

ガーナ国における野菜およびマメ類遺伝資源の 調査と収集

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Collaborative Exploration and Collection of Vegetables and Legumes in Ghana

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Summary

The collaborative exploration for collecting vegetables and legumes was conducted from October 19 to November 11, 1993 with Plant Genetic Resources Unit, Crop Research Institute in Ghana. The itinerary and the route of exploration were shown in Table 1 and Fig. 1 and the number of collections of vegetables and legumes was shown in Table 2. Three hundred and sixteen seed samples and one tuber sample were collected and 305 seed samples were introduced into Japan. These were 13 eggplants, 59 garden-eggs, 12 *Solanum* spp., 39 chilli peppers, 90 okras, 30 cowpeas, 25 bambara ground nuts, 11 peanuts and 26 of other vegetables and legumes. Half of introduced seeds are preserved at the National Institute of Agrobiological Resources, and another half of seeds were sent to the curator of vegetables and legumes for preservation, characterization and propagation. National Research Institute of Vegetables, Ornamental Plants and Tea will characterize and propagate vegetable genetic resources.

KEY WORDS : Ghana, vegetables, legumes, collection.

1. 目的

栽培ナスは大きく2つのグループに分けられ、1つはアジアのインド東部が原産地の普通のナス (*Solanum melongena*) であり、もう1つはアフリカが原産地のガーデンエッグまたはスカーレットエッグプランツとよばれるものである。ガーデンエッグには *S. aethiopicum*, *S. gilo*, *S. integrifolium*, *S. olivare* の4種が含まれ、これらがガーナなどの西アフリカ地域に分布している。また、ササゲはアフリカ原産のマメ類であり、西アフリカには現在でも多様な在来品種が栽培されている。

アフリカにおける植物遺伝資源の探索は、1981年のナイジェリアとコートジボアールにおけるグラベリマ・イネ、1987年のウリ科野菜類、1993年のマダガスカルにおける栽培イネと野生イネについて行われたにすぎず、アフリカについての探索が重要となってきている。

ナス科野菜（トマト、ナス、ピーマン）についてはこれまで中南米とマレーシアで、マメ類については東南アジアや南米で遺伝資源探索が行われたがアフリカではまだ行われていない。また、これらの近縁野生種の遺伝資源は十分でなく、さらに多くの遺伝資源を導入することが重要である。

ガーナは西アフリカのほぼ中央沿岸部に位置する長方形の形をした国で、南はギニア湾に面し、国境をトーゴ（東）、ブルキナファソ（北）、コートジボワール（西）の各フランス語圏諸国と接している。地形は全般に平坦で最も高い地点でも高度900 mに満たず、気候は大部分が熱帯サバンナ（年間降水量1500 mm以下）で西部海岸部から中央部にかけて一部熱帯雨林がみられる。ガーナでは主食としてキャッサバ、ヤムイモ、プランテーン、マメ類が、野菜としてガーデンエッグ、ナス、オクラ、トウガラシなどの在来種が栽培されており、これらマメ類や野菜の在来種は遺伝資源として貴重であり、今回収集することとなった。

2. 経過

1993年にガーナ側からガーナ国内での遺伝資源探索を日本側と共同で実施したいとの申し入れがあり、ガーナの植物遺伝資源担当機関である作物研究所植物遺伝資源部門（Crop Research Institute, Plant Genetic Resources Unit, 以下 PGRU）と共同で調査・探索を実施した。PGRUとの事前の協議では、ガーデンエッグとササゲの収集を行う予定であったが、農業生物資源研究所での出発前の打ち合わせ会議ではナス科野菜とササゲを収集することとした。しかし、ガーナで実際に収集を始めてみると、PGRUは野菜類とマメ類全てに关心を持っており、結果的に野菜類とマメ類の探索・収集となった。探索・収集調査の日程および行程をTable 1とFig. 1に示した。

Table 1 Itinerary of collaborative exploration and collection of vegetables and legumes in Ghana.
ガーナ国における野菜及びマメ類遺伝資源の調査・収集の日程

