成 田—Bangkok—Karachi—
11日 (水)	—Karachi—Islamabad
12日 (木)	Islamabad で準備 AHMAD と合流
13日 (金)	Islamabad—Besham
14日 (土)	Besham—Gilgit
15日 (日)	Gilgit—Jutal—Gilgit
16日 (月)	Gilgit—Imit
17日 (火)	Imit—Gakuch—Gilgit
18日 (水)	Gilgit—Skardu
19日 (木)	Skardu—Gorbidas—Skardu
20日 (金)	Skardu—Machulo
21日 (土)	Machulo—Skadu
22日 (日)	Skadu—Gilgit
23日 (月)	Gilgit—Gulmit
24日 (火)	Gulmit—Pasu—Gilgit
25日 (水)	Gilgit
26日 (木)	Gilgit—Astor
27日 (金)	Astor—Gilgit
28日 (土)	Gilgit—Besham
29日 (日)	Besham—Jabori—Balakot
30日 (月)	Balakot—Kagan—Natan— Mansehra
31日 (火)	Mansehra—Islamabad
11月 1-2日 (水-木)	Islamabad で種子整理

Table 1 c. Itinerary of Team C**探 索 日 程 (チ ャ ム C)**

11月 1日 (水)	長 峰 成 田—Bangkok—
2日 (木)	—Karachi—Islamabad
3日 (金)	Islamabad で打ち合せ, 準備 ANWAR, BHATTI と合流
4日 (土)	Islamabad—Murree
5日 (日)	Murree—Muzafarabad
6日 (月)	Muzafarabad—Sundri Bandi—Muzafarabad
7日 (火)	Muzafarabad—Chikar
8日 (水)	Chikar—Rawala Kot
9日 (木)	Rawala Kot—Islamabad
10日 (金)	Islamabad—Dera Ismail Khan
11日 (土)	Dera Ismail Khan— Dera Ghazi khan
12日 (日)	Dera Ghazi khan—Loralai
13日 (月)	Loralai—Quetta
14日 (火)	Quetta—Khuzdar
15日 (水)	Khuzdar—Nag
16日 (木)	Nag—Turbat
17日 (金)	Turbat—Mand—Turbat
18日 (土)	Turbat—Mashkai
19日 (日)	Mashkai—Quetta
20日 (月)	Quetta—Loralai
21日 (火)	Loralai—Mianwali
22日 (火)	Mianwali—Islamabad
23-26日 (水-日)	Islamabad で種子整理
27日 (月)	Islamabad—Karachi
28日 (火)	Karachi—Bangkok—Manila—成 田

Table 1 d. Itinerary of Team D

探索日程(チームD)

11月 3日 (金)	河 瀬 Islamabad で打ち合せ AFZAL と合流
4日 (土)	Islamabad—Sargodha
5日 (日)	Sargodha—Kasur—Lahore
6日 (月)	Lahore—Khanewal
7日 (火)	Khanewal—Bahawalnagar
8日 (水)	Bahawalnagar—Bahawalpur
9日 (木)	Bahawalpur—Rahim Yar Khan
10日 (金)	Rahim Yar Khan—Shikarpur
11日 (土)	Shikarpur— Dera Murad Jomali
12日 (日)	Dera Murad Jomali—Sibi
13日 (月)	Sibi—Quetta
14日 (火)	Quetta—Pishin—Quetta
15日 (水)	Quetta—Noshiki
16日 (木)	Noshiki—Kharan—Noshiki
17日 (金)	Noshiki—Quetta
18日 (土)	Qurtta—Kalat
19日 (日)	Kalat—Haj Ka—Quetta
20日 (月)	Quetta—Loralai
21日 (火)	Loralai—Mianwali
22日 (水)	Mianwali—Islamabad
23-26日 (水-日)	Islamabad で種子整理
27日 (月)	Islamabad—Karachi
28日 (火)	Karachi—Bangkok—Manila— 成 田

Table 2. A list of collected materials in Pakistan
 パキスタンでの収集した植物種および点数

植 物 名	学 名	点数
オクラ	<i>Abelmoschus esculentum</i>	7
タルホコムギ	<i>Aegilops squarrosa</i>	2
タマネギ	<i>Allium cepa</i>	6
ネギ属野生種	<i>Allium</i> sp.	2
センニンコク	<i>Amaranthus hypochondriacus</i>	3
ヒユ属植物	<i>Amaranthus</i> sp.	12
アテイロシア	<i>Atylosia scarabeoides</i>	1
エンバク	<i>Avena sativa</i>	1
カブ	<i>Brassica campestris</i>	1
ナタネ	<i>Brassica napus</i>	1
アブラナ属植物	<i>Brassica</i> sp.	1
トウガラシ	<i>Capsicum annuum</i>	2
キマメ	<i>Cicer arietinum</i>	1
スイカ	<i>Citrullus lanatus</i>	7
コリアンダー	<i>Coriandrum sativum</i>	1
メロン	<i>Cucumis melo</i>	4
カボチャ	<i>Cucurbita moschata</i>	1
クミン	<i>Cuminum cyuminum</i>	9
ニンジン	<i>Daucus carota</i>	1
ホースグラム	<i>Dolichos biflorus</i>	1
ダイズ	<i>Glycine max</i>	7
インドビエ	<i>Echinochloa frumentacea</i>	16
ヒエ属野生種	<i>Echinochloa stagnina</i>	2
ヒエ属野生種	<i>Echinochloa</i> sp.	1
グミ属植物	<i>Eleaegnus</i> sp.	1
シコクジエ	<i>Eleusine coracana</i>	3
普通ソバ	<i>Fagopyrum esculentum</i>	8
ダツタンソバ	<i>Fagopyrum tataricum</i>	3
ヒマワリ	<i>Helianthus annuus</i>	1
オオムギ	<i>Hordeum vulgare</i>	29
フジマメ	<i>Lablab purpurens</i>	1

植 物 名	学 名	点数
レンズマメ	<i>Lens culinaris</i>	16
アルファルファ	<i>Medicago sativa</i>	1
イネ	<i>Oryza sativa</i>	191
キビ	<i>Panicum miliaceum</i>	21
トウジンビエ	<i>Panicum americanum</i>	45
インゲンマメ	<i>Phaseolus vulgaris</i>	32
エンドウ	<i>Pisum sativum</i>	3
ダイコン	<i>Raphanus sativus</i>	3
雑草ライムギ	<i>Secale cereale</i> var. <i>afghanicum</i>	1
ゴマ	<i>Sesamum indicum</i>	2
アワ	<i>Setaria italica</i>	35
エノコログサ	<i>Setaria viridis</i>	5
ソルガム	<i>Sorghum bicolor</i>	43
セイバンモロコシ	<i>Sorghum halepense</i>	6
ホウレンソウ	<i>Spinacia oleracea</i>	3
コムギ	<i>Triticum aestivum</i>	33
ソラマメ	<i>Vicia faba</i>	13
モスビーン	<i>Vigna aconitifolia</i>	4
ケツルアズキ	<i>Vigna mungo</i>	16
マングビーン	<i>Vigna radiata</i>	41
ササゲ	<i>Vigna unguiculata</i>	9
トウモロコシ	<i>Zea mays</i>	43
イネ科植物	Gramineae sp.	1
マメ科植物	Leguminosae spp.	2
合計		705
(イネ科		478)
(マメ科		148)
(その他		79)

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所感

シンド地方を除くパキスタンのほぼ全地域にわたりイネ、雑穀、豆類を中心とする植物遺伝資源の調査、収集を行なうことができたことは非常に有意義であり、パキスタンにおけるこれらの種の分布状況をつぶさに見ることができた。今回705点の材料を収集できたが、ここでもイネ、雑穀類の在来品種は急速に消滅しつつあることを実感した。

北部地域はヒンドゥークシュ山地、カラコルム山脈の雄大かつ峻烈な山々が連なり、谷は深い。中部地域は広大な平原である。南西部は高原が多いが、砂漠といっても過言ではない。そのきびしい自然の中での農業の実態を見ながら、そこで在来品種を収集した今回の探索収集調査行は多くの知見を得ることができた。

中・北部では雑穀、イネの収穫期は9月下旬から10月中旬であり、ほぼ適期に探索収集を行なうことができたが、南西部バルチスタン州では9月に収穫が終わるため、今回は農家の貯蔵種子を中心に収集した。9月から10月いっぱい理想的探索時期といえる。

パキスタン国立農業研究センターをはじめ多くの方々からの積極的な協力によりきわめてスムーズに探索・現地調査を行なうことができた。ここに記し、感謝の意を表したい。

また、快く作物を分譲して下さった現地の農家の方々に心から感謝を表したい。

4. 今後の海外調査を行なう際に参考になる事項

食事

日常的な食事は無発酵のパンであるチャパティ（ロティ、シャピックともいう）と多少香辛料のきいたチキン、マトン、ビーフの料理（シャミ・カバブ、シーク・カバブ、チャパル・カバブ、カライ・ムルガ、カライ・ゴーシュ、ムルガ・マサラ等々）である。トマト、キュウリ、タマネギ、ダイコンのサラダも必ずついてくる。地域によってはチャパティの代わりにナン（発酵パン）が出ることもある。チャパティを手でちぎって他の料理に浸したり、包んだりしながら食べる。食後や休憩時のチャイ（ミルクティー）やカワ（ミルク無しの甘い紅茶）が疲れを癒してくれる。朝食にはチャパティではなくパロータ（油で焼いたチャパティ、または油で揚げたもの）が一般的である。ヨーグルトやリンゴ、ミカンなど果物も手に入る。好みもあろうが現地食を勧めたい。食べ慣れると美味しいし、現地の気候風土に適しているのか、完全に火を通した食品が多いので安全である。食前に手を洗うことは徹底すべきであろう。むしろ大きなホテルで出される洋風料理で体調がくろうことがある。

言語

パキスタンの国語はウルドゥー語である。ウルドゥー語はインドのヒンディー語と兄弟語と呼ばれるように表記法（字）は異なるが殆ど同じである。しかし、パキスタンにはウルドゥー語以外にパシュトー語、シンディー語、パンジャビ語、サライキ語、シナー語、バルティ語、

バルチ語, ブルーヒ語などがあり, しかも方言が多い。パキスタン人の研究者も地方では言葉が通じないこともあり, 聞き取り調査にはかなり困難が伴う。ただし程度はさまざまだが英語を理解する人はある程度いる。大きなホテルでは英語が通じることが多い。

参考文献

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Summary

1. The exploration for cereals and legumes was conducted around almost of all the areas in Pakistan except Sind Province from Oct. 10 to Nov. 28 in 1989 (Fig. 1). It was funded by IBPGR.
2. The members of the mission were composed of three Japanese scientists of the National Institute of Agrobiological Resources in MAFF and four Pakistan scientists of Pakistan National Agricultural Research Centre.
3. We collected a total of 705 accessions (Table 2), in which rice, pearl millet, sorghum, maize, foxtail millet and wheat are main collections.
4. The passport data of the collected materials are summarized in Table 3.



Fig.1. The exploration routes in Pakistan, 1989.

Genus: *Amaranthus* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2286 (4)	15/OCT	<i>Amaranthus</i> sp.	—	P 20	③	YATILASHT, 20km S CHITRAL (1480m)	July – Oct.
2293 (3)	16/OCT	"	ALU JOSHO	P 20	①–②	UCHO, 39km NW CHITRAL (2100m)	—
2305 (1)	19/OCT	"	—	P 20	②	ASRAIT, 15km S KALAN (1830m)	—
2308 (2)	20/OCT	"	GANARI	P 40	②	GORKIYAN, 6km NE KALAN (2150m)	—
2323 (1)	21/OCT	"	GANAR	P 50	③	CHATTAR, 75km S BESHAM (1650m)	—
2329 (2)	22/OCT	"	"	P 20	③	GUNNIR, 20km NE BALAKOT (1450m)	June – Oct.
2331 (1)	"	"	"	P 20	③	MUHANDRI, 48km NE BALAKOT (1650m)	"
2332 (1)	"	"	"	P 30	③	JULGIRAN, 48km NE BALAKOT (1950m)	"
2334 (1)	23/OCT	"	"	P 30	②	BARAR KOT, 15km SW MUZAFARABAD (850m)	"
2337 (1)	"	"	"	P 10	③	BANDI BAKALAN, 43km SE MUZAFARABAD (1570m)	"
2337 (2)	"	"	"	In (1)	③	"	"
2342 (1)	24/OCT	"	"	P 10	③	MIR PURAH, 66km N MUZAFARABAD (1200m)	"

 Genus: *Echinochloa*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2363 (2)	28/OCT	<i>Echinochloa frumentacea</i>	SINWAKH	P 30	③	MANAWALA KHIOH, 48km S SHEIKHUPURA (250m)	July – Oct.
2382 (2)	31/OCT	"	"	P 70	③	MAZA LODHIA, 20km SW CHINNOT (190km)	"

 Genus: *Eleusine*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2374 (1)	29/OCT	<i>Eleusine coracana</i>	MANDOH	P 50	③	BASHKWALA, 11km NE MULTAN (170m)	July – Oct.
2377 (1)	30/OCT	"	"	P 120	③	KOT DUNI CHAND, 70km NE MULTAN (150m)	"
2378 (1)	"	"	"	P 100	③	SHORKOT, 63km SW JHANG (150m)	"

 Genus: *Glycine*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2296 (2)	17/OCT	<i>Glycine max</i>	HALLOL	P 100	②	CHONGA HOOR, 26km S CHITRAL (1520m)	June – Oct.
2296 (3)	"	"	"	P 2-3	②	"	"
2319 (1)	"	"	KULAT	P 100	③	MAYRA, 19km S BESHAM (740m)	June – Oct.
2320 (5)	"	"	"	P 400g	Market ③	THAKOT, 29km S BESHAM (620m)	"

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food	None	⑥	②	③	Vegetable, black seed, small and short plant	Small field but many plants
--	No	"	"	"	"	No use, wild type they say, black seed	
--	--	"	"	"	"	Black seed	
--	Fodder	"	"	"	"	Black seed, spine and spineless	
--	"	"	"	"	"	Green and purple, mixed crops in maize, black seeds	
Direct	Food fodder	"	"	"	"	Plant color purple and green, seed white mostly, brown and black in a few	
"	"	"	"	"	"	Purple plants, white to brown seed	
"	"	"	"	"	"	Greenish leaf, white seed, some brown, border plants	
Direct	"	"	⑤	"	"	Green leaf, black seed	
"	Food veget.	"	⑥	"	"	Black seed, red plant, long panicle	
"	"	"	"	"	"	Black seed, green leaf	
"	"	"	"	"	"	Black seed, green and purple plants	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food fodder	None	③	①	②	Mixed with <i>Pennisetum</i> , plant height 100cm	
"	"	"	"	"	"	Panicle color green to purple	Mixed in <i>Pennisetum</i>

Cultural Practice	Usage	Diseases & pests	Topography ³⁾	Site ¹⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food fodder	A few	③	①	②	Compact type, brown yellow	
"	"	Blast	"	"	"	"	
"	"	"	"	"	"	"	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Fodder	(Pests)	⑥	②	③	100 pods, brown-reddish seed, indeterminate	
"	"	"	"	"	"	Small black seeds, many pods, indeterminate	
"	"	"	"	"	"	Seeds are also given to animals, brown seed, small pod, local variety	
"	Fodder food	--	"	"	--	Small grain, brown dominated in a few black grains	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Glycine* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2323 (2)	17/OCT	<i>Glycine max</i>	MOTHI	P 100	③	CHATTAR, 75km S BESHAM (1650m)	July - Oct.
2326 (1)	22/OCT	"	"	P 100	③	REERH, 15km E MANSEHRA (1100m)	"

Genus : *Hordeum, Avena*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2281 (6)	14/OCT	<i>Hordeum vulgare</i>	JAW	P	Market ③	DIR, DIR, (1400m)	Oct. -
2294 (4)	16/OCT	"	SIRI	P	"	GARAM CHISHMA, 45km NW CHITRAL (2250m)	-
2294 (5)	"	"	"	P	③	"	-
2330 (2)	22/OCT	"	JAWO	P 300g	Market ③	JURAIID, 42km NE BALAKOT (1550m)	Nov.- May
2371 (2)	29/OCT	"	"	P 400g	"	MIAN CHANNU, 80km SW SAHIWAL (180m)	-
2371 (3)	"	<i>Avena sativa</i>	JAVI	P 400g	"	"	-
2415 (3)	11/NOV	<i>H. vulgare</i>	JAWO	P 500g	③ Market	MARAK, 58km S D. I. KHAN (230m)	Nov. - Apr.
2427 (3)	13/NOV	"	WARBASHAY	P 300g	"	QUETTA (1600m)	"
2429 (6)	14/NOV	"	SAW	P 200g	"	SURAB, 78km S KALAT (1800m)	"
2430 (3)	"	"	"	P 200g	③ Farm	SURGAZ, 12km SE KHUZDAR (1220m)	"
2432 (7)	15/NOV	"	"	P 200g	"	PARO BESIMIA, 60km NE KHUZDAR (1550m)	Oct.- Apr.
2435 (2)	"	"	SAW(JAWO)	P 300g	"	NAG, 100km S BESIMA (1450m)	Nov.- May
2436 (3)	16/NOV	"	JAWO	P 60g	"	ZANDAY DAZ, S NAG (1060m)	Nov.- Apr.
2437 (1)	"	"	"	P 300g	"	HUSHIAB, 97km E TURBAT (615m)	"
2438 (1)	"	"	"	P 300g Farm	"	SHANRUK, 45km E TURBAT (370m)	"
2439 (3)	17/NOV	"	"	P 100g	"	CHURBAK, 50km W TURBAT (150m)	"
2441 (1)	"	"	"	P 400g	③ Market	TURBAT (240m)	"
2443 (3)	18/NOV	"	"	P 250g	③ Farm	DANDAR, 62km E HUSHIAB (600m)	"
2444 (3)	"	"	"	P 400g	"	AWARAN, 154km E HUSHIAB (610m)	"
2445 (2)	"	"	"	P 300g	③ Market	MANGULI, 44km N AWARAN (820m)	"
2447 (2)	19/NOV	"	"	P 200g	③ Farm	MAZAR DAN, 65km N MASHKAI (1300m)	Nov.-

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's
⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Fodder food	None	⑥	②	③	Pure crop, small grain, brown seed, small plant, small pods, local	
"	"	"	⑤	①	"	Pure crop, brown seed -- greenish brown seed, small pod	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
--	Food fodder	--	⑥	--	--	Seed for farmers	
--	"	--	--	--	--		400g, market in CARAM CHISMA
--	"	--	--	--	--		400g
--	Food fodder	--	⑥	--	--		300g
--	"	--	--	--	--		Local variety
--	"	--	--	--	--		Local variety
Direct	Food fodder	--	--	--	--	gh seed color	
--	"	--	--	--	--		
--	"	--	⑤	--	--	Mixed of white & dark brown seed color	SAW == barley
--	"	--	--	--	--	Grey hull color	
--	"	--	⑤	②	③	Grey hull color	
--	"	--	"	"	"	"	
--	"	--	"	"	"	Grey-light yellow hull color	
--	"	--	"	"	"	Grey hull color	No irrigation
--	"	--	"	"	"	Grey & gold hull color	
--	"	--	"	"	"	Grey & gold hull color, small grain	
--	"	--	"	"	"	Slightly large seed, gold-grey hull color	Roasting, grinding with sugar (SATTU)
--	"	--	"	"	"	Gold-grey hull color	
--	"	--	"	"	"		
--	"	--	"	"	"		
Direct	Food fodder	--	"	"	"	Grey hull color	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Lens* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2281 (7)	14/OCT	<i>Lens culinaires</i>	MASOOR	P	Market ③	DIR, DIR (1400m)	—
2333 (3)	23/OCT	"	MASOORI	P 300g	Market ③	GARHI HABIB ULLAH, 22km SW MUZAFARABAD (860m)	Nov. – May
2347 (7)	26/OCT	"	MASSAR	P 300g	"	DINA	Nov. – Apr.
2415 (4)	11/NOV	"	MASOOR	P 500g	③ Market	MARAK, 58km S D.I. KHAN (230m)	"
2429 (3)	14/NOV	"	SHIR	"	"	SURAB, 78km S KALAT (1790m)	Oct./Nov. Apr./May
2429 (4)	"	"	"	"	"	"	"
2432 (1)	15/NOV	"	"	P 500g	③ Farm	PARO BESIMIA, 60km NE KHUZDAR (1550m)	Nov. – May.
2435 (4)	"	"	NIGIZ	P 200g	"	NAG, 100km S BESIMA (1450m)	Oct. – Apr.
2436 (5)	16/NOV	"	"	P 50g	"	ZANDAY DAZ, 100km S NAG (1060km)	Nov. – Apr.
2441 (2)	17/NOV	"	"	P 300g	③ Market	TURBAT (240m)	"
2445 (3)	18/NOV	"	"	P 200g	"	MANGULI, 44km N AWARAN (820m)	"
2446 (2)	"	"	"	P 100g	"	MASHKAI, 95km N AWARAN (1070m)	Nov. – May

Genus : *Oryza*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2770 (1)	13/OCT	<i>Oryza sativa</i>	BEGAMI SHOLEY	P 100	③	AMANDARA, 21km NE MALAKAND (650m)	June – Oct.
2270 (2)	"	"	"	P 40	"	"	"
2270 (3)	"	"	"	P 20	"	"	"
2270 (4)	"	"	SHUGA	P 60	"	"	"
2271 (1)	"	"	NARAI SHOLEY	P 100	"	CHAKDARA, 3km E CHAKDARA (700m)	"
2271 (2)	"	"	KASHMIR BASMATI	P 165	④	"	"
2271 (3)	"	"	BEGAMI	P 250g	③	CHAKDARA, 4km E CHAKDARA (700m)	"
2271 (4)	"	"	SELLA	P 10	②	"	"
2274 (1)	14/OCT	"	BEGMI	P 100	③	BANDAY GAI, 25km N CHAKDARA (800m)	"
2274 (2)	"	"	SHUGA	P 60	②	"	"
2275 (1)	"	"	BEGAMI	P 250	③	HAIJABAD, 43km N CHAKDARA (810m)	"
2275 (2)	"	"	SHUGA	P 30	②	"	"
2278 (1)	"	"	BEGAMI	P 100	③	DARORA DIR, 88km N CHAKDARA (1100m)	"

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Curry	—	—	—	—	Highland type	
Direct	"	—	⑤	—	—	Micro type, grain dark brown, variable for size	
"	"	—	④	—	—	Mostly grey in seed color, varied from grey to brown, seed size variable	Asian form (Micro type)
"	"	—	—	—	—		
"	"	—	⑤	—	—	Grey-light brown seed color, micro type	
"	"	—	"	"	"	Light to dark grey and brown seed color, micro type	
"	"	—	"	②	③	Grey, light red, mottled & black seed color mixed	
"	"	—	"	"	"	Black seed color, some light brown seed mixed, small seed size	NIGIZ in Makrani
"	"	—	"	"	"	Small, dark black color	
"	"	—	"	"	"	Dark black color	
"	"	—	"	"	"	Black and brown seed mixed	Irrigated
"	"	—	"	"	"	Black seed color, reddish mixed	Irrigated

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl.	Food	None	⑤	①	②	Awne and awnless, shattering high to low, medium long grains	Mixed sample SHOLEY = paddy in Pushtoo
"	"	"	"	"	"	Non-shattering type, round grain	
"	"	"	"	"	"	Shattering medium but same shape and plant type to #2270 (2)	
"	"	"	"	"	"	Awne, compact to lax panicle, short to long grain, shattering high	
"	"	Grass hopper	"	"	"	Highly variable in grain shape, size and compactness, plant height, etc.	
"	"	"	"	"	"	Improved in NWFP, 91cm height, 24cm panicle, no awn, fine grain	Indica
"	"	None	"	"	"	Threshing yard sample	
"	"	"	"	"	"	Culm length 120cm, panicle 34cm lax, old variety	Same to LOCAL BASMATI
"	"	"	"	"	③	Coarse, awnless, uniform	
Direct	"	"	"	"	"	Mixed in BEGMI, compact to loose, shattering high, awn, color, type variable	Weedy type of BEGMI
Transpl.	"	"	"	"	"	Awnless, coarse grain, uniform	
"	"	"	"	"	"	Awne to awnless, shattering high, medium long grain	As weed
"	"	"	⑥	"	"	Low variation, awne or awnless	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Oryza* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989. BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2278 (2)	14/OCT	<i>Oryza sativa</i>	SHUGA	P 80	③	DARORA, DIR 88km N CHAKDARA (1100m)	June – Oct.
2278 (3)	"	"	PUKIIANAY SHOLEY	P 40	"	"	"
2279 (1)	"	"	GARRAY SHOLEY	P 130	"	GANDIDAR BALA, 98km N CHAKDARA (1200m)	"
2279 (2)	"	"	BEGAMI	P 80	"	"	"
2280 (1)	"	"	"	P 150	"	CHAKIATAN, 6km S DIR (1250m)	"
2284 (1)	15/OCT	"	BASMATI SHALAI	P 150	"	SAVEDUR DROSH, 5km S DROSH (1300m)	"
2284 (2)	"	"	NALI SHALAI	P 100	"	"	"
2284 (3)	"	"	MUNJAI SHALAI	2 plants	"	SAVEDUR DROSH, 5km S DROSH (1300m)	"
2286 (1)	"	"	NALI SHALAI	P 200	"	YATILASHT, 20km S CHITRAL (1480m)	"
2286 (2)	"	"	BAYAN SHALAI	P 100	"	"	"
2287 (1)	16/OCT	"	LAKH SHALEY	P 100	"	BALTCH, 3km N CHITRAL (1500m)	"
2287 (2)	"	"	NALI SHALEY	P 150	"	"	"
2287 (3)	"	"	BASMATI SHALEY	P 150	"	CHASHMA, 4km N CHITRAL (1500m)	"
2288 (1)	"	"	NALI SHALEY	P 100	"	SHARI, 10km N CHITRAL (1560m)	"
2289 (1)	"	"	NALI SHALEY	P 120	"	KANIS GHAL, 14km N CHITRAL (1620m)	"
2290 (1)	"	"	BAYUN SHALEY	P 120	"	BELPHUR, 17km N CHITRAL (1670m)	"
2290 (2)	"	"	NALI SHALEY	P 140	"	"	"
2291 (1)	"	"	NALI SHALEY	P 150	"	SHOGHOL AVI, 25km NW CHITRAL (1850m)	"
2291 (2)	"	"	BASMATI SHALEY	P 100 Farm yard	"	"	May – Oct.
2292 (1)	"	"	NALI SHLEY	P 160	"	MIYZI GRAM, 33km NW CHITRAL (1950m)	"
2293 (1)	"	"	"	P 150	"	UCHO, 39km NW CHITRAL (2100m)	"
2295 (1)	17/OCT	"	BASMATI SHALEY	P 100	"	MUYDA-AYUN, S CHITRAL (1450m)	June – Oct.
2295 (2)	"	"	TUKH SHALEY	P 100	"	"	"
2295 (3)	"	"	NALY SHALEY	P 100	"	"	"
2296 (1)	"	"	NALI SHALEY	P 70	"	CHONGA HOOR, 26km S CHITRAL (1520m)	"
2297 (1)	"	"	SHANALI SHALEY	P 100	"	WADUS BOMBURET, 38km NW CHITRAL	Apr. – June Oct.
2299 (1)	"	"	BADMASTAY SHALEY	P 100	"	BOMBURET, Kalash vally 45km SW CHITRAL(2000m)	May – Oct.

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's
 ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl.	Food	None	⑥	①	③	Shattering high, awned, compact panicle, old cultivar	Mixed in BEGAMI
"	"	"	"	"	"	Small fine grain, short panicle, awnless, shattering high	
"	Food very sweet	"	"	"	"	Long awn, long panicle, shattering med., coarse grain, hull colored, tall	
"	Food	"	"	"	"	Uniform in grain shape and color	
"	"	"	"	"	"	Awned and awnless, low variation	
"	"	"	"	"	"	Awned, medium fine grain, tall, long panicle, shattering high	
"	"	"	"	"	"	Long awn, coarse grain, long panicle apiculus purple, shattering high	Mixed in BASMATI SHALAI field
"	"	"	"	"	"	Awnless, shattering	"
"	"	"	"	"	"	Awned, coarse, round grain, short panicle	
Direct	"	"	"	"	"	Awned, round grain, short plant, small panicle, plant height 20-30cm	Panicle length 5-8cm
Transpl.	"	"	"	"	"	Dense panicle, like BEGAMI, round grain, shattering	LAKH = without awn Newly introduced here, may be BEGAMI
"	"	"	"	"	"	Dense panicle, long awn, round grain, apiculus color is mixed with purple and straw, shattering, uniform in field	
"	"	"	"	"	"	No awn, medium grain, small grain, shattering high	
"	"	"	"	"	"	Long awn, hull color straw to brown, large panicle, 3 types were mixed, shattering	
"	"	"	"	"	"	Several kinds of varieties mixed, hull brown, purple, gold, short stature, long awn, shattering easy to hard	Very high variation, all Japonica
Direct	"	"	"	"	④	Several types, hull color brown to purple, shattering, long awn	Fine, sand and quartz grey color
Transpl.	"	"	"	"	"	Characters near to #2290(1), high variation for hull color, awn and apiculus color, compact panicle	
"	"	"	"	"	③	Long awn with brown and purple color mixed, dense panicle, round grain, shattering	
Direct	"	"	"	"	"	Fine, long grain, long awn	
Transpl.	"	"	"	"	"	Long awn, some colors in hull, compact panicle, sterile grains	
"	"	"	"	"	"	Almost same population to #2292	
"	"	"	"	"	"	Fine long grains, large panicle, variable for awn length, colored awn mixed	Silt
"	"	"	"	"	"	Awnless, round grain, short panicle late variety	
"	"	"	"	"	"	Long awn, round grain, colored awn, uniform	
"	"	"	"	"	"	Long colored awn, similar to #2295(3)	Silt
"	"	"	"	"	"	Long awn, brownish yellow grain, awn color, apiculus red-brown, round grain, sterile due to cold	Silt
"	"	"	"	"	"	Long awn, brown hull, colored apiculus, compact panicle, long and heavy panicles	

line ⑤ others. 3) Topography: ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Oryza* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2301 (1)	19/OCT	<i>Oryza sativa</i>	BOOTAY SHOLEY	P 100	③	SALANDA, 10km NE MINGORA (1050m)	Apr.-Oct.
2301 (2)	"	"	SARA SHOLEY	P	"	"	"
2302 (1)	"	"	BEGAMI SHOLEY	P 120	"	LANDAY, 22km N MINGORA (1100m)	Apr. Jun.(T) --Oct.
2302 (2)	"	"	SARA SHOLEY	P 80	"	"	"
2310 (1)	20/OCT	"	BEGAMI SHOLEY	P 150	"	JANO, 2km E KHAWAZAKHELA (1200m)	June(T) --Oct.
2310 (2)	"	"	SUR SHOLEY	P 60	"	"	"
2311 (1)	"	"	BEGAMI SHOLEY	P 150	"	CHAMTALI, 8km E KHAWAZAKHELA (1450m)	"
2313 (1)	"	"	BEGAMI SHOLEY	P 70	"	SHUMA NOKAS, 38km E KHAWAZAKHELA (1370m)	"
2314 (1)	"	"	BOTA BEGAMI	P 150	"	DHERI, 45km E KHAWAZAKHELA (1150m)	"
2315 (1)	"	"	BOTA	P 150	"	GASURA, 3km NW BESHAM (800m)	"
2316 (1)	21/OCT	"	BOTAY SHOLEY	P 150	"	JANRAYABAD, 5km S BESHAM (650m)	"
2316 (2)	"	"	LINWANGAY SHOLEY	P 100	"	"	"
2316 (3)	"	"	SUR SHOLEY	P 60	"	"	"
2316 (4)	"	"	GARRARA	P 40	②-③	"	"
2316 (5)	"	"	NARAY SHOLEY	P 70	③	"	"
2317 (1)	"	"	SHOLEY	P 100	②-③	SHANG, 8km S BESHAM (670m)	"
2321 (1)	"	"	BOTAY SHOLEY	P 400g	③	CHANJAL, 41km S BESHAM (800m)	"
2322 (1)	"	"	SARA SHOLEY	P 70	②-③	PISHORA, 47km S BESHAM (940m)	"
2322 (2)	"	"	SUR SHOLEY	P 30	②-③	"	"
2324 (1)	"	"	GARRARA	P 70	③	KOTLIBALA, 30km N MANSEHRA (1120m)	Apr. June(T) --Oct.
2324 (2)	"	"	SHUGA SHOLEY	P 50	②-③	KOTLIBALA, 30km N MANSEHRA (1120m)	Apr. June(T) --Oct.
2325 (1)	"	"	SUR SHOLEY	P 100	③	DORAH-BAFFA, 12km N MANSEHRA (1100m)	"
2327 (2)	22/OCT	"	CHEENI	P 100	"	BISYAN, 10km S BALAKOT (930m)	"
2327 (3)	"	"	JHONA	P 100	"	"	"
2327 (4)	"	"	ANDRABI KIYARA	P 25 panicles	"	"	-- E.Oct.
2328 (1)	"	"	MOTIA BI	P 50	"	RACHONI, 5km N BALAKOT (1200m)	"
2335 (1)	23/OCT	"	CHEENI DHAIN	P 150	"	SUBRI, 6km SE MUZAFARABAD (790m)	"

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl.	Food	Stem borer	⑤	①	③	Coarse grains, awnless and awned, compact panicle, low shattering, short	Clay
"	"	None	"	"	"	Red kernel, high shattering, common in old type, medium coarse, short panicle, awnless - awned, grain shape variable	SARA = rod in Pashtoo
"	"	"	"	"	"	Awned and awnless mixed, round grains, compact dense panicles mixed with red rice as next sample	
"	"	"	"	"	"	Old variety before BEGAMI came, red kernel, medium fine, awned and awnless, short panicle, not fully exerted	Clay
"	"	"	"	"	"	Awnless and awned, coarse grain, dense panicle, shattering intermediate	
"	"	"	"	"	"	Mixed in BEGAMI field, red kernel, medium coarse, long awn, compact panicle, high shattering	
"	"	"	⑥	"	"	Most awnless, a few awned, uniform, dense panicle, medium shattering	
"	"	"	"	"	"	Awned and awnless, uniform, compact panicle, round grain, injured by cold	
"	"	"	"	"	"	Long awn, apiculus purple and gold hull mixed, a few were brownish	
"	"	"	"	"	"	4-5 types mixed, awned-awnless, red kernel, colored apiculus, shattering easy to hard	
"	"	"	"	"	"	Long awn, brown hull, purple apiculus color, compact panicle, shattering high	Mixed in BEGAMI field
"	"	"	"	"	"	Tall, straw thick, medium fine, heavy compact panicle, awned and awnless, very old cultivar, now grown as mixture	
"	"	"	"	"	"	Red kernel, small grain, high shattering awnless, short panicle	
"	"	"	"	"	"	Weedy, tall compact panicle, high shattering, long awn	
"	"	"	"	"	"	Small grain, compact panicle, high-low shattering, awnless, slender, very old cultivar	
"	"	"	"	"	"	Originally BEGAMI field, mixed in 6-7 cultivars, weedy type, high variation	Weedy type mixed (a few plants: black hull)
"	"	"	"	"	"	3-4 types are mixed, awnless dominated, round grain	Threshing yard
"	"	"	"	"	"	Awned, high shattering, mixed in BEGAMI field, fine long grain	
"	"	"	"	"	"	Red kernel, medium fine grain, varied in hull color and shattering habit	
"	"	"	"	"	"	Well grown, slightly awned like BEGAMI, round grain, large panicle	
"	"	"	⑥	"	"	Large panicle, long awn, round grain, apiculus purple, shattering high	Mixed in GARRARA
"	"	"	⑤	"	"	Red grain, awned and awnless, short panicle, lodging, shattering	"
"	"	"	⑥	"	"	Medium round, dense and compact panicle, awnless	
"	"	"	"	"	"	Coarse grain, heavy compact panicle, awnless, like BEGAMI	
"	"	"	"	"	"	Long awn, round grains, shattering high	ANDRABI = weed KIYARA = awn
"	"	"	"	"	"	Round, dense panicle, mostly awnless	Silt(red)
"	"	"	"	"	"	Mostly awnless, medium round grain, short panicle	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Oryza* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989. BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2335 (2)	23/OCT	<i>Oryza sativa</i>	ANDRA DHAIN	P 50	③	SUBRI, 6km SE MUZAFARABAD (790m)	-- E. Oct.
2336 (1)	"	"	SUGDAS	P 100	"	KILAN BUNDAY WAY 14km SE MUZAFARABAD(850m)	"
2336 (2)	"	"	CHEENI DHAIN	P 100	"	MAJHOTI, 17km SE MUZAFARABAD (850m)	"
2336 (3)	"	"	JHONA DHAIN	P 100	"	"	"
2336 (4)	"	"	BASMATI	P 80	"	"	"
2339 (1)	24/OCT	"	KHANDURI	P 50	"	PATEIKA, 19km NE MUZAFARABAD (900m)	"
2339 (2)	"	"	CHEENI	P 100	"	"	"
2339 (3)	"	"	BASMATI	P 100	"	"	"
2340 (1)	"	"	SUGDAS	P 100	"	PANJGIRAN, 29km NE MUZAFARABAD (980m)	"
2340 (2)	"	"	CHEENI	P 150	"	"	"
2340 (3)	"	"	KHANDURI	P 25panicles	"	"	"
2343 (1)	"	"	CHEENI	P 150	"	BATA, 78km N MUZAFARABAD (1400m)	"
2343 (2)	"	"	KALAR DHAIN	P 100	"	"	"
2343 (3)	"	"	SHALI DHAIN	P 100	"	"	Apr.-- Oct.
2350 (1)	26/OCT	"	BASMATI	P 150	"	MALIKPUR, 10km S KHARIAN (300m)	"
2350 (2)	"	"	DAGAR	P 50	"	"	"
2350 (3)	"	"	NUNJI	P 20	"	"	"
2352 (1)	"	"	DAGAR	P 100	"	GUJRAT (300m)	"
2352 (2)	"	"	MUNJI	P 50	"	"	"
2353 (1)	"	"	BASMATI	P 100	"	WAZIRABAD, 4km E WAZIRABAD (300m)	"
2353 (2)	"	"	MANGOI BASMATI	P 100	"	"	"
2354 (1)	27/OCT	"	CHOBA	P 20	"	DOBURJI, 7km S SIALKOT (300m)	"
2354 (2)	"	"	BASMATI 370	P 50	③	"	"
2354 (3)	"	"	BASMATI 385	P 70	④	"	"
2355 (1)	"	"	PURANI BASMATI	P 100	③	VIRIO, 14km SE SIALKOT (300m)	"
2355 (2)	"	"	MUSHKAN BASMATI	P 10	"	"	"
2355 (3)	"	"	DESI JHONA	P 10	"	"	"