Date	Place	Notes
1993		
Oct 19	Tokyo → London	
20	London → Accra	
21	Accra	Visit to the Embassy of Japan and JICA office and preparation for collection trip
22	Accra → Akosombo	Collection
23	Akosombo → Ho	do.
24	Ho	do.
25	Ho → Koforidua	do.
26	Koforidua	do.
27	Koforidua → Bunso → Kumasi	Collection and visit to the Plant Genetic Resources Unit, Crop Research Institute
28	Kumasi	Collection and visit to the Crop Re- search Institute
29	Kumasi → Sunyani	Collection
30	Sunyani → Techiman	do.
31	Techiman → Tamale	do.
Nov 1	Tamale	Collection and visit to the Nyankpala Agric. Expt. Station, Crop Research Institute
2	Tamale → Bolgatanga	Collection
3	Bolgatanga → Wa	do.
4	Wa → Larabanga	do.
5	Larabanga → Kumasi	do.
6	Kumasi → Bunso → Accra	
7	Accra	Seed extraction
8	Accra	Visit to the Embassy of Japan and JICA office
9	Accra → London	
10	London → Tokyo	
11	Tokyo	

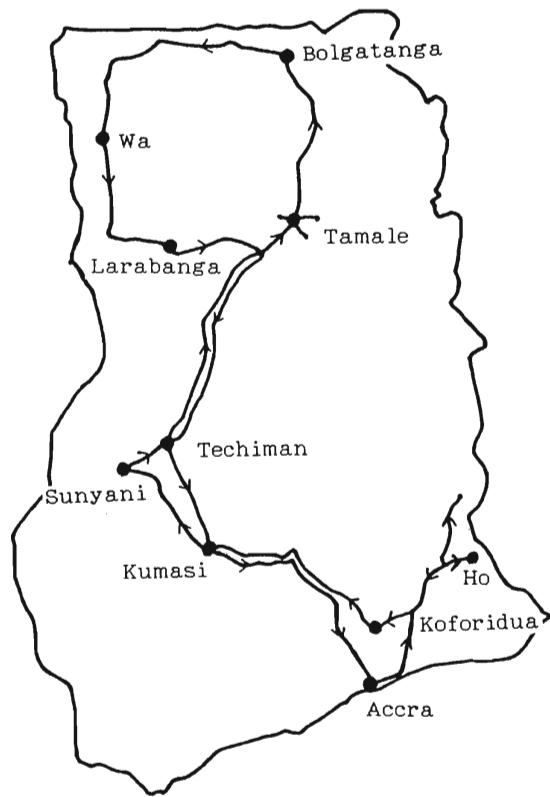


Fig. 1 Route of collection trip in Ghana.
ガーナ国における探索・収集ルート

3. 収集・調査方法

PGRU の計画に従って16日間で収集を行うこととなり、ガーナの南東部において探索・収集を開始し、順番に中央部、北部、北西部で収集活動を行った。この間の総走行キロ数は3,819 km であった。北東部と南西部は日程の関係で今回の収集対象地域から除外した。

実際の収集では道路沿いの農家の畑で栽培されているもの、農家の貯蔵果実および種子、市場で販売されている野菜およびマメ類を対象とした。ナス、ガーデンエッグ、トウガラシ、オクラは市場だけでなく農家の家庭菜園や畑でもかなりの数を収集できたが、マメ類は農家の貯蔵種子と市場で販売されているものの収集が中心となった。これはガーナでは農家の畑が道路沿いの集落から遠く離れていることと、収集を実施した時期と収穫期との違いによるもので、ササゲとピーナッツについては畑で植物体を見ることが出来たが、バンバラビーンについては見ることが出来なかった。なお、一般に農家の畑は車が入れないような細い道を徒歩で1時間以上の所にあるとのことであった。

4. 収集の成果

ガーナで収集された植物遺伝資源を種類別に Table 2 に、またそのすべてを Table 3 に示し

た。収集総数は317点で、この中でわが国に導入できたのは305点である。導入できなかったものは種子数が少なかったもの、植物検疫で廃棄となったもの、フラフラポテトのような栄養体のものである。種類別導入数はナス13点、ガーデンエッグ59点、ナス属近縁種12点、ト

Table 2 Number of vegetable and leguminous crops collected in Ghana.