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl.	Food	None	⑥	①	③	Long awn, mixed, brown hull, shattering high	Mixed in BASMATI DHAIN field
"	"	"	"	"	"	Long awn, brown or gold hull, shattering high	
"	"	"	"	"	"	Coarse grain, tall plant, awnless	
"	"	"	"	"	"	Medium long grain, awnless, tall, heavy panicle	
"	"	"	"	"	"	LOCAL BASMATI, tall plant, fine long grain	
"	"	"	"	"	"	Long grain, awned, dense panicle, tall plant, apiculus purple	
"	"	"	"	"	"	Medium long to round grain, awned and awnless, shattering hard to easy, red kernel mixed, 3-4 different types	
"	"	"	"	"	"	Fine grain, awned and awnless, colored apiculus mixed, red kernel	
"	"	"	"	"	"	Long awn, brown hull, round grain, shattering high, compact heavy panicle	
"	"	"	"	"	"	Medium fine grain, mostly no awn, heavy and compact panicle, shattering high	
"	"	"	"	"	"	Long fine grain, compact heavy panicle, tall, long awn	
"	"	"	"	"	"	Medium fine grain, mostly no awn, compact panicle, shattering high	
"	"	"	"	"	"	Coarse medium round grain, awned, heavy and long panicle, shattering medium	
"	"	"	"	②	"	Round small grain, long awn, heavy dense panicle, apiculus colored, shattering medium	
"	"	"	③	①	①	LOCAL BASMATI, 3 types in awn, color and apiculus, fine long grain, shattering	
"	"	"	"	"	"	Long awn, round grain, heavy panicle, (medium coarse) brown hull, shattering high	Mixed in BASMATI field
"	"	"	"	"	"	Medium fine grain, awnless, gold hull, compact panicle, shattering high	Mixed in BASMATI
"	"	Leaf blast	"	"	"	Awnless to awned, tall plants, medium round	"
"	"	"	"	"	"	Mixed in BASMATI field, mostly awnless, medium fine, compact to loose panicles	"
"	"	None	"	"	"	Long fine grain, long heavy panicle, mostly awnless, tall plants	"
"	"	"	"	"	"	Taller than LOCAL BASMATI, large panicle, fine grain, lax panicle	
"	"	"	"	"	"	Mixed in BASMATI field, farmers called 'weed'; medium coarse, awned	Mixed in "BASMATI 385"
"	"	"	"	"	"	Selection of LOCAL BASMATI, the best variety of Pakistan, but very old (90 years) fine, long grain, tall, heavy panicle (37cm),	" scented
"	"	"	"	"	"	Tall, heavy panicle and long (35cm), fine grain, improved, not scented	
"	"	"	"	"	"	Tall (110cm), heavy panicle, old variety, good eating quality, scented, fine grain	Mixed in improved BASMATI field
"	"	"	"	"	"	Tall, compact heavy panicle, old cultivar, shattering high	"
"	"	"	"	"	"	Medium coarse, compact lax panicle, awned, apiculus purple, shattering high	"

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Oryza* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2355 (4)	27/OCT	<i>Oryza sativa</i>	MOTA JHONA	P 10	③	VIRIO, 4km SE SIALKOT (300m)	Apr.-Oct.
2355 (5)	"	"	RATTAR	P 10	"	"	"
2356 (1)	"	"	CHOBA	P 30	②-③	RAMKAY, 4km NW PASROOR (300m)	"
2357 (1)	"	"	"	P 100	"	NOWSHERA, 5km S PASROOR (300m)	"
2358(1)	"	"	"	P 100	"	KHAN WALI, 80km S PASROOR (300m)	"
2358 (2)	"	"	"	P 20	"	"	"
2359 (1)	"	"	KERNAL BASMATI	P 20	③	UCHA PIND, 15km SW KALA KALAR KHAN (300m)	June - Oct.
2359 (2)	"	"	CHOBA	P 50	②-③	"	"
2360 (1)	"	"	MUSHKAN BASMATI	P 50	②-③	GHAURA RAJPUT, 7km E MURDRAY (300m)	"
2360 (2)	"	"	CHOBA	P 30	②-③	"	"
2361 (1)	28/OCT	"	KERNAL BASMATI	P 100pan.	③	HARYA TIBA, 10km E SHEIKHUPURA (260m)	"
2361 (2)	"	"	CHOBA	P 40	②-③	HARYA TIBA, 8km E SHEIKHUPURA (260m)	"
2361 (3)	"	"	MUSHKAN BASMATI	P 30pan.	"	"	"
2361 (4)	"	"	BARA	P 10pan.	"	"	"
2364 (1)	"	"	CHOBA 1	P 30pan.	"	SHAHKOT, 58km S SHEIKHUPURA (250m)	"
2364 (2)	"	"	CHOBA 2	P 30pan.	"	"	"
2364 (3)	"	"	CHOBA 3	P 30pan.	"	"	"
2364 (4)	"	"	DESI BASMATI 1	In 10pan.	"	"	"
2364 (5)	"	"	DESI BASMATI 2	In 9pan.	"	"	"
2364 (6)	"	"	DESI BASMATI 3	In 15pan.	"	"	"
2364 (7)	"	"	DESI BASMATI 4	In 6 pan.	"	"	"
2365 (1)	"	"	CHOBA	P 50pan.	"	BANGLA SIALWALA, 15km S FAIZALABAD (250m)	"
2366 (1)	"	"	CHOBA 1	P 100	"	CHAK 527, 30km S FAIZALABAD (240m)	"
2366 (2)	"	"	CHOBA 2	P 100	"	"	"
2366 (3)	"	"	CHOBA 3	P 20pan.	"	"	"
2367 (1)	"	"	DESI BASMATI	P 100	"	CHAK 608, 30km S SAMMUNDRI (240m)	"
2367 (2)	"	"	CHARA	P 50	②-③	"	"

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl.	Food	None	③	①	①	Medium coarse, compact-lax panicle awned, apiculus purple, shattering high	Mixed in improved BASMATI field
"	"	"	"	"	"	Medium fine, gold hull, kernel red, awnless, shattering high	"
"	"	"	"	"	"	2-3 types mixed, awned and awnless, medium to medium long, lax panicle, shattering high	Mixed in BASMATI field, as weed or off-types
"	"	"	"	"	"	3-4 types mixed, medium to long, awned to awnless, mixed, shape varied, shattering	Mixed in BASMATI
"	"	"	"	"	"	Weed in BASMATI field, awnless, medium fine-medium, lax panicle, shattering high	Mixed in LOCAL BASMATI
"	"	"	"	"	"	Awned, others are similar to # 2358(1)	"
"	"	Blast (leaf)	"	"	"	Very tall, long heavy panicle, fine grain, old cultivar, shattering high	Mixed in BASMATI
"	"	None	"	"	"	Weed form in BASMATI field, medium fine, awned and awnless, shattering high	"
"	"	"	"	"	"	Very tall, long heavy panicle, gold hull, fine grain, shattering high	Mixed in improved BASMATI
"	"	"	"	"	"	Spread panicle, medium fine, small grain, tall plant, shattering high	"
"	"	"	"	"	"	Long fine, heavy and lax panicle, tall, awnless, shattering high	Mixed in BASMATI, now as off-type
"	"	"	"	"	"	Medium long to coarse grain, awnless, compact to lax panicle	"
"	"	"	"	"	"	Long grain, awnless mostly, apiculus purple, tall plant	"
"	"	"	"	"	"	Medium fine grain, awned slightly, brown hull, red kernel, shattering high	"
"	"	"	"	"	"	Medium long, medium fine, awned and awnless, compact, shattering high	Mixed in BASMATI
"	"	"	"	"	"	Medium round, gold hull, mostly awnless, shattering high, red kernel	"
"	"	"	"	"	"	Some types mixed, apiculus colored(pl), medium long grain, red kernel, shattering high	"
"	"	"	"	"	"	Compact heavy panicle, fine long grain, awned, brown kernel	"
"	"	"	"	"	"	Fine small grain, awned, brown kernel, shattering high	"
"	"	"	"	"	"	Small fine grain, compact panicle, apiculus colored, awned	"
"	"	"	"	"	"	Awnless, fine small grain, red kernel	"
"	"	Blast	"	"	"	Awned and awnless, medium fine grain, compact, lax panicle, shattering high	"
"	"	None	"	"	"	Awnless, medium round to medium long, dark brown hull, high shattering	"
"	"	"	"	"	"	Awned, medium long grain, loose panicle, high shattering	"
"	"	"	"	"	"	Long fine grain, gold hull, awned, small grain, red kernel, apiculus purple, high shattering	"
"	"	"	"	"	"	Long fine grain, tall plant, old local variety	For self consumption
"	"	"	"	"	"	Awned to awnless, medium to long grain, mixed in LOCAL BASMATI	"

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Oryza* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2368 (1)	28/OCT	<i>Oryza sativa</i>	BARA 1	P 100	②-③	CHABI, 47km SE SAMUNDRI (240m)	June-Oct.
2368 (2)	"	"	BARA 2	P 100	"	"	"
2369 (2)	29/OCT	"	JHONA (population)	P 150	"	CHIAK 187, 17km SW SAHIWAL (200m)	"
2369 (3)	"	"	RATTAR	P 150	"	"	"
2369 (4)	"	"	RATTAR (awned)	P 30	"	"	"
2369 (5)	"	"	BASMATI (off-type)	P 10	"	"	"
2369 (6)	"	"	BASMATI (off-type)	P 10	"	"	"
2369 (7)	"	"	CHOBA (selective)	In 1	"	"	"
2370 (1)	"	"	KERNAL BASMATI	P 150	"	IQBAL NAGAR,69kmSW SAHIWAL (180km)	"
2370 (2)	"	"	CHOBA	P 40	"	"	"
2372 (1)	"	"	DESI BASMATI	P 150	③	SHAMKOT, 15km SW KHANEWAL (170m)	"
2372 (2)	"	"	BARA/CHOBA	P 50	②-③	"	"
2372 (3)	"	"	BASMATI	In 1	"	"	"
2372 (5)	"	"	BASMATI (population)	P 70	"	SHAMKOT, 20km SW KHANEWAL (170m)	"
2373 (1)	"	"	DESI BASMATI	P 50	"	MURAD WALA, 17km NE MULTAN	"
2375 (1)	30/OCT	"	RATTA	P 150	③	KUIWALA, 36km NE MULA MULTAN(150m)	"
2375 (2)	"	"	KATCHA BASMATI	P 100	"	"	"
2375 (3)	"	"	CHOTA BASMATI	P 50	"	"	"
2376 (1)	"	"	KERNAL BASMATI	-	"	MASTPUR, 59km NE MULTAN (150m)	"
2379 (1)	"	"	"	P 150	"	MAUZA QADIMI, 18km SW JHANG (180m)	"
2379 (2)	"	"	CHOBA	P 25	②-③	"	"
2381 (1)	31/OCT	"	KERNAL BASMATI(awned)	P 50	③	SADA HUSSAINABAD,55km NE JHANG (180m)	"
2381 (2)	"	"	"	P 100	"	"	"
2381 (3)	"	"	DESI BASMATI	P 50	②-③	"	"
2381 (4)	"	"	CHOBA	P 30pan.	"	"	"
2381 (5)	"	"	CHOBA CHIGAR WALA	P 20pan.	"	"	"
2385 (1)	1/NOV	"	KERNAL BASMATI	P 100	③	SIHWALA, 6km N KHUSHAB (220m)	"

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl.	Food	None	③	①	①	Awned, medium fine grain, compact to lax panicle, high shattering	Mixed in BASMATI field
"	"	"	"	"	"	Mostly awnless, medium round grain, shattering high	
"	"	"	"	"	"	High variation: height, seed, awn, etc.	Big population sample
"	"	"	"	"	"	Awnless, red kernel, medium long compact panicle	
"	"	"	"	"	"	Awned, others are similar to '# 2369(3)'	
"	"	"	"	"	"	Long large grain, awned, heavy panicle, purple hull	Some off-type of BASMATI, now as weed
"	"	"	"	"	"	Long fine grain, awned, gold hull, apiculus purple, small grain with heavy panicle	"
"	"	"	"	"	"	Medium round grain, selective sample, red kernel, awnless	" 20 panicles
"	"	"	"	"	"	Long heavy panicle, fine grain, awned-awnless, shattering high	
"	"	"	"	"	"	3 types mixed (gold hull, brown, straw color), medium to coarse, shattering high	as weed in KERNAL BASMATI
"	"	Plant hopper	"	"	"	Tall, fine grain, mostly awnless	
"	"	"	"	"	"	Medium fine grain, tall plant, awnless, shattering high	Weed in BASMATI
"	"	"	"	"	"	Purple apiculus color, awnless, very tall plant	off-type of BASMATI
"	"	None	"	"	"	Various grain shapes in BASMATI field, mostly fine grains, shattering high	
"	"	Plant hopper	"	"	"	Variations not much, fine long grains, shattering high	Mixed in improved BASMATI
"	"	"	"	"	"	Mostly RATTA cultivated, awnless and awned, medium to fine grain, red kernel, shattering high	Pure RATTA field
"	"	"	"	"	"	Long fine grain, awnless mostly to awned, lax, panicle, shattering high	Mixed in RATTA field
"	"	"	"	"	"	Long fine, small grain, apiculus purple, lax, red kernel, shattering high	" as off-type of KATCHA BASMATI
"	"	None	"	"	"	Long fine grain, pure field, awnless (mostly), light panicle, shattering high	
"	"	"	"	"	"	Long fine grain, long panicle, lax panicle, LOCAL BASMATI, shattering high	Pure stand panicle: 30cm
"	"	"	"	"	"	Medium long to round, awned and awnless, 2~3 types, shattering high	Mixed in KERNAL BASMATI, a few
"	"	Blast (neck)	"	"	"	Awned, long fine grain, light panicles, tall plant, shattering high	Mixed in KERNAL BASMATI
"	"	"	"	"	"	Pure KERNAL BASMATI, long fine grain, awnless, tall, lax panicle, long panicle, shattering high	
"	"	"	"	"	"	Long fine grain, awnless, long panicle, medium long, compact panicle, shattering high, off-type of KERNAL BASMATI	Mixed in KERNAL BASMATI
"	"	"	"	"	"	Medium coarse to coarse grain, gold hull, compact panicle, shattering high, red kernel	Weedy in KERNAL BASMATI
"	"	"	"	"	"	Medium fine small grain, awned, compact panicle, shattering high, red kernel	CHIGAR = hair
"	"	None	"	"	"	Long fine grain, awnless but a few with awn, long panicle, lax, shattering high	Major in population

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Oryza* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2385 (2)	1/NOV	<i>Oryza sativa</i>	JHONA LAL	P 50	②-③	SIHWALA, 6km N KHUSHAB (220m)	July(Tr) -Oct.
2385 (3)	"	"	JHONA (awned)	P 50	"	"	"
2385 (4)	"	"	RATTAR	P 30	"	"	"
2395 (1)	6/NOV	"	CHINI	P 50	③	MAJHOI, 18km E MUZAFARABAD (840m)	May - Oct.
2396 (1)	"	"	CHAWAL	P	"	SUNDRI BANDI, 48km N MUZAFARABAD (1240m)	June - Oct.
2399 (1)	7/NOV	"	"	P 100	"	SARI, 35km E MUZAFARABAD (1010m)	-
2400 (3)	"	"	CHINI	P	"	SAWAN, 46km E MUZAFARABAD (1040m)	June - Oct.
2401 (1)	"	"	CHAWAL CHINI	P	"	CHAKOTHI, 62km E MUZAFARABAD (1180m)	"
2401 (1)	8/NOV	"	DHAN	P	"	BANJ PASRI, 41km S CHIKAR (1080m)	"
2404 (2)	"	"	"	P	"	"	"
2406 (1)	9/NOV	"	SATHI	P farm	"	TAIN, 45km W RAWALA KOT (800m)	"
2412 (1)	10/NOV	"	RATTA CHAWAL	P 50	"	DHAKKI, 50km NE D. I. KHAN (280m)	July - Nov.
2413 (1)	"	"	BASMATI	P	"	GIRSAL, 18km NE D. I. KHAN (290m)	June - Oct.
2418 (1)	11/NOV	"	RATTRI	P 50	"	NURPUR, 55km N D. G. KHAN (250m)	June - Nov.
2418 (2)	"	"	Unknown	P	"	"	"
2419 (1)	"	"	DHAN	P 100	"	SHEH SADAR UDDIN 25km N D. G. KHAN (230m)	June - Nov.
2430 (1)	14/NOV	"	SUGDASI BRINJ	P 300g	③	SURGAZ, 12km SE KHUZDAR (1220m)	June - Oct.
2430 (4)	"	"	DHIDO BRINJ	P 150g	"	"	-
2437 (2)	16/NOV	"	BRINJ	P	"	HUSHAB, 97km E TURBAT (615m)	June - Oct.
2438 (2)	"	"	KANGNI BRINJ	P 300g	"	SHAHRUK, 45km E TURBAT (370m)	"
2440 (1)	17/NOV	"	KUTUK BRINJ	P 400g	"	ASIABAD, 73km W TURBAT (190m)	"
2442 ()	18/NOV	"	BASMATI BRINJ	P 800g	"	SAMI, 25km E TURBAT (310m)	"
2442 ()	"	"	SHALI BRINJ	P 400g	"	"	"

Genus : *Panicum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2294 (3)	16/OCT	<i>Panicum miliaceum</i>	OLEEN	P 60	②	GARAM CHISHMA (2250m)	June - Oct.
2299 (2)	17/OCT	"	"	P 100	"	BOMBURET, Kalash valley, 45km SW CHITRAL (2000m)	July - Oct.

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl.	Food	None	③	①	①	Open culm, medium to long panicle, compact, brown hull, awnless, shattering high	Mixed in KERNAL BASMATI
"	"	"	"	"	"	Awned, medium compact panicle reddish hull, shattering high, dense panicle, medium coarse grain	"
"	"	"	"	"	"	Medium coarse to medium fine, red kernel, short panicle, awned to awnless, shattering high	
"	"	"	"	"	"	Medium grain, short panicle, 80cm CL, sh. med. easy	Photos CL: culm length
"	"	"	"	"	"	No api. color, med. grain sh. easy.	Straw for animals and fuels
"	"	"	⑥	"	②	No api. color, no awn, gh, PL 20cm, CL 80cm, sh. med. easy	Planting : lax PL: panicle length
"	"	"	"	"	"	CL 80cm, PL 22cm, white kernel, no api. color, small medium awn	
"	"	"	"	"	"	CL 70cm, PL 18cm, medium grain, sh. easy, no awn, 2 types mixed, white kernel	
"	"	"	"	"	③	No awn, PL 20cm, CL 80cm, no api. color	Irrigation paddy stock
"	"	"	"	"	"	Awned, PL 20cm, CL 80cm, no api. color	" "
"	"	"	"	"	"	Many med. awn, purple red awn, white kernel, fine rice	
"	"	"	②	"	①	Awned, awnless mixed, red kernel, gh, light, heavy panicle, medium, course, medium fine mixed	
Irrigated	"	—	"	"	③	Long grain, white kernel, sword shape	
Direct	"	None	③	"	"	Awnless, CL 50cm, PL<20cm	Mixed in IR6
"	"	"	"	"	"	Awned, CL 60cm, PL<20cm	"
Transpl.	"	"	"	"	"	Awned, awnless, 3~4 type mixed	
"	"	—	⑤	"	①	Awned, api. color red, red glume, red, white kernel, long grain	
"	"	"	"	"	"	2 types mixed, brown hull is white, red kernel mixed, black hull type is red kernel	BRINJ = rice DHIDO = fatty
"	"	—	"	"	③	Long grain, white kernel	Improved, introduced from IRRI
"	"	—	"	"	"	Long & medium grain mixed, white kernel	
"	"	—	"	"	"	Long grain, white kernel	
"	"	—	"	"	"	gh. long grain, white kernel, awned and awnless	
"	"	—	"	"	"	White kernel awned	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Fodder food	None	⑥	②	③	Culm and leaf color: straw and purple, large population, large panicle	
"	Food fodder	"	"	"	"	Green-purple leaves, short plant, medium compact-lax panicle	Chappati and bird feeds panicle

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Panicum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2417 (1)	11/NOV	<i>Panicum miliaceum</i>	CHINRAN	P 200	③	CHAH SAMMUNDRI, 97km S D. I.KHAN (230m)	Aug. - Nov.
2426 (2)	13/NOV	"	AYDAN	P 300g	"	KUHLAK, 24km NE OUETTA (1610m)	July - Oct.
2427 (1)	"	"	AYZDAN	P 300g	③ Market	QUETTA (1600m)	"
2429 (1)	14/NOV	"	PIRISH	P 300g	"	SURAB, 78km S KALAT (1800m)	Aug. - Oct.

Genus : *Phaseolus*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2281 (4)	14/OCT	<i>Phaseolus vulgaris</i>	LOBIA	P	Market ⑥	DIR, DIR (1400m)	-
2281 (5)	"	"	"	"	"	"	-
2299 (4)	17/OCT	"	DAWOO	P 50	③	BOMBURET, Kalash Valley 45km SW CHITRAL (2000m)	June - Oct.
2300 (3)	18/OCT	"	LOBIA	P 300g	Market ⑥, ③	MINGORA (960m)	-
2303 (1)	19/OCT	"	SHOOPER	P 400g	"	MIANDAM, 8km E FATEHPUR (1900m)	June - Oct.
2303 (2)	"	"	"	P 400g	"	"	"
2303 (3)	"	"	"	P 400g	"	"	"
2306 (1)	"	"	KULAT	Market 500g	"	PASHMAL, 5km S KALAM (2030m)	June - E.Oct.
2306 (2)	"	"	"	400g	"	PASHMAL, 5km S KALAM (2000m)	"
2307 (1)	"	"	"	Market 400g	"	KALAM, 100km N MINGORA (2020m)	-
2308 (3)	20/OCT	"	RAMAK	P 150g	-	GORKIYAN, 6km NE KALAM (2150m)	June - E.Oct.
2309 (1)	"	"	"	P 400g	Farm house ③	PALUGHA, 22km NE KALAM (2450m)	"
2312 (1)	"	"	KULAT	P 100pods	③	AARO, 13km E KHAWAZAKHELA	June - Oct.
2320 (4)	21/OCT	"	RAMZAGAN	P 400g	Market ③	THAKOT, 29km S BESHAM (620m)	"
2329 (1)	22/OCT	"	MOTH	P 400g	Farm house ③	GUNNIR, 20km NE BALAKOT (1450m)	July - Oct.
2330 (1)	"	"	"	P 500g	Market ③	JURAI, 42km NE BALAKOT (1550m)	"
2333 (2)	23/OCT	"	"	P 400g	"	GARHI HABIB ULLAH, 22km MUZAFARABAD (860m)	-
2341 (1)	24/OCT	"	MOTH/BUGHLA	P 500g	Village Shop	JARGI, 58km N MUZAFARABAD (1150m)	-
2344 (1)	"	"	MOTH	P 300g	Market	ATHMAKAM, 87km N MUZAFARABAD (1450m)	-
2347 (5)	26/OCT	"	SURKH LOBIA	P 300g	"	DINA	-
2387 (3)	1/NOV	"	RATTA LOBIA	P 400g	"	CHINJI, 28km S TALAGANG (700m)	June - Oct.

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food chapati	None	②	①	③	Sandy, CL 60cm, PL < 20cm, slightly lax	More than 100 years
—	"	—	—	—	—	Light gold seed color	
—	"	—	—	—	—	Seed color mixed: yellow, greyish and green	
—	"	—	⑤	—	—	Small seed size, yellowish brown seed color	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	—	—	⑥	②	—	Large seed, light red color, with some mixtures	
—	—	—	"	"	—	Large seeded, red color with some mixtures	
Direct	Curry	None	"	"	"	Grown in maize field as mixed crop, reddish purple grain, big seed size	Mr. Alam Noor
—	"	—	"	"	"	Red colored seed, large size	
—	" and boiled	—	"	"	"	Light purple color, large seed size	Village market
—	"	—	"	"	"	Red color, some seeds varied in color (white, brown, black)	"
—	"	—	"	"	"	Mostly red, some dark brown, black and mottled	"
—	Mixed with rice	—	"	"	"	Highly variable in size, color of seed, shape also	"
—	"	—	"	"	"	Very highly variable in color, seed size, shape	Farm house
—	"	—	"	"	"	Similar to # 2306	
Direct	"	—	"	"	"	Flat and light red seed	Farm house
"	"	—	"	"	"	Brown, red, purple, black in seed color, in shape	RAMAK = Kohistani
"	"	None	"	"	"	Mixed planted in maize, red purple seed	
—	"	—	"	"	—	Red, brown, purple, black seed color, also seed size varied	
Direct	"	—	"	"	—	Red, brown, blue, black, white, mottled seeds, mixed, varied in seed size	
—	"	—	"	"	—	Variable for seed color from purple to brown, black and mottled	Last year's seed mixed
Direct	Food and curry	—	⑤	②	—		
"	"	—	⑥	"	—	Several types with different sp., color variable, shape also	Mixed
"	"	—	"	"	—	Light brown to pink seed color, some black seed mixed	
"	"	—	④	—	—	Reddish purple seed, large size, a few black and brown seeds	
"	"	—	"	—	—	Red seed mostly	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Phaseolus* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2394 (3)	5/NOV	<i>Phaseolus vulgaris</i>	LOBIA	P 250g	Market	DHIR KOT, 25km S KOHALA, AZAD KASHMIR(1680m)	—
2396 (3)	6/NOV	"	"	P	"	SUNDRI BANDI, 48km N MUZAFARABAD (1240m)	—
2397 (4)	"	"	"	P 50g	③	RASIAN, 97km N MUZAFARABAD (2250m)	June – Oct.

Genus : *Pennisetum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2346 (1)	26/OCT	<i>Pennisetum americanum</i>	BAJRA	P 90	③	SUHAWAH, 83km SE ISLAMABAD (520m)	—
2348 (1)	"	"	"	P 80	"	BAWALI, 5km S SARAI ALAMGIR (320m)	June – Oct.
2349 (1)	"	"	"	P 100	"	JANDANWALA, 5km S KHARIAN (320m)	"
2351 (1)	"	"	"	P 80	"	CHAK MURTAZA, 7km S LALA MUSA (000m)	"
2357 (2)	27/OCT	"	"	P 80	"	NOWSHERA, 5km S PASROOR (300m)	"
2362 (1)	28/OCT	"	"	P 90	"	KACHIKOTHI, 31km S SHEIKHUPURA (250m)	"
2363 (1)	"	"	"	P 60	"	MANA WALA KHOH, 48km S SHEIKHUPURA (250m)	"
2371 (1)	29/OCT	"	"	P 400g	③ Market	MIAN CHANNU, 80km SW SAHIWAL (180m)	—
2372 (4)	"	"	"	P 30	③	SHAMKOT, 17km SW KHANEWAL (170m)	June – Oct.
2379 (3)	30/OCT	"	"	P 60	"	MAUZA QADIMI, 14km SW JHANG (180m)	"
2382 (1)	31/OCT	"	"	P 60	"	MAUZA LODHIA, 20km SW CHINNOT (190m)	"
2383 (1)	"	"	"	P 100	"	CHAK III, 10km SE SARGODHA (200m)	"
2384 (1)	"	"	"	P 60	"	SARGODHA, 4km SW SARGODHA (200m)	"
2386 (1)	1/NOV	"	"	P 60	"	CHINJI, 30km S TALAGANG (700m)	"
2388 (1)	"	"	"	P 70	"	JHALRA, 8km S TALAGANG (550m)	"
2389 (1)	"	"	"	P 60	"	KOT TARA, 15km NE TALAGANG (450m)	"
2390 (1)	"	"	"	P 80	"	DHOK PATHAN, 27km NE TALAGANG (350m)	"
2408 (1)	10/NOV	"	"	P 50	"	AKWAL, 4km W TALAGANG (550m)	"
2414 (1)	11/NOV	"	BAJRI	P 80	"	PAROWA, 32km S D. I. KHAN (240m)	— Nov.
2415 (1)	"	"	"	P 500g	"	RAMAK, 58km S D. I. KHAN (230m)	Jul. – Oct.
2416 (1)	11/NOV	"	"	P 80	"	VAHOWA, 75km S D. I. KHAN (250m)	Aug. – Nov.
2420 (2)	12/NOV	"	Unknown	P	"	PAKHNI, 100km W D. G. KHAN (1170m)	"

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's
 ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Food and curry	—	—	—	—		
"	Dal	—	⑤	①	③	Purple seed color	
"	"	—	⑥	②	"	Purple seed color	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct rainfed	Fodder	None	④	①	③	<i>Sorghum halepense</i> mixed, Highly variable for color and size of panicle, short plant	
"	"	"	"	"	"	Mixed with <i>Sesamum</i> , variation in spike size, awn, seed color	
Irrigated, direct	"	Grain smud	③	"	"	Mixed in GUAR, awned and awnless mixed, mostly whitish grey seeds	
Direct irrigated	"	Downy mildew	"	"	"	Mixed in GUAR crop, variation in size, shape, awn	
Direct	"	"	"	"	"	Variation in spike, shape, awn and color, but not so much	
"	"	Grain Downy	"	"	"	Variation in spike color, shape, and awn	
"	"	"	"	"	"	Variation in spike shape, color, and awn	Mixed with <i>Echinochloa</i>
"	"	"	"	"	"		
"	"	"	"	"	"	Variation in spike color, size, shape, awned and awnless	
"	"	"	"	"	"	Variation in spike, size, shape, etc.	
"	"	"	"	"	"	Awned and awnless, seed color, shape of panicle varied	Mixed in SINWAKH (<i>Echinochloa</i>)
"	"	"	"	"	"	"	
"	"	"	"	"	"	Variation bigger than # 2383(1)	
"	"	"	④	"	"	Awned and awnless, high variation	
"	"	"	"	②	"	Small panicle, variation in awn, glume, etc.	
"	"	"	"	"	"	"	
"	"	"	"	"	"	"	
"	Fodder fuel food	Downy mildew	"	①	"	Awned and awnless mixed	Not irrigated
"	"	"	②	④	③	Highly variable spike shape, color mixed, tall plant, branching type	Not irrigated
"	Chapati	—	"	"	"	Various seed color mixed, various seed size	Market
"	Food fodder	—	②	①	"	Various spike shape, size, color	
"	"	—	⑦	②	"	Various spike shape, size	Photos

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ⑦excessive.

Genus : *Pennisetum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2426 (1)	13/NOV	<i>Pennisetum americanum</i>	BAJRAY	P 300g	③ Market	KUCHLAK, 24km NE QUETTA (1610m)	July - Oct.
2427 (2)	"	"	"	P 300g	"	QUETTA (1600m)	"

Genus : *Secale*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2294 (2)	16/OCT	<i>Secale cereale</i>	LASHK	P 50	②	GARAM CHASHMA 45km NW CHITRAL(2250m)	Oct. - Aug.

Genus : *Setaria*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2286 (3)	15/OCT	<i>Setaria italica</i>	OLEEN	P 100	③	YATILASHT, 20km S CHITRAL (1480m)	June - Oct.
2293 (2)	16/OCT	<i>Setaria</i> sp.	GARATS	P 20	②	UCHO, 39km NW CHITRAL (2100m)	-
2299 (3)	17/OCT	"	TARAZAI	P 60	②-①	BOMBURET, KALASH valley 45km SW CHITRAL(2000m)	-
2384 (3)	31/OCT	<i>Setaria italica</i>	KANGNI	P 50	③	DRIMA, 7km NW SARGODHA (210m)	July - Oct.
2425 (1)	13/NOV	<i>Setaria</i> sp.	Unknown	P 100	①-②	KHANOZAI, 60km NE QUETTA (1950m)	- Oct./Nov.
2428 (1)	14/NOV	"	"	P	①	RODANJO, 27km S KALAT (1970m)	"

Genus : *Sorghum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2272 (1)	14/OCT	<i>Sorghum bicolor</i>	KHANGRI	P 50	③	GULABAD 3km N CHAKDHARA (810m)	June - Oct.
2273 (1)	"	"	KHANJRAY	P 150	"	SHOBABA, 23km N CHAKDHARA (850m)	"
2345 (1)	26/OCT	"	JOWAR	P 80	"	CHIARI BANGLA 55km S ISLAMABAD (600m)	June - Oct.
2345 (2)	"	"	"	P 50	"	"	"
2346 (2)	"	<i>S. halepense</i>	-	P 150	①or ②	SUAWAH, 83km SE ISLAMABAD (520m)	-
2356 (2)	27/OCT	"	BAROON	P 30	"	PAMKAY, 4km NW PUSROOR (300m)	-
2369 (1)	29/OCT	<i>S. bicolor</i>	JOWAR	P 20	③	CHAK 187, 15km SW SAHIWAL (200m)	June - Oct.
2371 (4)	"	"	"	P 400g	Market "		"
2384 (2)	31/OCT	<i>S. halepense</i>	-	P 50	②	SARGODHA, 5km NW SARGODHA (200m)	June - Oct.
2386 (2)	1/NOV	<i>S. bicolor</i>	JOWAR	P 80	③	CHINJI, 30km S TALAGANG (700m)	"
2388 (2)	"	"	"	P 90	"	JHALRA, 8km S TALAGANG (550m)	"
2389 (2)	"	<i>S. halepense</i>	-	P 50	②	KOT TARA, 15km NE TALAGANG (450m)	"

注) 1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	—	—	—	—	—	Light brown seed color	
—	—	—	⑦	—	—	Grey seed color	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Chapati	None	⑥	②	③	Mixed in wheat field, took in farmland utilized as chapati mixed with wheat	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Fodder food	None	⑥	②	③	Grown in the ridges, tillering, and non-tillering types mixed, spikes variable in size	
—	—	"	"	"	"	Collected from farmland, but weedy	
—	Fodder	—	"	"	"	Grown as weed and rice field on the ridges and maize, <i>panicum</i> field green-purple panicle, <i>sh</i> , but not like wild	
Direct	Food bhat fodder	—	③	①	②	Tillering types mixed	
—	Fodder	None	⑤	③	③	Collected from apple garden, growing as weed, small panicles, <i>sh</i> , easy	
—	"	"	"	"	"	"	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Fodder	Downy mildew	④	②	②	Black, red, tight, spread, compact, highly variable for panicle, shape, size, and color	
Irrigated direct	"	"	⑤	"	"	Very short panicles, variation in color awn, 3.4-6 inches, red, black brown	Compact-lax
Not Irr. direct	"	None	④	①	"	Small panicle, compact, glume color varied from grey, brown and black	
"	"	"	"	"	"	Large panicle, compact, glume color varied from white, brown to red	
"	"	"	"	"	"	Mixed in <i>Pennisetum</i> panicle highly variable for medium to high, lax tall plant, narrow leaf	
"	"	"	"	"	"	Tall plant, lax spikes, glume dark purple	
Irrigated direct	"	Downy mildew	③	"	③	Compact panicle, brown-red-black seed	
"	"	—	—	—	—		Local variety
"	"	None	③	①	③	Tall, large panicle	
"	"	Smut	④	"	"	Seed color variable, compact to loose spikes	
"	"	"	"	②	"	Awned and awnless, variation in seed color, small panicle	
"	"	None	"	"	"	Black to brown seed	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Sorghum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2390 (2)	1/NOV	<i>Sorghum bicolor</i>	JOWAR	P 70	③	DHOK PATHAN, 27km NE TALAGANG (350m)	Jun. - Oct.
2391 (1)	"	"	"	P 60	"	HASSU KHAN 33km S RAWALPINDI (540m)	"
2408 (2)	10/NOV	"	"	P 20	③	AKWAL, 4km W TALAGANG (550m)	"
2408 (3)	"	<i>S. halepense</i>	BARWAH	P 50	②	"	-
2410 (1)	"	<i>S. bicolor</i>	JOWAR	P 300g	③	DHOK TAYAB, 30km W TALAGANG (520m)	Jun. - Oct.
2411 (1)	"	"	"	P 50	"	DANDA SHAH BILAWAL, 61km W TALAGANG (470m)	"
2411 (2)	"	<i>S. halepense</i>	Unknown	P 20	②	"	"
2414 (2)	11/NOV	<i>S. bicolor</i>	JOWAR	P 25	③	PAROWA, 32km S D. I. KHAN (240m)	Nov. -
2415 (2)	"	"	"	P 500g	"	RAMAK, 58km S D. I. KHAN (230m)	Jul. - Oct.
2416 (2)	"	"	"	P 50	"	VAHOWA, 75km S D. I. KHAN (250m)	Aug. - Nov.
2420 (1)	12/NOV	"	"	P 50	"	RAKHNI, 100km W D. G. KHAN (1170m)	"
2423 (3)	"	"	DUZAR	P 300g	"	MITHTAR (BAZ BARAD) 70km E LORALAI (1500m)	Jul. - Oct.
2427 (5)	13/NOV	"	"	"	" Market	QUETTA (1600m)	"
2439 (1)	17/NOV	"	ZURBAT	P 200g	③ Farm	CHURBAK, 50km W TURBAT (150m)	Jul. - Oct.
2444 (1)	18/NOV	"	JOWAR	P	③ Field	AWARAN, 150km E HUSHAB (590m)	Jul./Aug. - Nov.
2444 (2)	"	"	ZURAT	P 400g	③ Farm	AWARAN, 154km E HUSHAB (610m)	"

Genus : *Triticum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2294 (1)	16/OCT	<i>Triticum aestivum</i>	GOON	P 100	③	GARAM CHASHMA, 45km NW CHITRAL (2250m)	Oct. - Aug.
2303 (5)	19/OCT	"	GHANAM	P Market	③	MIANDAM, 8km E FATEHPUR (1900m)	-
2398 (1)	7/NOV	"	MONI	P	③	LANGAR DURA, 8km E MUZAFARABAD (780m)	Nov. - May
2426 (3)	13/NOV	"	SUR GHANAM	P 300g	③ Market	KUCHLAK, 24km NE QUETTA (1610m)	Oct. - May/June.
2428 (2)	14/NOV	"	MULKI GHALA	P 500g	③ Farm	RODANJO, 27km S KALAT (1970m)	"
2429 (5)	"	"	GHALA	"	" Market	SURAB, 78km S KALAT (1800m)	"
2430 (2)	"	"	MULKI GHALA	P 200g	③ Farm	SURGAZ, 12km SE KHUZDAR (1220m)	Oct. - May
2432 (6)	15/NOV	"	KHOLAM	P 500g	"	PARO BESIMIA, 60km NE KHUZDAR (1550m)	Oct. - May/June.
2433 (1)	16/NOV	"	MULKI GHOLAM	P	③ Miller	BESIMA, 36km NW GARESH (1410m)	Oct. - May

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated direct	Fodder	Downy	④	②	③	White, red, brown, black seed color, awned and awnless, compact to loose panicle	
"	"	None	"	"	"	"	
Direct	"	"	"	①	"	White seed color, compact spike, tall plant	
—	"	"	"	"	"	Black seed color, lax panicle	Weed as #2408 (2)
Direct	"	—	"	"	"	Black, brown, white seed color	Other crop seeds mixed.
"	Food	Downy	"	"	"	Compact-intermediate, lax, tight glume, red/black color, small spike	#2411 (2) is associated
—	Fodder	—	"	"	"	Black seed color	
Direct	"	Downy	②	④	"	White seed color, compact short panicle, tall plant	Not irrigated
"	Food fodder	—	—	—	—	White & brown seed color	Market
"	"	—	②	①	③	Compact panicle, white & brown seed color	
"	"	—	⑦ Plateau	②	"	Compact panicle, white & brown seed color	
"	" Feed	—	⑤	"	—	White seed color	Farm house
—	"	—	—	—	—	White seed color	
Direct	"	—	⑤	②	③	White and brown seed color	Not irrigated
"	"	—	"	"	"	"	
"	"	—	"	"	"	"	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Chapati	—	⑥	②	③	From farmland, rich variation in size, awn, shape of grain	
"	"	—	"	"	"		
"	"	—	"	①	"	Heading = end of March	MONI: without awn
—	"	—	—	—	—		SUR = red color
—	"	—	⑤	③	②		MULKI = local GHALA = wheat
—	"	—	"	—	—		
—	"	—	—	—	—	Red & white grain mixed	Very old variety MULKI = local
—	"	—	⑤	②	③	White & red seed color	KHOLAM = wheat
—	"	—	"	—	—		