ガーナ国で収集された野菜及びマメ類の種類別点数並びに導入数

No.	Crop	Species	Number of Collections	Number of collections introduced
1	Eggplant	<i>Solanum melongena</i>	13	13
2	Garden egg	<i>S. gilo</i>	48	48
3	〃	<i>S. aethiopicum</i>	10	9
4	〃	<i>S. integrifolium</i>	2	2
5	<i>Solanum</i> spp.	<i>S. macrocarpon</i>	4	4
6	〃	<i>S. anguivi</i>	7	7
7	〃	<i>S. erianthum</i>	1	1
8	Tomato	<i>Lycopersicon esculentum</i>	3	3
9	<i>Lycopersicon</i> spp.	<i>Lycopersicon</i> spp.	2	2
10	Chilli	<i>Capsicum annuum</i>	28	28
11	<i>Capsicum</i> spp.	<i>C. frutescens</i>	11	11
12	Cowpea	<i>Vigna unguiculata</i>	35	30
13	Okra	<i>Abelmoschus esculentus</i>	90	90
14	Bambara ground nut	<i>Vigna subterranea</i>	25	25
15	Peanut	<i>Arachis hypogaea</i>	11	11
16	Lima bean	<i>Phaseolus lunatus</i>	5	3
17	Velvet bean	<i>Mucuna pruriens</i> var. <i>utilis</i>	4	4
18	African yam bean	<i>Sphenostylis stenocarpa</i>	4	3
19	Sword bean	<i>Canavalia gladiata</i>	1	1
20	Pigeon pea	<i>Cajanus cajan</i>	1	1
21	Winged bean	<i>Psophocarpus tetragonolobus</i>	1	1
22	Corn	<i>Zea mays</i>	1	1
23	Watermelon	<i>Citrullus lanatus</i>	3	3
24	Sponge gourd	<i>Luffa guadriagula</i>	1	1
25	Edible amaranth	<i>Amaranthus</i> spp.	1	1
26	Kenaf	<i>Urena lobata</i>	1	0
27	〃	<i>Hibiscus cannabinus</i>	1	0
28	<i>Ceratotheca</i> spp.	<i>Ceratotheca sesamoides</i>	1	1
29	Bottle gourd	<i>Lagenaria</i> spp.	1	1
30	Frafra potato	不 明	1	0
Total			317	305

マトおよびトマト属近縁種5点、トウガラシおよびトウガラシ属近縁種39点、オクラ90点、ウリ科野菜5点、ササゲ30点、バンバラビーン25点、ピーナツ11点、その他のマメ類16点である。以下ガーナの行政区であるRegion別に収集の概要について述べる。

収集計画通りに先ず南西部のVolta Regionに向かったが、出発地であるGreater Accra Regionでも収集を行った。このRegionではトウガラシ8点、トマト2点、オクラ3点、ガーデンエッグとササゲ各1点を収集したが、この中のトウガラシ5点はAshiamanの市場で購入したものである。

Volta RegionではHoの町を拠点に2日間にわたって収集活動を行い、ナス4点、ガーデンエッグ15点、ナス属近縁種3点、トウガラシ11点、オクラ17点、ササゲ9点、その他マメ類11点、計70点を収集した。HoからKpetoeに向かって約21kmの部落では、畑が比較的近かつたので畑で作物を見ることが出来た。典型的なアフリカの農家の畑であるとのことでピーナツ、キャッサバ、ヤムイモ、トウモロコシが混植され、所々にトウガラシ、ガーデンエッグ、葉を食用にする*Solanum macrocarpon*が数株づつ植えられていた。トウガラシは*Capsicum annuum*と*C. frutescens*が栽培されており、1株づつ種類が違っていた。また、隣の畑の木にはアフリカンヤムビーンが巻き付いており、種々の作物が栽培されていた。