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Triticum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2435 (1)	15/NOV	<i>Triticum aestivum</i>	GHALA	P 500g	③ Farm	NAG, 100km S BESIMA (1450m)	Nov.- May
2346 (1)	16/NOV	"	SUIIAR GHALA	P 100g	③ Farm	ZANDAY DAZ,100kmS NAG (1060m)	"
2346 (2)	"	"	SUFAID GHALA	P 50g	"	"	"
2439 (2)	17/NOV	"	GHALLAH	P 500g	③ Farm	CHURBAK, 50km W TURBAT (150m)	Oct.- May
2440 (2)	"	"	CHUROK GHALLA	P 400g	③ Farm	ASIABAD, 73km W TURBAT (190m)	"
2442 (3)	"	"	MULKI GHALA	P 200g	③ Farm	SAMI, 25km E TURBAT (310m)	"
2445 (1)	18/NOV	"	MULKI GHALAH	P 400g	③ Market	MANGULI, 44km N AWARAN (820m)	Nov.- Apr.
2447 (1)	19/NOV	"	GHALA	P 250g	③ Farm	MAZAR DAN, 65km N MASHKAI (1300m)	Oct.- May

Genus : *Vigna*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2276 (1)	14/OCT	<i>Vigna radiata</i>	MAI	P 500	③	GAPALAM TIMARGRA 59km N CHAKDHARA (920m)	Jul.- Oct.
2277 (1)	"	"	"	P >400g	⑥ Market	WARI, 74km N CHAKDHARA (1050m)	-
2280 (2)	"	<i>V.mungo</i>	MAHI	P 80plants	③	CHAKIATAN, 6km S DIR (1250m)	Jun./Jul.- Oct.
2280 (3)	"	<i>V.radiata</i>	"	"	⑤ Farmers stock 500g	"	"
2281 (1)	"	"	"	P	⑥ Market 500g	DIR, DIR (1400m)	-
2281 (2)	"	"	"	P	"	"	-
2281 (3)	"	<i>V.unguiculata</i>	LOBIA	P	⑥ Market	DIR, DIR (1400m)	-
2283 (1)	"	<i>V.mungo</i>	DAMASHI	P 100	③	ASHRAIT DROSH, 51km N DIR (1700m)	Jun.- M.Oct.
2283 (2)	15/OCT	<i>V.radiata</i>	MUNG	P 50	"	"	"
2285 (1)	"	"	MUNG (RAMBO)	P 50	③	3km N DROSH (1350m)	Jun.- Oct.
2285 (2)	"	<i>V.mungo</i>	DAMASHI	P 150	"	"	"
2285 (3)	"	<i>V.radiata</i>	MAI (KHANIS)	P 50	"	"	"
2296 (4)	17/OCT	"	LOBIA	P 50	③	GAHAR, 27km NW CHITRAL (1520m)	"
2298 (1)	"	"	KHANIS	P 50	"	PALWANA BUM, 42km SW CHITRAL (1860m)	"
2300 (1)	18/OCT	<i>V.mungo</i>	MAI	P 300g	⑥, ③ Market	MINGORA (960m)	-
2300 (1)	"	<i>V.radiata</i>	MUNG	P 300g	"	"	-
2301 (3)	19/OCT	<i>V.mungo</i>	MAHAY	P 50	③	SALANDA, 10km NE MINGORA (1050m)	Jun.- Oct.

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Chapati	—	⑤	②	③	Small seed size, red seed color	
—	"	—	"	"	"	Red color	
—	"	—	"	"	"	White—light yellow seed color	
—	"	—	"	"	"	Red seed color, small grain	
—	"	—	"	"	"	Small grain, red color	
—	"	—	"	"	"	Red color	
—	"	—	"	"	"	Light yellow—brown seed	Irrigated
—	"	—	"	"	"	"	

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food curry	None	⑤	②	④	Seed color green, black pod~brown, upright, poor bearing	Curry use
—	—	—	⑥	—	—	Village market	
Direct	Curry	None	"	①	③	Cooked with rice	Grown on the ridges of rice field
"	"	"	"	"	"	Black seed color, small grain, mixed, cooked with rice	
—	"	—	"	"	"	Market sample, green most, black mixed, large seed	
—	"	—	"	"	"	Market sample, black grain dominated, small grain	
—	"	—	"	②	—	Mixture of yellow, red, white seeds sometimes green gram also	
Direct	"	None	"	"	④	Black seed	Sandy soil
"	"	"	"	"	"	Black, greenish black seed, small grain	"
"	"	"	"	"	③	Mixed in <i>V.mungo</i> , seed color red, brown, etc.	Pashtoo's 'LOBLA' is 'RAMBO' in chitrali
"	"	"	"	"	"	Mixed in <i>V.radiata</i> , <i>Phaseolus vulgaris</i> , but dominant	
"	"	"	"	"	"	Green to dark green color grain, 3 crops were grown in the same field with Amaranths	KHANIS=chitrali
"	"	"	"	"	"	Planted in border of paddy field, whitish brown grain, mixed in <i>Glycine</i>	Silt
"	"	"	"	"	"	Green and greenish brown seed, long pods, adjacent field was <i>G.max</i> but not matured	Silt
—	"	—	"	"	"	Dull green to black	Last year's seed
—	"	—	"	"	"	Green seed	"
Direct	Paiti	None	⑤	"	"	100 pods, black seed, grown on the ridges of rice field	PAITI=a kind of curry (local)

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Vigna* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2303 (4)	19/OCT	<i>V. radiata</i>	MAI	P 400g	③ Market	MIANDAM, 8km E FATEHPUR (1900m)	—
2318 (1)	21/OCT	"	"	P (50) 100pods	③	BATKOT, 14km S BESHAM (720m)	Jun.- Oct.
2320 (1)	"	"	"	P 400g	Market	THAKOT, 29km S BESHAM (620m)	—
2320 (2)	"	<i>V. mungo</i>	MAIIAY	P 400g	"	"	—
2320 (3)	"	<i>V. unguiculata</i>	LOBIA SPIN	P 400g	③	"	—
2337 (3)	23/OCT	<i>V. radiata</i>	MUNG	P 400g	③ Market	BANDI BAKALA, 43km SE MUZAFARABAD (1570m)	Jun. — E. Oct.
2338 (1)	"	"	"	P 300g	"	CHIKAR, 45km SE MUZAFARABAD (1660m)	—
2338 (2)	"	<i>V. mungo</i>	MAHN	P 300g	"	"	—
2347 (1)	26/OCT	<i>V. radiata</i>	SABAZ MUNG	P 300g	③ Market	DINA (300m)	—
2347 (2)	"	"	MUNG	P 300g	"	"	—
2347 (3)	"	<i>V. mungo</i>	MASH	P 300g	"	"	—
2347 (4)	"	"	"	"	"	"	—
2347 (6)	"	<i>V. unguiculata</i>	SUFAID LOBIA	P 500g	"	"	—
2356 (3)	27/OCT	<i>V. mungo</i>	MANHAN	P 100pods	③	RAMKAY, 4km NW PUSROOR (300m)	Jun.— Oct.
2363 (3)	28/OCT	"	RAWA or LOBIA	P 100	③	MANAWALA KHOH 48km S SHEIKHUPURA (250m)	"
2371 (5)	29/OCT	<i>V. radiata</i>	MUNG	P 400g	③ Market	MIAN CHANNU, 80km SW SAHIWAL (180m)	—
2371 (6)	"	<i>V. mungo</i>	MASH	P 400g	"	"	—
2371 (7)	"	<i>V. aconitifolia</i>	MOTH	P 400g	"	"	—
2371 (8)	"	<i>V. unguiculata</i>	LOBIA	P 400g	"	"	—
2379 (4)	30/OCT	<i>V. radiata</i>	MUNG	P 50	"	MAUZA QADIMI, 14km SW JHANG, (180m)	Jul.— Oct.
2380 (1)	31/OCT	"	"	P 100	③	KHANWANA, 33km NE JHANG (180m)	"
2386 (3)	1/NOV	"	"	P 100	"	CHINJI, 30km S TALAGANG (700m)	"
2387 (1)	"	"	"	P 400g	③ Market	CHINJI, 28km S TALAGANG (720m)	"
2387 (2)	"	<i>V. unguiculata</i>	CHITA LOBIA	"	"	"	"
2409 (1)	10/NOV	<i>V. radiata</i>	MUNG	P 150g	③ Farm	MIAR, 38km SW TALAGANG (500m)	"
2410 (2)	"	"	MUNG	P	③ Farm	DHOK TAYAB, 30km W TALAGANG (520m)	"
2421 (1)	12/NOV	<i>V. radiata</i>	MUNG	P 100g	③	CHAPPAR, 10km N RAKHNI (1220m)	"

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's
⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
—	Curry	None	⑥	②	③	Green to dull green color, settled to BUNAIR area, adapted to hilly area	'BUNAIR' is the local area name of SWAT
Direct	"	Pod borer	"	"	"	Mixed with maize and soybean, green grains	
—	"	—	"	"	"	Green and black seed mixed, green grain dominated	
—	"	—	"	"	—	Black seed	
—	"	—	"	"	—	White seed, soybean mixed, shapes varied	
—	"	—	⑥	—	—		
—	"	—	"	—	—	Green and dull green seed mixed	
—	"	—	"	—	—	Black seed	
—	"	—	④	—	—	Green seed, medium size, some are dull	
—	"	—	"	—	—	Bigger size, seed color green to dull green, grey, brown	
—	"	—	"	—	—	Pure black seed, no mixture	
—	"	—	"	—	—	Black and green seed mixed, size not bigger (medium to small)	
—	"	—	"	—	—	Whitish brown, hilum black, medium size	
Direct irrigated	"	None	③	①	③	Pods variable from hairy to glabrous, black grain with white hilum	
"	Food and curry	—	"	"	②	Variation in seed color, size, etc. brown, purple, grey, black	
—	"	—	—	—	—	3 types included	
—	"	—	—	—	—	Black seeds, a few mixed with others	
—	"	—	—	—	—		
—	"	—	—	—	—	Mostly whitish with some mixtures	
Direct	"	Many	③	①	②	Green seed, variation in plant type	
"	"	Few	"	"	"	Green and greenish yellow in seed color, heavy pod, like indeterminate plant	Good field
"	"	Insect	④	"	③	Small seed size, seed color varied green to black and mottled.	
"	—	—	"	—	—	Similar variation to #2386(3), small seed, high variation	
"	—	—	"	—	—	Whitish brown seed, black hilum	
"	Curry	—	"	①	③	Green, dark green, brown seed color, small grain	Farm stock
"	"	—	"	"	"	"	"
"	Food curry	Borer	⑦ Plateau	"	"	Small seed size, green, dull green, brown, black mottled seed color, indeterminate type	Mixed with sorghum and pearl millet

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ⑦excessive.

Genus : *Vigna* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2422 (1)	12/NOV	<i>Vigna radiata</i>	MUNG	P 100g	③	RARKAN, 27km NW RAKHNI (1340m)	Jul. - Oct.
2423 (1)	"	<i>V. mungo</i>	MASH	P 400g	③	MIKHITAR BAZ BARAD 70km E LORALAI (1500m)	"
2423 (2)	"	<i>V. radiata</i>	MANG	"	"	"	"
2426 (4)	13/NOV	"	MASH	P 300g	③ Market	KUCHLAK, 24km NE QUETTA (1610m)	"
2426 (5)	"	<i>V. unguiculata</i>	LOBIA	"	"	"	"
2429 (2)	14/NOV	<i>V. radiata</i>	MASH	P 500g	"	SURAB, 78km S KALAT (1800m)	"
2431 (1)	"	"	"	P 300g	"	KHUZDAR (1310m)	Jul. - Oct.
2432 (4)	15/NOV	<i>V. mungo</i>	"	P 100g	③ Farm	PARO BESIMIA, 60km NE KHUZDAR (1550m)	Jul. - Sep.
2432 (5)	"	<i>V. aconitifolia</i>	MOTH (PAR MASH)	P 200g	"	"	Jun. - Oct.
2435 (3)	"	<i>V. mungo</i>	MASH	P 200g	"	NAG, 100km S BESIMA (1450m)	Jun./Jul. - Oct.
2443 (1)	18/NOV	<i>V. radiata</i>	"	P 200g	③ Market	DANDAR, 62km E HUSHAB (600m)	Jun. - Oct.
2443 (2)	"	<i>V. aconitifolia</i>	PAR MASH	P 300g	③ Farm	"	"
2446 (1)	"	<i>V. radiata</i>	MASH	P 250g	③ Market	MUSHKAI, 95km N AWARAN (1070m)	"

Genus : *Zea*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2273 (2)	14/OCT	<i>Zea mays</i>	JOWAR	P 20	③	SHOBABA 23km N CHAKDHARA (850m)	Jun. - Oct.
2275 (3)	"	"	JOWAR SPIN	P 30	"	HAJIABAD, 43km N CHAKDHARA (810m)	"
2282 (1)	15/OCT	"	DAGAN GARMA	P 10	"	BARADAM DROSH, 48km N DIR (1920m)	Jun. - E.Oct.
2282 (2)	"	"	DAGAN WALIJAT	P 25	"	"	Jun. - M.Oct.
2291 (3)	16/OCT	"	JOWARI	P 50	"	SHOGHOL AVI, 25km N CHITRAL (1850m)	"
2304 (1)	19/OCT	"	JOWAR	P	"	MADYAN 53km N MINGORA (1450m)	-
2308 (1)	20/OCT	"	"	P 70	"	GORKIYAN, 6km NE KALAM (2150m)	May - Sep.
2327 (1)	22/OCT	"	MAKI	P	③ Farm	BISYAN, S 10km BALAKOT, 38km E MANSEHRA (930m)	Jun. - Sep.
2333 (1)	23/OCT	"	"	P 50	③	GARHI HABIB ULLAH, 22 km SW MUZAFARABAD (860m)	Jun. - E.Oct.
2392 (1)	5/NOV	"	"	P	③ Farm	MANASA, 5km S of KOH-ALA vill AZAD KASHMIR(870m)	May/Jun. - Oct.
2393 (1)	"	"	"	P 5	③	PAIL, 18km S KOHALA (1600m)	"
2393 (2)	"	"	"	P 1	"	"	"

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food curry	Borer	⑦ Plateau	①	③	Small seed size, green, dull green, brown, black mottled seed color, indeterminate type	<i>V. aconitifolia</i> mixed, farm yard
"	"	—	⑤	②	"	Black seed color, medium grain size	Farm house
"	"	—	"	"	"	Light green seed color	"
—	"	—	—	—	—	Green, dark green, black, mottled seed color	
—	"	—	—	—	—	Light brown seed color	
—	"	—	⑤	—	—	Dull green—black seed color	
—	"	—	—	—	—	"	
Direct	"	—	⑤	②	③	Green, dull green	
"	"	—	"	"	"	Small seed size, light brown & grey seed color	<i>V. radiata</i> mixed
"	"	—	"	"	"	Black seed color	
"	"	—	"	"	"	Black & green seed color (<i>V. aconitifolia</i> mixed)	
"	"	—	"	"	"	Light brown seed color, slightly bigger seed	
"	"	—	"	"	"	Green, dull green, black seed	Irrigated

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food fodder	None	⑤	②	②	Variation in cob size, shape, color and grains	Chapati use
"	"	"	"	"	③	Variation in cob size, shape, color and grain size	
"	Food chapati	"	⑥	"	④	Early variety, variable for seed color, size, white and yellow	DAGAN=maize GARMA=early
"	"	"	"	"	"	Late variety, color white in most case, low variation	WALIJAT=white
—	"	"	"	"	③	White and yellow cob color	
—	Chapati	"	"	"	—	Collected in water mill, yellow, white, red grains	
Direct	"	—	"	"	③	Yellow seed, brownish red, brown heterogeneous	
"	"	None	"	①	"	White, yellow, brown, purple, red, bluish black seed	
"	"	"	⑤	"	"	White, yellow, red, brown, purple, bluish black seeds, grain shape varied	
"	Roti	—	⑥	②	"	White seed color	
"	Chapati	Leaf spot	"	"	"	White yellow and purple mixed flint & dent mixed	
"	"	"	"	"	"	Pink, flint, PH 2—2.5m	PH: plant height

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Zea* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2396 (2)	6/NOV	<i>Zea mays</i>	MAKAI	P Market	③	SUNDRI BANDI, 48km N MUZAFARABAD (1240m)	—
2397 (1)	"	"	"	P	③	RASIAN, 97km N MUZAFARABAD (2250m)	Jun. — Oct.
2397 (2)	"	"	"	P	③	"	"
2397 (3)	"	"	"	P	③	"	"
2398 (2)	7/NOV	"	"	P	③	LANGAR PURA, 8km E MUZAFARABAD (780m)	Jun. — Oct.
2398 (3)	"	"	"	P	③	"	"
2400 (1)	"	"	"	P	③	SAWAN, 46km E MUZAFARABAD (1040m)	May — Oct.
2400 (2)	"	"	"	P	"	"	"
2401 (2)	"	"	MAK	P	"	CHAKOTHI, 62km E MUZAFARABAD (1180m)	Jun. — Oct.
2402 (1)	8/NOV	"	MAKAI	P	"	PANO PINDI, 4km SE CHIKAR (1500m)	"
2402 (2)	"	"	"	P	"	"	"
2402 (3)	"	"	"	P	"	"	"
2403 (1)	"	"	"	P	"	CHATTER, 32km S CHIKAR (1500m)	"
2406 (2)	9/NOV	"	"	P Farm	"	TAIN, 45km W RAWALA KOT (800m)	"
2407 (1)	"	"	MAK	P Farm	"	MALLOT SATIAN, 67km RAWALA KOT (1300m)	Jun. — Oct.
2424 (1)	13/NOV	"	JOWARI	P 25	"	HAGI GHULAM MUHAMMED 5km W QILA SAIF ULLAH(1600m)	Aug. — Nov.
2427 (4)	"	"	JOWARI ZIR	P 300g	③ Market	QUETTA (1600m)	Jul./Aug. Oct./Nov.

Genus : Unknown

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2441 (5)	17/NOV	Gramineae sp.	Unknown	P 100pan.	①	TURBAT (240m)	— Nov.

Genus : Others

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2494 (1)	5/NOV	<i>Spinacia oleracea</i>	Unknown	P Market	③	DHIR KOT, 25km S KOHALA (1700m)	—
2394 (2)	"	<i>Daucus carota</i>	GAGAR	P 250g	③	"	—
2394 (4)	"	<i>Raphanus sativus</i>	MOLI DASI	P 250g	③	"	—
2394 (5)	"	"	MOLI CHINA	P 250g	③	"	—
2394 (6)	"	<i>Brassica napus</i>	SHAL GAM	P 250g	③	"	—

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Direct	Food chapati	—	③	①	③	White seed color, dent type	
"	"	None	⑥	②	"	Red seed color, flint type, PH 2.5m	Photos
"	"	"	"	"	"	White and purple seed color mixed PH 2.5m, flint and dent types	Photos
"	"	"	"	"	"	White seed color, flint and dent types mixed, PH 2.5m	Photos
"	Roti	"	"	①	"	Red seed color, semi-dent, PH 3m	Not irrigated
"	"	"	"	"	"	White seed color, semi-dent, PH 3m	Not irrigated
"	"	"	"	"	"	Red seed color, flint and dent mixed	
"	Food roti	"	"	"	"	White seed color, dent type	Not irrigated ROTI=chapati
"	"	"	"	"	"	White seed color, intermediate type	
"	"	"	"	②	"	Yellow seed color, semi-dent type	Not irrigated farm stock
"	"	"	"	"	"	Reddish purple seed color, semi-dent type	"
"	"	"	"	"	"	White seed color, semi-dent type	"
"	"	"	"	"	"	Yellow seed color, dent type	" Farm stock
"	"	"	"	"	"	White seed color, flint and dent mixed, slightly small grain	
"	"	"	"	"	"	White seed color, flint type	Not irrigated
"	Food fodder	"	⑤	①	"	Yellow small grain, small panicle, PH 100cm	Irrigated
—	"	"	—	—	—	Yellow seed color	

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Fodder	—	⑤	②	③	Weedy, spikes resemble finger millet	5 plants

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Vegetable	—	—	—	—		
—	"	—	—	—	—		
—	"	—	—	—	—		
—	"	—	—	—	—		Origin: China?
—	"	—	—	—	—		

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Others* LIST OF COLLECTED MATERIALS IN PAKISTAN.1989.BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2394 (7)	5/NOV	<i>Abelmoschus esculentus</i>	BHANDI	P 250g	③	DHIR KOT, 25km S KOHALA (1700m)	—
2402 (4)	8/NOV	<i>Lablab purpurens</i>	SADA BAHAR	P 100g	"	PANO PINDI, 4km SE CHIKAR (1500m)	Apr. – Dec.
2405 (1)	"	<i>Perilla frutescens</i>	Unknown	P	①	ARJA, 64km S CHIKAR (1080m)	—
2415 (6)	11/NOV	<i>Brassica</i> sp.	TARAMIRA	P 300g	③ Market	MAKAK, 58km S D. I. KHAN (230m)	Sep/Oct- Dec./Jan./Feb
2423 (4)	12/NOV	<i>Capsicum annum</i>	MIRCHKAY	P	③	MITHKAR (BAZ BARAD) 70km E LORALI (1500m)	Jun. – Nov.
2429 (7)	14/NOV	<i>Pisum sativum</i>	MATTAR	P 500g	③ Market	SURAB, 78km S KALAT (1800m)	Nov. – Apr.
2432 (2)	15/NOV	"	"	P 200g	③ Farm	PARO BESIMIA, 60km NE KHUZDAR (1550m)	"
2432 (3)	"	<i>Vicia faba</i>	BAKLING	P 100g	"	"	Nov. – May
2434 (1)	"	"	"	P 400g	③ Market	BATAK, 29km S BESIMA (1540m)	"
2435 (5)	"	"	"	P 300g	③ Farm	NAG, 100km S BESIMA (1450m)	Oct. – Apr./May
2435 (6)	"	<i>Pisum sativum</i>	MATTAR	P 30g	"	"	Nov. – May
2436 (4)	16/NOV	<i>Vicia faba</i>	BAKLA	P 100g	③ Farm	ZANDAY DAZ, 100km S NAG (1060m)	Nov. – Apr.
2437 (3)	"	"	"	P	"	HUSHAB, 97km E TURBAT (615m)	Oct. – May
2438 (3)	"	"	BAKLING	P 200g	③ Farm	SHANRUK, 45km E TURBAT (370m)	Nov. – May
2439 (4)	17/NOV	"	BAKLIK	P	③ Farm	CHURBAK, 50km W TURBAT (150m)	"
2440 (3)	"	"	BAKLINK	P 200g	③ Farm	ASIABAD, 73km W TURBAD (190m)	Nov. – Apr.
2440 (4)	"	<i>Medicago sativa</i>	ISPUST	P 200g	"	"	Oct./Nov. – Apr./Jun.
2441 (3)	"	<i>Vicia faba</i>	BHAKLINK	P 300g	③ Market	TURBAT (240m)	Nov. – Apr.
2441 (4)	"	"	"	P 150g	"	"	"
2442 (4)	"	"	BAKLA	P 400g	③ Farm	SAMI, 25km E TURBAT (310m)	"
2446 (3)	18/NOV	"	BAKLINK	P 500g	③ Market	MASHKAI, 95km N AWARAN (1070m)	—
2415 (5)	11/NOV	<i>Cicer arietinum</i>	CHANNA	P 500g	③ Market	MARAK, 58km S D. I. KHAN (230m)	Nov. – Apr.
2318 (2)	21/OCT	<i>Atylosia scarabaeoides</i>	KULAT	P 10	①	BATKOT, 14km S BESHAM (720m)	—
2334 (2)	"	<i>Dolichos biflorus</i>	KULATH	P 60	③	BARAR KOT, AZAD KASHMIR 15km SW MUZAFARABAD (850m)	Jun. – Oct.

Genus : *Abelmoschus*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2569 (5)	9/NOV	<i>Abelmoschus esculentus</i>	BHINDI	P	③	AHMADPUR KOHNA BASTI MAHAR 3km from AHMADPUR SHARKIA toward RAHIM YAR KHAN (70m)	—

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 1)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
—	Vegetable	—	—	—	—		
—	"	—	⑥	②	③	White flower	SADA BAHAR=ever-green
—	—	—	"	"	"	Small brown seeds, PH 1.2m	Wild
—	Oil	—	—	—	—		Market TARAMIRA =bitter,hot
Direct	Veg. spice	—	⑤	②	③	Red fruit color, large fruit size	
—	"	—	"	—	—		
—	Veg. curry	—	"	②	③	Green, red, brown seed color	
—	"	—	"	"	"	Black, blue seed color	
—	"	—	"	"	"	Black seed color	
—	"	—	"	"	"	"	
—	Veg. curry	—	"	"	"	Light green seed color	
—	"	—	"	"	"	Black seed color	
—	"	—	"	"	"	"	
—	"	—	"	"	"	"	
—	"	—	"	"	"	"	
—	Food veg.	—	"	"	"	Black seed color, large seed	Breakfast with dates
—	Fodder	—	"	"	"	Yellow—brown seed color	
—	Food veg. curry	—	"	"	"	Large seed, black seed color	
—	"	—	"	"	"	Brown seed color, from Iran	
—	"	—	"	"	"	Black seed color	
—	"	—	"	"	"	"	
Direct	Food chapati others	—	—	—	—		Curry
—	Fodder	None	⑥	②	③	Wild, high shattering	
Direct	Curry	"	⑤	"	"	Grey—mottled, flat grains	

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
—	Food	—	③	①	③		

line ⑥ others. 3) Topography : ①swamp ② flood plain ③ plain level ④ undulating ⑤ hilly ⑥ mountainous ④ excessive.

Genus : *Abelmoschus* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2587 (1)	16/NOV	<i>Abelmoschus esculentus</i>	BINDI	P	③	BUTTO, District Chogi 22km from NOSHKI on NOSHKI-DALBANDIN Road (840m)	Apr.- Jun./Jul.
2588 (1)	"	"	"	P	③	AHMAD WAL, 24km from NOSHKI on NOSHKI-DALBANDIN Road (840m)	--
2590 (7)	"	"	"	P	③	RECO, 15km from AHMAD WAL toward KHARAN(1070m)	--
2593 (8)	18/NOV	"	"	P	③	MUSTANG, about 35km from QUETTA toward KALAT(1650m)	Apr.- Jul./Aug.
2594 (2)	"	"	"	P	③	KHAD KOUCHA, about 70km from QUETTA toward KALAT(1690m)	--

Genus : *Aegilops*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2586 (1)	15/NOV	<i>Aegilops squarrosa</i>	—	P	②	NOSHKI (950m)	--
2586 (2)	"	"	—	P	②	"	--

Genus : *Allium*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2524 (2)	23/OCT	<i>Allium</i> sp.	—	P	③	NILT NAGAR, 70km N from GILGIT toward HUNZA (1900m)	(Wild)
2525 (2)	"	"	CHUEZE	P	③	THOL, 72km N from GILGIT toward HUNZA (1890m)	"
2584 (2)	15/NOV	<i>A. cepa</i>	PIAZ	P	③	NOZAH near DRINGAR, 30km QUETTA toward NOSHKI(1500m)	Mar.- Oct./Nov.
2590(11)	16/NOV	"	"	P	③	RECO, 15km from AHMAD WAL toward KHARAN(1070m)	--
2591 (5)	17/NOV	"	"	P	③	KANAK, 8km from DRINGAR toward QUETTA (1500m)	Jan.- Nov.
2592 (3)	"	"	"	P	③	KHUNI TALAB, about 38km from QUETTA toward KANAK(1520m)	Feb./Mar.- Sep./Oct.
2593 (4)	18/NOV	"	"	P	③	MASTUNG, about 35km from QUETTA toward KALAT (1650m)	Mar.- Nov.
2594 (3)	"	"	"	P	③	KHAD KOUCHA, about 70km from QUETTA toward KALAT (1690m)	Mar./Apr.- Nov.

Genus : *Amaranthus*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2538 (1)	30/OCT	<i>Amaranthus hypochondriacus</i>	KINAR	P	③	MANDRI, 41km N from BALAKOT toward KAGAN (1500m)	Apr./May - Oct.
2539 (1)	"	"	"	P	③	3km N from KAGAN toward NARAN (1960m)	"
2539 (2)	"	"	"	P	③	"	"

Genus : *Brassica*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2590 (9)	16/NOV	<i>Brassica campestris</i>	SHALJAM	P	③	RECO, 15km from AHAMAD WAL toward KHARAN(1070m)	--

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	Vegetable	—	⑤	①	③		
"	"	—	"	"	"		
"	Vegetable	—	"	"	"		
"	"	—	"	"	"		
"	"	—	"	"	"		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	—	—	—	—	—		Mixed in wheat grains, grain store in bazar
—	—	—	—	—	—		"

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Not used	—	⑥	④	④		At the margin of <i>S.italica</i> field, along with an irrigation stream
—	"	—	"	"	"		"
—	Food	—	⑤	①	③		
—	"	—	"	"	"		Red, round
Irrigated	"	—	"	"	"		
"	"	—	"	"	"		
"	"	—	"	"	"		
"	"	—	"	"	"		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Food	—	⑥	②	④	White seeds, but some black seeds are also mixed	At the edge of potato fields
—	"	—	"	①	"	With anthocyan pigmentation, white seeds	"
—	"	—	"	"	"	Without anthocyan pigmentation, white seeds	"

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Karays irrigated	Food	—	⑤	①	③		Red, round

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Capsicum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2590(12)	16/NOV	<i>Capsicum annuum</i>	MIRCHI	P	③	RECO, 15km from AHMAD WAL toward KHARAN(1070m)	—

Genus : *Citrullus*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2588 (5)	16/NOV	<i>Citrullus lanatus</i>	KOTAKII (FARBOOZE)	P	③	AHMAD WAL 24km from NOSHKI toward KHARAN (840m)	Mar. – May
2588 (7)	"	"	"	P	③	"	"
2590 (6)	"	"	TORI local	P	③	RECO, 15km from AHMAD WAL toward KHARAN(1070m)	—
2592 (5)	17/NOV	"	TARBOOZE	P	③	KHUNI TALAB, about 38km from QUETTA toward KANAK (1520m)	Mar./Apr. – Jul./Aug.
2593 (2)	18/NOV	"	"	P	③	MASTUNG, about 35km from QUETTA toward KALAT(1650m)	Jun. – Sep.
2593 (9)	"	"	"	P	③	"	"
2598 (8)	19/NOV	"	KOTAKII	P	③	HAIJKA, about 50km S from KALAT toward KHUZDAR (1720m)	—

Genus : *Coriandrum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2593 (6)	18/NOV	<i>Coriandrum sativum</i>	DAHANIA	P	③	MASTUNG about 35km from QUETTA toward KALAT (1650m)	—

Genus : *Cucumis*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2588 (4)	16/NOV	<i>Cucumis melo</i>	SHIOWBOOZA	P	③	AHMAD WAL, 24km from NOSHKI toward KHARAN(840m)	Mar. – Jul./Aug.
2588 (8)	"	"	"	P	③	"	"
2590 (8)	"	"	KHARBOOZE	P	③	RECO, 15km from AHMAD WAL toward KHARAN(1070m)	—
2592 (6)	17/NOV	"	GARMA	P	③	KHUNI TALAB, about 38km from QUETTA toward KANAK(1520m)	Mar./Apr. – Aug./Sep.

Genus : *Cucurbita*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2592 (8)	17/NOV	<i>Cucurbita moschata</i>	CHAPPAN KADU	In	③	KHUNI TALAB, about 38km from QUETTA toward KANAK (1520m)	—

Genus : *Cuminum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2587 (3)	16/NOV	<i>Cuminum cyminum</i>	ZEERIG	P	③	BUTTO, 22km from NOSHKI on AHMAD-DALBANDIN (840m)	Dec./Jan. – May
2588 (3)	"	—	"	P	③	AHMAD WAL, 24km from NOSHKI on NOSHKI-DALBANDIN Road(840m)	Jan. – May
2588 (6)	"	—	"	P	③	"	"

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Karays irrigated	Spice	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Karays irrigated	Fruit	—	⑤	①	③		Roasted seeds are also eaten
"	"	—	"	"	"		
Irrigated	"	—	"	"	"		
"	"	—	"	"	"		
"	"	—	"	"	"		Round and oblong fruit types mixed
"	"	—	"	"	"		<i>Cucumis melo</i> is mixed in the sample
"	"	—	"	"	"		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	Spice	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Karays irrigated	Fruit	—	⑤	①	③		
"	"	—	"	"	"		
"	"	—	"	"	"		
Irrigated	—	—	"	"	"		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	Food	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Karays irrigated	Spice	—	⑤	①	③		[zi:rək]
"	"	—	"	"	"		
"	"	—	"	"	"		

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Cuminum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2590 (5)	16/NOV	<i>Cuminum cyminum</i>	ZEERA	P	③	RECO, 15km from AHAMAD WAL toward KHARAN(1070m)	Jan. - May
2591 (4)	17/NOV	"	"	P	③	KANAK, 8km from DRINGAR toward QUETTA (1500m)	Feb. - Jun./Jul.
2592 (4)	"	"	"	P	③	KHUNI TALAB, about 38km from QUETTA toward KANAK (1520m)	Nov./Jan. - May./Jun.
2593 (5)	"	"	"	P	③	MASTUNG, about 35km from QUETTA toward KALAT (1650m)	-
2594 (4)	18/NOV	"	"	P	③	KHAD KOUCHA, about 70km QUETTA toward KALAT (1690m)	Mar./Apr. - Jul./Aug.
2598 (2)	19/NOV	"	"	P	③	HAJIKA, about 50km S from KALAT toward KHUZDAR (1720m)	-

Genus : *Glycine*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2501 (1)	15/OCT	<i>Glycine max</i>	KURAT	P	③	JUTAL, 31km from GILGIT toward HUNZA (1560m)	Apr./May - Oct.

Genus : *Echinochloa*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2533 (4)	29/OCT	<i>Echinochloa stagnina</i>	MURGI KATAI	P	③	SHANG BESHAM, 9km S from BESHAM toward THIAKHOT (1550m)	(Weed)
2551 (1)	6/NOV	<i>E. frumentacea</i>	SWANK	P	③	MANGA MANDI, 44km from LAHORE toward SAHIWAL (140m)	-
2554 (2)	"	"	"	P	③	QADIRABAD, 23km from OKARA to SAHIWAL (130m)	May/Jun. - Oct.
2557 (2)	7/NOV	"	"	P	③	KACHA KOY, 24km E from KHANEWAL (70m)	-
2561 (3)	"	<i>E. stagnina</i>	(weed)	P	③	SWAYA WALA, 16km from BAHAWAL NAGAL toward HAROONABAD (130m)	Jun. - Nov.
2564 (1)	8/NOV	<i>E. frumentacea</i>	SWANK	P	③	CHAK 30, 7km from DARAN WALA toward HAROONABAD (80m)	Aug./Sep. - Nov./Oct.
2565 (1)	"	"	"	P	③	CHAK 46, 21km from DARAN WALA toward HAROONABAD (100m)	-
2566 (1)	"	"	"	P	③	ADA KHAJI WALA, 61km from CHISHTIAN toward BAHAWALPUR (110m)	Aug. - Nov./Dec.
2568 (2)	9/NOV	"	"	P	③	AHMADPUR East, 59km from BAHAWALPUR toward RAHIM YAR KHAN (60m)	Jun. - Oct.
2569 (1)	"	"	"	P	③	AHMADPUR KOHNA, BASTI MAHAR 3km from AHMADPUR SHARKIA toward RAHIM YAR KHAN (70m)	Jun. - Nov.
2570 (2)	"	"	SANWANK	P	③	LAL GARIH, 8km N from the main road of BAHAWALPUR to RAHIM YAR KHAN (70m)	Jun./Jul. - Nov.
2570 (3)	"	"	"	P	③	"	"
2571 (1)	"	"	"	P	③	MOCHAN THE BAST, 26km from KHANPUR toward RAHIM YAR KHAN (70m)	Jun. - Nov.
2575 (1)	10/NOV	"	"	P	③	CHAK 42, 50km from RAHIM YAR KHAN toward SUKKUR (50m)	Jul./Aug. - Oct./Nov.
2579 (2)	11/NOV	<i>E. sp ?</i>	(weed)	P	③	37km N from DERA MURAD JUMALI (110m)	-
2581 (2)	12/NOV	<i>E. frumentacea</i>	SAWARA KIRING	P	③	KURK, 7km ENE from SIBI (120m)	Aug./Sep. - Dec.

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	Characteristics	Notes Name & address.etc.
Karays Irrigated	Spice	—	⑤	①	③		
Irrigated	"	—	"	"	"		
"	"	—	"	"	"		
"	"	—	"	"	"		
"	"	—	"	"	"		
"	"	—	"	"	"		

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	Characteristics	Notes Name & address.etc.
—	Fodder	—	⑥	—	④	Small black seeds	Being dried after harvest

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	Characteristics	Notes Name & address.etc.
—	Not used	—	⑥	①	④		Weed in paddy field
—	—	—	—	—	—		Grain store in bazar
Irrigated	Kheer fodder	—	③	①	③		
—	—	—	"	(")	(")		Grain store in bazar
—	—	—	"	"	"		Growing in paddy field
Irrigated	Fodder kheer	—	"	"	"		Planted mixed with <i>Pennisetum americanum</i>
"	—	—	"	"	"		"
"	Fodder kheer	—	"	"	"		"
—	"	—	"	"	"		"
—	"	—	"	"	"		"
—	Bat fodder	—	"	"	"		Very good fodder compared with bajra or makki
—	"	—	"	"	"		(Old grain sample)
Irrigated	Food fodder	—	"	"	"		
"	Dalia roti fodder	—	"	"	"		Farmer's grain sample
—	—	—	"	"	②		Weed in the catchment area of rainfall water, especially <i>Sorghum</i> field
Irrigated	Pash fodder	—	"	"	③		Planted together with <i>S.bicolor</i>

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Echinochloa* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989. BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2582 (1)	12/NOV	<i>E. frumentacea</i>	SAWARA	P	③	BRAIN BALAN, 18km N from SIBI toward QUETTA (130m)	Jul./Aug. - Nov./Dec.

Genus : *Elaeagnus*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2593 (7)	18/NOV	<i>Elaeagnus</i> sp.	SYNJAD or SYNSID	P	③	MASTUNG about 38km from QUETTA toward KALAT (1650m)	—

Genus : *Fagopyrum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2509 (1)	18/OCT	<i>Fagopyrum esculentum</i>	BAROU	P	③	TUNGOSHI, 159km from GILGIT toward SKARDU (2070m)	Jul./Aug. - Oct.
2512 (1)	19/OCT	<i>F. tataricum</i>	"	P	③	BAGARDO THUNG, 29km W from SKARDU toward GILGIT (2160m)	Aug. - Oct.
2513 (1)	"	<i>F. esculentum</i>	"	P	③	SARRI, 36km W from SKARDU toward GILGIT (2120m)	"
2516 (4)	"	"	BROU	P	③	KERIS, 46km E from SKARDU (2200m)	Jun. - Sept.
2520 (1)	"	"	"	P	③	DOGONI, 85.6km E from SKARDU (2370m)	Jul. - Sept.
2523 (1)	22/OCT	"	BLOU	P	③	BAGYCHA, 56km W from SKARDU toward GILGIT (1920m)	Jul. - Oct.
2526 (5)	23/OCT	"	BARAU	P	③	NASIRABAD, 83km N from GILGIT along with the HUNZA River (2040m)	"
2528 (2)	24/OCT	<i>F. tataricum</i>	KAKAO BAROU	P	③	ALIABAD, HUNZA, 101km N from GILGIT along with the HUNZA River (2180m)	Aug. - Oct.
2528 (3)	"	<i>F. esculentum</i>	CHISKI BAROU	P	③	"	"
2530 (1)	25/OCT	"	MORI BARAU	P	③	HARCHIOK, 94km SSE from GILGIT toward ASTOR (166km before ASTOR) (2000m)	Aug. - End of Oct.
2531 (3)	"	<i>F. tataricum</i>	BARAU	P	③	ASTOR, 111km SSE from GILGIT (2300m)	Aug. - Oct.

Genus : *Helianthus*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
585 (3)	15/NOV	<i>Helianthus annuus</i>	—	P	③	47km before NOSHKI from QUETTA (1490m)	—

Genus : *Hordeum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2516 (6)	20/OCT	<i>Hordeum vulgare</i>	YANĀS	P	③	KERIS, 46km E from SKARDU (2200m)	Mar. - Last Week of Jun.
2516 (7)	"	"	SWANĀS	P	③	"	"
2520 (2)	"	"	YAKNĀS	P	③	DOGONI, 85.6km E from SKARDU (2370m)	Jul. - Sept.
2531 (2)	25/OCT	"	YO	P	③	ASTOR, 111km from GILGIT (2300m)	Mar./Apr. - Sep./Oct.
2583 (4)	14/NOV	"	URBUSH	P	③	PISHIN (1450m)	—

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
Irrigated	Fodder	—	③	①	③		Planted together with <i>S. bicolor</i>

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
—	Food	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
—	Roti	—	⑥	①	③		Threshed sample, 50km W from SKARDU
—	"	—	"	"	④		Threshed after harvested
—	"	—	"	"	"		Sown after the harvest of wheat
—	Roti kissir	—	"	"	"		Grain sample
Irrigated	(Food)	—	"	"	"		
"	Roti	—	"	"	"		Being threshed after dried
"	"	—	"	"	"		<i>F. tataricum</i> is admixed in the sample
"	"	—	"	"	"		KAKAO=bitter
"	"	—	"	"	"		CHESKI=sweat
"	Turtopo (=roti)	—	"	"	②	60--70cm tall, pink colored flowers. <i>F. tataricum</i> (CHITI BARAU) admixed	Some information from Mr. Mohamad Mashroof Khan, Harchok, District DIAMER
—	—	—	"	"	③		Just after threshed

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
Karays	—	—	⑤	①	④		About 100km from QUETTA toward NOSHKI

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address etc.
—	Satoo	—	⑥	(①)	(④)	Naked	Grain sample
—	"	—	"	(")	(")	Hulled	
—	(Food)	—	"	"	"		
—	"	—	"	—	—		Grain sample Mr. Muhamad Hussain
—	—	—	—	—	—		Grain store in bazar

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Hordeum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2590 (3)	16/NOV	<i>Hordeum vulgare</i>	JOW	P	③	RECO, 15km from AHAMAD WAL toward KHARAN (1070m)	—
2592 (2)	17/NOV	"	SAAHI	P	③	KHUNI TALAB, about 38km from QUETTA toward KANAK(1500m)	Dec./Jan. — May./Jun.
2597 (1)	19/NOV	"	"	P	③	RODINJO, about 30km from KALAT toward KHUZDAR (1830m)	Nov. — July
2598 (4)	"	"	"	P	③	HAJIKA, about 50km S from KALAT toward KHUZDAR (1720m)	—

Genus : *Lens*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2511 (4)	19/OCT	<i>Lens culinaris</i>	SERAJUNG	P	③	SKARDU, Baltistan (2190m)	—
2553 (5)	6/NOV	"	MASAR	P	③	SHAB DIN WALA, 102km from LAHORE toward SAHIWAL(150m)	Oct. — Mar./Feb.
2591 (1)	17/NOV	"	DAL MASOOR	P	③	KANAK, 8km from DRINGAR toward QUETTA (1500m)	Nov. — May.
2598 (6)	19/NOV	"	SHIR	P	③	HAJIKA, about 50km S from KALAT toward KHUZDAR (1720m)	—

Genus : *Oryza*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2533 (1)	29/OCT	<i>Oryza sativa</i>	BOOTI	P	③	SHANG BESHAM, 9km S from BESHAM toward THAKHOT (1550m)	June — Oct./Nov.
2533 (2)	"	"	SELA	P	③	"	"
2533 (3)	"	"	—	P	③	"	"
2534 (1)	"	"	JAPANI CHAWAL	P	③	PESHAWALA 47km BESHAM toward MANSEHRA (850m)	Jun. — Oct.
2535 (1)	"	"	GALRA	P	③	AHL 84km from BESHAM toward MANSEHRA (1390m)	"
2535 (2)	"	"	"	P	③	"	"
2536 (1)	"	"	"	P	③	6km N from BAFFA toward JABORI (1000m)	"
2537 (1)	"	"	GHALRA	P	③	JABORI, 21km from BAFFA (1270m)	"
2537 (2)	"	"	SHUGAS	P	③	"	"
2546 (1)	5/NOV	"	CHAWAL	P	③	LALIAN Railway Station, 36km from SARGODHA toward SHEKHUPURA (140m)	? Nov.
2547 (1)	"	"	RATWA	P	③	BAT, 28km from PINDI BHATIAN (160m)	Jun. — Nov.
2561 (1)	7/NOV	"	TEDDY	P	③	SWAYA WALA, 16km from BAHAWAL NAGAR toward HAROONABAD (130m)	Jul. — Nov.
2561 (2)	"	"	CHOBA	P	③	"	"
2570 (1)	"	"	TEDDY	P	③	LAL GARI, 8km N from the main road of BAHAWALPUR to RAJIM YAR KHAN (70m)	Jun./Jul. (Aug) — Nov.
2578 (1)	11/NOV	"	SALI	P	③	DERA MURAD JUMALI (near Rest House) (50m)	Jun./Jul. — Nov.

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Karays irrigated	—	—	⑤	(①)	(④)		
Irrigated	—	—	⑤	①	③		
"	—	—	⑤	①	③		
"	—	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	(Food)	—	—	—	—		Grain store in bazar
Irrigated	Food treatment for animals	—	③	①	③		Usage: Food and treatment for animals of gastic trouble
"	Food	—	⑤	①	③		
"	—	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl. July	Boiled rice	—	⑥	①	④	90—120cm tall, awned, brown pericarp, round grains	} From the same fields
"	"	—	⑥	①	④	90—120cm tall, awnless, brown pericarp, round grains	
"	"	—	⑥	①	④	90—120cm tall, black husks, purple pericarp, highly shattering, awned and awnless mixed	Sporadically found in the fields of #2533(1)&(2)
"	"	—	⑥	①	③		Being winnowed after threshed
"	"	—	⑤	①	②	Awnless, 80cm tall	} From the same field
"	"	—	⑤	①	②	Awned, 80cm tall	
"	"	—	⑤	①	②		Introduced 7 or 8 years ago
"	"	—	⑤	①	②	80—100cm tall, awnless	} From the same field
"	"	—	⑤	①	②	80—100cm tall, awned	
Transpl. irrigated	(Food)	—	③	①	③		
"	—	—	③	①	③		Admixed in BASMATI field
"	Fodder	—	③	①	③	Round grains with sometimes short awns	Admixed in NIKKI-BASMATI
"	"	—	③	①	③	Rather oblong grains with short awns	"
"	Food	—	③	①	③		Semidwarf ? improved IR vaviety ?
"	"	—	③	①	③	Awnless, large round grains, tough culm, Javanica—like	Mixed in IR 6(?) field

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Oryza* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2578 (2)	11/NOV	<i>Oryza sativa</i>	SALI	P	③	DERA MURAD JUMALI (near Rest House) (50m)	Jun./Jul. - Nov.
2578 (3)	"	"	"	P	③	"	"
2578 (4)	"	"	"	P	③	"	"
2578 (5)	"	"	"	P	③	"	"
2578 (6)	"	"	"	P	③	"	"

Genus : *Panicum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2503 (2)	16/OCT	<i>Panicum miliaceum</i>	BAGH	P	③	GULODASS, 82km W from GILGIT, toward IMIT (1880m)	Jun. - last week of Oct.
2504 (3)	17/OCT	"	OLEAN	P	③	IMIT (2270m)	Jun. - Oct.
2506 (1)	"	"	"	P	③	CHATORKHAND, 26km S from IMIT (2020m)	Jun./May - Sep.
2510 (1)	18/OCT	"	TZETZE (TSETSE)	P	③	GARBIDAS, 163km from GILGIT toward SKARDU (2070m)	? - Oct.
2514 (1)	19/OCT	"	"	P	③	GARBIDAS, 38km W from SKARDU toward GILGIT (2080m)	Jul. - Oct.
2516 (3)	20/OCT	"	TSETSE	P	③	KERIS, 46km E from SKARDU (2200m)	Jun. - Sep.
2518 (2)	"	"	"	P	③	KURO, 60.3km E from SKARDU (2240m)	Jun./Jul. - Oct.
2519 (2)	"	"	MARTSOTSE	P	③	KUNIS, 70km E from SKARDU (2360m)	Jul. - Oct.
2520 (5)	"	"	TSETSE	P	③	DOGONI, 87km E from SKARDU (2390m)	Jul. - Oct.
2526 (1)	23/OCT	"	SHEERAI	P	③	NASIRABAD, 83km N from GILGIT along with the HUNZA River (2040m)	"
2526 (2)	"	"	"	P	③	"	"
2532 (1)	27/OCT	"	ONU	P	③	PHINA, about 3km SE from ASTOR (2300m)	May/Jul. - End of Aug.
2569 (4)	9/NOV	"	CHINA	P	③	AHMADPUR KOHNA, BASTI MAHAR 3km from AHMADPUR SHAKIA toward RAHIM YAR KHAN (70m)	Jun./Jul. - Nov.
2583 (1)	14/NOV	"	AYZDAN	P	③	PISIIN (1450m)	-
2583 (3)	"	"	"	P	③	"	-

Genus : *Pennisetum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2541 (1)	4/NOV	<i>Pennisetum americanum</i>	BAJRA	P	③	CHAK DALOT, 13km from MANDRA toward CHAKWAL (550m)	? - Nov.
2542 (2)	"	"	"	P	③	BUCHAN KALAN, 11km from KALAR KAHAR toward KOSHAB (790m)	-
2543 (1)	"	"	"	P	③	KOSHAB (190m)	-

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Transpl. irrigated	Food	—	③	①	③	Short awn (<5cm long), somewhat long grain, rather easy to shatter	Mixed in IR6(?) field
"	"	—	③	①	③	Short awn, long grain	"
"	"	—	③	①	③	Short awn (2cm long), brown color stripes on husks	"
"	"	—	③	①	③	Awnless (very rarely, very short awn) brown color stripes on husks	"
"	"	—	③	①	③	Awnless, long grain	"

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Shapik	—	⑤	①	④		
—	"	—	⑤	—	—		Being dried after harvest
—	"	—	⑤	—	—		Its shapik is called as "OLEENI TATORI"
Irrigated	—	—	⑥	①	④	Open panicle type, 80cm tall	
"	(Food)	—	⑥	②	④		
—	"	—	⑥	(①)	(④)		Grain sample, half-roasted, milled, and eaten with yogurt
Irrigated	"	—	⑥	①	④		
"	Haleem	—	⑥	①	④	Dense panicle type	
"	(Food)	—	⑥	①	④	120cm tall, non-tillering, dense panicle type	
"	Roti	—	⑥	①	④	60–80cm tall, almost non-tillering	At least four types were mixed in a field
"	"	—	⑥	①	④		
—	Boild as rice	—	⑥	—	—		Boiled one is called DESHI CHAWAL (=local rice)
Irrigated	Food	—	③	①	③		Farmer's grain sample
—	—	—	—	—	—		Grain store in bazar
—	—	—	—	—	—		"

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Terrace	(Food)	—	③	①	③		
Not irrigated	"	—	③	①	③		
—	"	—	③	—	—		Grain store in bazar

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Pennisetum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2545 (1)	5/NOV	<i>Pennisetum americanum</i>	BAJRA	P	③	LALIAN, 34km from SARGODHA toward SHEIKHIUPURA (140m)	May./Jun. -- Nov.
2545 (2)	"	"	"	P	③	"	"
2547 (1)	"	"	"	P	③	PINDI BHATIAN (160m)	—
2552 (1)	6/NOV	"	"	P	③	BHAI PHEIRO, 60km from LAHORE toward SAHRAWAL (140m)	—
2554 (1)	"	"	"	P	③	QAIDABAD, 23km from OKARA toward SAHRAWAL (130m)	Jun./Jul. -- Sep./Oct.
2556 (1)	7/NOV	"	"	P	③	KHANEWAL (60m)	—
2557 (1)	"	"	"	P	③	KACHA KOH, 24km E from KHANEWAL (70m)	—
2559 (2)	"	"	"	P	③	ARIF WALA, PUNJAB (100m)	—
2560 (1)	"	"	"	P	③	SALAMPURA, 4km from BAHAWAL NAGAR toward HAROONABAD (120m)	Aug. ? -- Nov.
2562 (1)	8/NOV	"	"	P	③	CHISHTIAN, 49km W from BAHAWAL NAGAR toward BAHAWALPUR (70m)	—
2563 (1)	"	"	"	P	③	DARAN WALA, CHAK 70, 23km from CHISHTIAN toward HAROONABAD (80m)	Aug./Sept. -- Nov.
2567 (1)	9/NOV	"	"	P	③	KHAN SHRIEF, 18km from BAHAWALPUR toward RAHIM YAR KHAN (70m)	—
2568 (1)	"	"	"	P	③	AHMADPUR East, 59km from BAHAWALPUR toward RAHIM YAR KHAN (60m)	Jul. -- Nov.
2569 (2)	"	"	"	P	③	AHMADPUR KOHINA, BASTI MAHAR, 3km from AHMADPUR SHARIFA toward RAHIM YAR KHAN (70m)	Jun. -- Nov.
2572 (1)	10/NOV	"	"	P	③	RAHIM YAR KHAN (50m)	—
2577 (1)	11/NOV	"	BAJRI	P	③	DERA MURAD JUMALI (40m)	—
2586 (4)	15/NOV	"	"	P	③	NOSHKI (950m)	—
2589 (2)	16/NOV	"	"	P	③	KHARAN (690m)	—

Genus : *Phaseolus*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2500 (1)	15/OCT	<i>Phaseolus vulgaris</i>	—	P	③	GILGIT (1430m)	—
2500 (2)	"	"	—	P	③	"	—
2501 (2)	"	"	RAJMAH	P	③	JUTAL, 31km from GILGIT toward HUNZA (1560m)	Apr./May -- Oct.
2507 (2)	"	"	METHI, RABUNG	P	③	GULODASS, 38km S from IMIT (1860m)	Jun./Jul. -- Oct.
2511 (3)	19/OCT	"	MOTHU	P	③	SKARDU, BALTISTAN (2190m)	—
2511 (5)	"	"	"	P	③	"	—
2522 (4)	21/OCT	"	"	P	③	KARPAK, 77km E from SKARDU toward KHAPLU (2330m)	Jul. -- Oct.

1) Sample : P(population) In(individual) 2) Status : ①wild ②weedy ③landrace ④improved ⑤breeder's ⑦others. 4) Site : ①level ②slope ③summit ④depression. 5) Drainage : ①poor ②moderate ③good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
-	-	-	③	(①)	(③)		Grain store in village market
-	-	-	③	(①)	(③)		"
-	-	-	③	(①)	(③)		"
-	-	-	③	(①)	(③)		Grain store in bazar
-	Fodder roti	-	③	(①)	③		
-	-	-	③	(①)	(③)		Grain store in bazar
-	-	-	③	(①)	(③)		"
-	-	-	③	(①)	(③)		"
Irrigated	Fodder	-	③	(①)	③		
-	-	-	③	(①)	(③)		Grain store in bazar
Irrigated	Fodder	-	③	(①)	③		
-	-	-	③	(①)	(③)		Grain store in bazar
Irrigated	Fodder	-	③	(①)	③		Planted mixed with <i>Echinochloa frumentacea</i>
"	Fodder roti	-	③	(①)	③		Grain store in bazar
-	-	-	-	-	-		
-	-	-	-	-	-		Grain store in bazar
-	-	-	-	-	-		"
-	-	-	-	-	-		"

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
-	-	-	-	-	-		Grain store in bazar
-	-	-	-	-	-		"
-	(Food)	-	⑥	-	④		Being dried after harvest
-	"	-	⑤ ?	(①)	④	White seed = METHI Red seed = RABUNG } mixed	The same site as # 2503
-	"	-	-	(①)	-		Grain store in bazar
-	"	-	-	-	-		"
Irrigated	"	-	⑥	(①)	④		

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Raphanus* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2591 (3)	17/NOV	<i>Raphanus sativus</i>	MOLI	P	③	KANAK, 8km from DRINGAR toward QUETTA (1500m)	Jan. – Apr./May

Genus : *Sesamum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2541 (2)	4/NOV	<i>Sesamum indicum</i>	TILL	P	③	CHAK DOLAT, 13km from MA NDRA toward CHAKWAL (550m)	Jun./Jul. – End of Oct.
2555 (1)	6/NOV	"	"	P	③	KASUWAL, 103km from OKARA toward KHANEWAL (110m)	Aug. – Nov.

Genus : *Setaria*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2503 (1)	16/OCT	<i>Setaria italica</i>	CHAH	P	③	GULODASS, 82km W from GILGIT toward IMIT (1880m)	June – Last Week of Oct.
2507 (1)	17/OCT	"	"	P	③	GULODASS, 38km S from IMIT (1860m)	July – Oct.
2508 (1)	18/OCT	"	"	P	③	SHUT, 135km from GILGIT toward SKARDU (1890m)	Jun./Jul. – Oct.
2511 (1)	19/OCT	"	"	P	③	SKARDU, BALTISTAN (2190m)	–
2511 (2)	"	"	"	P	③	"	–
2515 (1)	20/OCT	"	"	P	③	GOAL, 46km E from SKARDU (2200m)	July – Sep.
2516 (1)	"	"	APPY CHAH	P	③	KERIS, 46km E from SKARDU (2200m)	3rd week of Jun. – end of sep.
2516 (2)	"	"	CHAMER	P	③	"	"
2516 (5)	"	"	CHAHTUN	P	③	"	June – Sep.
2517 (1)	"	"	PONCHAH	P	③	KURO, 56.4km E from SKARDU (2230m)	Jun./July – Oct.
2518 (1)	"	"	GOROCHAH	P	③	KURO, 60.3km E from SKARDU (2240m)	"
2519 (1)	"	"	CHAKHAR	P	③	KUNIS, 70km E from SKARDU (2360m)	July – Oct.
2519 (3)	"	"	GOROCHAH	P	③	"	"
2519 (4)	"	"	CHAHMAR	P	③	"	"
2520 (3)	"	"	CHAH	P	③	DOGONI, 87km E from SKARDU (2390m)	"
2520 (4)	"	"	"	P	③	"	"
2521 (1)	"	"	MARCHAH	P	③	TAPARI, 92km E from SKARDU (2400m)	"
2521 (2)	"	"	KARCHAH	P	③	"	"
2522 (1)	21/OCT	"	CHAHMAR	P	③	KARPAK, 77km E from SKARDU toward KHAPLU (2330m)	"
2522 (2)	"	"	APPYCHAH	P	③	"	"

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	Food	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Terrace	Oil sweets medicine	—	③	①	③		Being dried after harvest
Irrigated	Oil sweets	—	③	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Shapik	—	⑤	①	④		
—	Shapik (with wheat)	—	⑤	①	④		
Irrigated	Roti	—	⑥	②	③	60–100cm tall, no tillering	74km W from SKARDU
—	(Food)	—	—	—	—		Grain store in bazar
—	"	—	—	—	—		"
—	Poultry fodder food	—	⑥	①	④		
—	Roti boiled as rice	—	⑥	①	④	(Grain sample)	APPY=grandmother
—	"	—	⑥	①	④	(Grain sample)	CHAMER has larger grains than APPY CHAH
—	"	—	⑥	①	④	(Grain sample)	
Irrigated	(Food)	—	⑥	①	④		} PONCHAH is better than GOROCHAH in quality
"	—	—	⑥	—	④		
"	Haleem	—	⑥	①	④		
"	"	—	⑥	①	④		
"	"	—	⑥	①	④		
"	(Food)	—	⑥	①	④	120cm tall, non-tillering	
"	"	—	⑥	①	④	Anthocyan pigmentation on stem, 120cm tall, non-tillering	
"	"	—	⑥	①	④	Anthocyan pigmentation on stem	
"	"	—	⑥	①	④	Without pigmentation, non-tillering	
"	Haleem	—	⑥	①	④	120cm tall, conical panicle of 13cm long, non-tillering, faint anthocyan pigmentation on stem	
"	"	—	⑥	①	④	130cm tall, cylindrical panicle of 12–15cm long, anthocyan pigmentation on stem, non-tillering	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Setaria* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2522 (3)	21/OCT	<i>Setaria italica</i>	KARCHAH	P	③	KARPAK, 77km E from SKARDU toward KHAPLU (2330m)	Jul. – Oct.
2524 (1)	23/OCT	"	CHEEN	P	③	NILT, NAGAR, 70km N from GILGIT toward HUNZA (1900m)	Jul. – Oct.
2525 (1)	"	"	CHEENG	P	③	THOL, 72km N from GILGIT toward HUNZA (1890m)	"
2526 (4)	"	"	BAGHAROTI	P	③	NASIRABAD, 83km N from GILGIT along with the HUNZA River (2040m)	"
2527 (1)	"	"	CHAH	P	③	GANISH, 105km N from GILGIT along with the HUNZA Rirer (2190m)	Jul. – end of Oct.
2527 (2)	"	"	"	P	③	"	"
2528 (1)	24/OCT	"	CHA	P	③	ALIABAD, HUNZA, 101km N from GILGIT along with HUNZA River (2180m)	Aug. – Oct.
2529 (1)	"	"	CHEENG	P	③	GULMIT BALA, 75km N from GILGIT along with the HUNZA River (1960m)	Jul. – Oct.
2529 (2)	"	<i>S. viridis</i>	PHOORI	P	③	"	Mimic weed
2544 (1)	4/NOV	<i>S. italica</i>	KANGANI	P	③	DHRIMA, 31km from KHOSHAD toward SARGODHA (190m)	May/Jun. – Nov.
2544 (2)	"	"	"	P	③	"	"
2559 (1)	7/NOV	"	KANGNI	P	③	ARIF WALA, PUNJAB (100m)	–
2569 (3)	9/NOV	"	KONGONI	P	③	AHMADPUR KOHNA, BASTI MAHAR, 3km from AHMADPUR SHARKIA toward RAHIM YAR KHAN (70m)	Jun. – Nov.
2583 (6)	14/NOV	"	GAL	P	③	PISHIN (1450m)	–

Genus : *Sorghum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2542 (1)	4/NOV	<i>Sorghum bicolor</i>	JOWAR	P	③	BUCHAN KALAN, 11km from KALAR KAHAR toward KHOSHAB (790m)	–
2543 (2)	"	"	"	P	③	KHOSHAB (190m)	–
2549 (1)	6/NOV	"	JOWAR	P	③	KHOH LOHARAM, 32km from LAHORE toward SAHIWAL (160m)	–
2550 (1)	"	"	"	P	③	KHOH LOHARAM, 34km from LAHORE toward SAHIWAL (150m)	–
2550 (2)	"	"	"	P	③	"	–
2553 (4)	"	"	SAKAR JOWAR	P	③	SHAB DIN WALA, 102km from LAHORE toward SAHIWAL (150m)	Jun. – Oct.
2574 (1)	10/NOV	"	JOWAR	P	③	ALU GOTH, 49km from RAHIM YAR KHAN toward SUKKUR (40m)	May/Jun. – Nov.
2576 (1)	11/NOV	"	"	P	③	FARM, 17km N from JACOBABAD (40m)	– Nov.
2579 (1)	"	"	"	P	③	37km N from DERA MURAD JUMALI (110m)	"
2580 (1)	12/NOV	"	JOWARI	P	③	MITHI, 98km from DERA MURAD JOMALI toward SIBI (80m)	"
2580 (2)	"	"	"	P	③	"	"

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	Haleem	—	⑥	①	④	130cm tall, cylindrical panicle of 12–15cm long and 3cm wide, green non-tillering plant	
"	Roti	—	⑥	①	④	1.2m tall, conical~cylindrical panicle of 12–15cm long, non-tillering	
"	"	—	⑥	①	④	1.1m tall, non-tillering plant with anthocyan pigmentation, conical panicle with short bristles	
"	"	—	⑥	①	④		Being dried after harvest
"	Roti (Shapik)	—	⑥	①	④	1.1m tall, semi-conical panicles of 11–16cm long and 2–2.7cm wide, non-tillering plants with anthocyan pigmentation in panicles and stems	3km N from ALIABAD, HUNZA
"	"	—	⑥	①	④	Same as above, except for weaker pigmentation	"
"	"	—	⑥	①	④		Sometimes mixed with wheat to make roti
"	"	—	⑥	①	④	1.1m tall, non-tillering, conical panicle of 15cm long	
—	—	—	⑥	①	④	1.2m tall, <i>S. italica-viridis</i> hybrid-like plants with anthocyan pigmentation of deep purple, easily shattering black grains	Non-tillering at the stem base, but having a few small panicles on higher nodes
Irrigated	Bat	—	③	①	③	80–130cm tall, less than five tillers, 18–20cm long panicles, yellow grains, without anthocyan pigmentation	
"	"	—	③	①	③	80–130cm tall, less than five tillers, 10–20cm long panicles, black grains, without anthocyan pigmentation	
—	—	—	③	①	③	Red and yellow grains mixed	Grain store in bazar
Irrigated	Food	—	③	①	③		Farmer's grain sample
—	—	—	—	—	—		Grain store in bazar

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Not irrigated	Food	(Smut)	③	①	③		Wrong seed set
—	"	—	③	—	—		Grain store in bazar
Irrigated	Fodder	—	③	①	③		
"	"	—	③	①	③		
"	"	—	③	①	③	Black grains	
"	Fodder roti	—	③	①	③		17-1-AL, SHAB DINWALA
"	Fodder roti	—	③	①	③		
—	Roti fodder	—	③	①	③		
—	—	—	③	①	②		Sown in the catchment area of rain water
Irrigated	—	—	③	①	③	Dense panicle, white pericarp, white glume, tall plant height(appr. 2m)	
"	—	—	③	①	③	Dense panicle, white brown pericarp, brown glumes, short plant height(appr. 1.5m)	

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Sorghum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2580 (3)	12/NOV	<i>Sorghum bicolor</i>	JOWARI	P	③	MITHI, 98km from DERA MURAD JOMALI toward SIBI (80m)	— Nov.
2580 (4)	"	"	"	P	③	"	"
2581 (1)	"	"	"	P	③	KURK, 7km ENE from SIBI (120m)	Aug./Sep. — Dec.
2584 (1)	15/NOV	"	ZURRAT (JOWARI) ?	P	③	NOZAH, near DRINGAR, 30km from QUETTA toward NOSHKI (1500m)	Apr./May Jun./Jul.
2585 (1)	"	"	—	P	③	47km before NOSHKI from QUETTA (1490m)	—
2587 (2)	16/NOV	"	ZURRAT	P	③	BUTTO, 20km from NOSHKI on NOSHKI-DALBANDIN Road (840m)	Apr. — Sep.
2590 (2)	"	"	" ?	P	③	RECO, 15km from AHMAD WAL toward KHARAN (1070m)	—
2592 (7)	17/NOV	"	JOWARI	P	③	KHUNI TALAB, about 38km from QUETTA toward KANAK (1520m)	—
2593(10)	18/NOV	"	—	P	③	MASTUNG, about 35km from QUETTA toward KALANI (1650m)	—
2597 (3)	19/NOV	"	JOWARI	P	③	RODINJO, about 30km S from KALAT toward KHUZDAR (1830m)	Apr./May Sep.
2598 (1)	19/NOV	"	ZURRAT (JOWARI)	P	③	HAIJKA, about 50km S from KALAT toward KHUZDAR (1720m)	—

Genus : *Spinacia*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2590 (4)	16/NOV	<i>Spinacia oleracea</i>	PALAK	P	③	RECO, 15km from AHMAD WAL toward KHARAN (1070m)	—
2590(10)	"	"	"	P	③	"	—

Genus : *Triticum*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2501 (3)	15/OCT	<i>Triticum aestivum</i>	GANDOM	P	③	JUTAL, 31km from GILGIT toward HUNZA (1560m)	—
2505 (1)	17/OCT	"	SUFAID BASHGALIAN	P	③	PAKORA, 19km S from IMIT (2030m)	Mar. — Aug.
2513 (2)	19/OCT	"	GANDOM	P	③	SARRI, 36km W from SKARDU toward GILGIT (2120m)	Mar./Apr. — Aug.
2531 (1)	25/OCT	"	GOOM	P	③	ASTOR, 111km SSE from GILGIT (2300m)	Mar. — Sep./Oct.
2584 (4)	15/NOV	"	GHANAM	P	③	NOZAH, near DRINGAR, 30km from QUETTA toward NOSHKI (1500m)	Nov-Dec Jun/Jul.
2587 (4)	16/NOV	"	GHALLAH	P	③	BUTTO, 22km from NOSHKI on NOSHKI-DALBANDIN Road (840m)	Nov./Dec. — May
2588 (2)	"	"	DHYAK	P	③	AHMAD WAL, 24km from NOSHKI on NOSHKI-DALBANDIN Road (840m)	Oct. — May
2590 (1)	"	"	GHALAH	P	③	RECO, 15km from AHMAD WAL toward KHARAN (1070m)	Oct./Nov. — May
2591 (1)	17/NOV	"	DAYAK	P	③	DANAK, 8km from DRINGAR toward QUETTA (1500m)	Nov. — May/Jul.
2592 (1)	"	"	"	P	③	KHUNI TALAB, about 38km from QUETTA toward KANAK (1520m)	Nov./Dec. Jun./Jul.

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	—	—	③	①	③	Somewhat dense panicle, brown pericarp, brown color on glumes	
"	—	—	③	①	③	Somewhat lax panicle, white pericarp	
"	—	—	③	①	③	1.7–2m, dense panicle	
Karays	Fodder	—	⑤	①	③		
—	—	—	⑤	①	④		About 100km from QUETTA toward NOSHKI
—	Fodder	—	⑤	①	③		It was also used for roti in the past.
—	—	—	⑤	①	③		
—	—	—	⑤	①	③		
—	—	—	—	—	—		Grain store in bazar
Irrigated	Roti fodder	—	⑤	①	③		
"		—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Karays irrigated	Vegetable	—	⑤	①	③		Narrow leaves
"	"	—	⑤	①	③		Broad leaves

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	Chapati	—	⑥	—	④		
—	Shapik	—	⑤	—	—		
—	Roti	—	⑥	(①)	(④)		
—	—	—	⑥	—	—		Grain sample Mr. Muhammad Hussain
Karays irrigated	Food (roti)	—	⑤	①	③		
"	"	—	⑤	①	③		
"	"	—	⑤	①	③		
"	"	—	⑤	①	③		
Irrigated	"	—	⑤	①	③		
"	"	—	⑤	①	③		

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.

Genus : *Triticum* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2593 (1)	18/NOV	<i>Triticum aestivum</i>	RORI	P	③	MUSTANG, about 35km from QUETTA toward KALAT (1650m)	Nov. – Jun.
2593 (3)	"	"	MULKI DAYAK	P	③	"	"
2594 (1)	"	"	SURBEGE	P	③	KHAD KOUCHA, about 70km from QUETTA toward KALAT (1690m)	Nov. – Jun./Jul.
2596 (1)	"	"	WATNI GALLAH	P	③	PIRAN PIR DUSTGIR, about 120km QUETTA toward KALAT (1960m)	Nov. – Jun./Jul.
2597 (4)	19/NOV	"	MULKI KHOLAM	P	③	RODINJO, about 30km S from KALAT toward KHUZDAR (1830m)	Nov. – Jun./Jul.
2598 (7)	"	"	GHALLAH	P	③	HAJIKA, about 50km S from KALAT toward KHUZDAR (1720m)	

Genus : *Vicia*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2531 (4)	25/OCT	<i>Vicia faba</i>	BARDAK	P	③	ASTOR, 111km SSE from GILGIT (2300m)	–

Genus : *Vigna*

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2502 (1)	16/OCT	<i>Vigna unguiculata</i>	DERELI RABUN	P	③	GULMUTI, 64km W from GILGIT toward IMIT (1790m)	Jun. – Oct.
2502 (2)	"	<i>V. mungo</i>	BALAI	P	③	"	"
2543 (3)	17/OCT	<i>V. radiata</i>	MANG	P	③	KHOSIAB (190m)	–
2553 (1)	6/NOV	"	MUNGI	P	③	SHAB DIN WAL, 102km from LAHORE toward SAHIWAL (150m)	Jun. – Oct.
2553 (2)	"	"	"	P	③	"	"
2553 (3)	"	<i>V. mungo</i>	MAH or MASH	P	③	"	"
2577 (2)	11/NOV	<i>V. radiata</i>	MUNG	P	③	DERA MURAD JUMALI (40m)	–
2583 (2)	14/NOV	"	MASH	P	③	PISHIN (1450m)	–
2583 (5)	"	"	"	P	③	"	–
2586 (3)	15/NOV	"	"	P	③	NOSHKI (950m)	–
2589 (1)	16/NOV	"	MASH	P	③	KHARAN (690m)	–
2593 (12)	18/NOV	<i>V. acanitifolia</i>	MOTH	P	③	MASTUNG, about 35km from QUETTA toward KALAT (1650m)	–
2595 (1)	"	<i>V. radiata</i>	MUNG	P	③	MANGOCHAR, about 80km from QUETTA toward KALAT (1710m)	–
2598 (5)	19/NOV	"	MASH	P	③	HAJIKA, about 50km S from KALAT toward KHUZDAR (1720m)	–

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	Food (roti)	—	⑤	①	③		Reddish grains were of improved variety admixed
"	"	—	⑤	①	③		"
"	"	—	⑤	①	③		
"	Hirrh (=roti)	—	⑤	①	③		WATANI=local GHALLAH=wheat
"	Roti	—	⑤	①	③		MULKI=local KHOLAM=wheat
—	—	—	—	—	—		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	—	—	⑥	—	—		Grain sample Mr.Muhamad Hussain

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	(Food)	—	⑥	①	④		5km W from SINGAL
—	"	—	⑥	①	④		"
—	—	—	③	—	—		Grain store in bazar
Irrigated	Dahl	—	③	①	③		17-1-AL, SHAD DIN WALA
"	"	—	③	①	③		
"	"	—	③	①	③		
—	—	—	—	—	—		Grain store in bazar
—	—	—	—	—	—		"
—	—	—	—	—	—		"
—	—	—	—	—	—		"
—	—	—	—	—	—		"
—	—	—	—	—	—		"
—	—	—	—	—	—		"

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous
④excessive.

Genus : *Zea* LIST OF COLLECTED MATERIALS IN PAKISTAN, 1989, BY IBPGR

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2504 (1)	17/OCT	<i>Zea mays</i>	MAKI	P	③	IMIT (2270m)	Jun. – Oct.
2504 (2)	"	"	"	P	③	"	"
2512 (2)	19/OCT	"	"	P	③	BAGARDOTHUNG, 29km W from SKARDU toward GILGIT (2160m)	Jun. – Oct.
2526 (3)	23/OCT	"	"	P	③	NASIRABAD, 83km N from GILGIT along with the Hunza River	Jul. – Oct.
2539 (3)	30/OCT	"	"	P	③ ?	3km N from KAGAN toward NARAN (1960m)	Jun. – Oct.
2540 (1)	"	"	"	P	③	BAGNU, 11km N from KAGAN toward NARAN (2080m)	"
2553 (6)	6/NOV	"	MAKKI	P	③	SHAB DIN WALA, 102km from LAHORE toward SAHIWAL (650m)	Feb. – May
2558 (1)	7/NOV	"	"	P	③	KAMEER, 39km from SAHIWAL toward ARIF WALA (100m)	? – Nov.
2584 (3)	15/NOV	"	MAKKI (JOWARI?)	P	③	NOZAH, near DRINGAR, 30km from QUETTA toward NOSHKI (1500m)	Mar./Apr. – Jun./Jul.
2585 (2)	"	"	—	P	③	47km before NOSHKI from QUETTA (1490m)	—
2593(11)	18/NOV	"	MAKI	P	③	MUSTANG, about 35km from QUETTA toward KALAT (1650m)	—
2597 (2)	19/NOV	"	MAKAI (MAKKAI)	P	③	RODINJO, about 30km from KALAT toward KHUZDAR (1830m)	Apr./May – Sept.
2598 (3)	"	"	MAKKAI	P	③	HAJIKA about 50km S from KALAT toward KHUZDAR (1720m)	—

Genus : Unknown

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill.,km) & Altitude(m)	Crop season
2566 (2)	8/NOV	Leguminosae sp.	JANTAR	P	③	ADA KHAJI WALA, 61km from CHISHTIAN toward BAHAWALPUR (110m)	Aug. – Nov.
2573 (1)	10/NOV	"	GIIANWAR	P	③	BHAMANAD KHAH, 41km from RAHIMYAR KHAN toward SUKKUR (40m)	Jun./Jul. – Nov.

1) Sample : P(population) In(individual) 2) Status : ① wild ② weedy ③ landrace ④ improved ⑤ breeder's ⑦ others. 4) Site : ① level ② slope ③ summit ④ depression. 5) Drainage : ① poor ② moderate ③ good

(Team 2)

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
—	(Food)	—	⑤	—	—	Red pericarp	
—	"	—	⑤	—	—	White	
—	"	—	⑥	①	④		Not fully matured
—	"	—	⑥	①	④		
—	"	—	⑥	①	④		Improved type according to a farmer's information
—	"	—	⑥	①	④		Being dried after harvest
—	Fodder roti	—	③	①	③		
—	—	—	③	①	③		
—	Food fodder	—	⑤	①	③		
—	—	—	⑤	①	④		About 100km from QUETTA toward NOSHKI
—	—	—	—	—	—		Grain store in bazar
Irrigated	Fodder food	—	⑤	①	③		
"	—	—	⑤	①	③		

Cultural practice	Usage	Diseases & pests	Topography ³⁾	Site ⁴⁾	Drainage ⁵⁾	Characteristics	Notes Name & address.etc.
Irrigated	Fodder, soil improvement	—	③	①	③	1.5–2m tall	
"	Fodder dahl	—	③	①	③		

line ⑥ others. 3) Topography : ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ④excessive.