Eastern RegionではKoforiduaを拠点に3日間収集活動を行ったが、この間BunsoにあるPGRUを見学した。PGRUではカカオ、ワタなど他の研究所が担当している作物以外の作物を保存しており、広大な圃場にキャッサバ、ヤムイモなどの栄養繁殖性の作物と木本性の作物を多数保存していた。種子繁殖性の作物はIBPGR（現IPGRI）の資金で購入された4台の-20°Cの冷凍庫に保存されていた。しかし、これらは既に満杯でガーナ側は種子保存庫の必要性を強調していた。このRegionではナス4点、ガーデンエッグ12点、トウガラシ9点、トマト1点、オクラ8点、ササゲ8点、その他マメ類1点、計43点を収集した。HoからKoforiduaに行く途中で広いオクラ畑を見つけ、収集のために立ち寄った。ここでの畑で収穫されたオクラは果形が様々で、6種類に分けることができた。農家は果形が異なると果実の品質が違うことを認識していたが、畑では果形の違うものが混植されており、果形の異なるものが混じったままで出荷されていた。この農家は収穫適期にはほぼ完全に収穫しており、種子用の完熟果は得られなかったが、これ以後もよく管理された畑では採種可能な完熟果を得られないことが多かった。

Ashanti RegionではKumasiに滞在して収集活動を行い、この間作物研究所を訪問した。作物研究所では所長に面会し、研究所の概要の説明を受けるとともに稲の栽培研究圃場を見学した。ここではカナダの援助でトウモロコシとササゲの育種を行っており、ササゲは既に新品種が育成され、普及し始めている。また、野菜の担当者とも意見交換の機会を得たが、耐暑性のアブラナ科野菜に大きな関心を持っていた。このRegionではナス3点、ガーデンエッグ5点、オクラ3点、ウリ科野菜1点、マメ類4点、計16点を収集した。

Brong-Ahafo RegionではSunyaniとTechimanに滞在し、3日間にわたってガーデンエッグ21点、ナス属近縁種5点、トウガラシ3点、オクラ21点、ウリ科野菜4点、ササゲ3点、その他

マメ類18点、計75点を収集した。Bekyem から Sunyani の途中農家ではナス属の *S. erianthum* を収集したが、この農家はこれを腹痛の時に使うために植えていた。また、Berekum の市場で *S. gilo* を4点収集したが、これらは細長型または極小細長型でこれまで収集したものと果形が異なっていた。Berekum から Biadam の方向に少し行った村では、これまでのオクラよりも細長い果形のものを収集した。Sunyani から Techiman の途中の部落で広いガーデンエッグの畑を見ることが出来たが、ここには果形の異なる *S. gilo*、*S. gilo* の亜種など色々なものが混植されていた。今回は完熟果が少なく収穫できなかったが、ガーナ側は農家にお金を渡して採種して PGRU に送るように頼んでいた。Kintampo の次の市場ではバンバラビーンを見つけて、販売している一つのカゴの中には種皮色などの違うものが混じっており、6種類に分けることができた。

Northern region では Tamale に2日滞在し、Upper East および Upper West Region の帰りにも Larabanga に宿泊した。ここではナス、ナス属近縁種およびガーデンエッグ7点、トウガラシ4点、オクラ19点、その他の野菜4点、ササゲ9点、その他マメ類11点、計54点を収集した。Tamale の近くの Nyankpala には作物研究所の Nyankpala 農業試験場があり、ここを見学した。この農業試験場ではドイツの協力で北部地方に適した栽培方法の開発やヤムイモの保存などを行っており、近い将来作物研究所から独立した研究所になるとのことであった。Northern region 以北はサバンナ気候となり気温が高く、景観もこれまでとは一変し、人口密度が低く、野菜やマメ類が少なくなったが、野菜に比べるとマメ類が多かった。

Upper East および Upper West Region では Bolgatanga と Wa に宿泊したが、1日の行程が長いために宿泊地に向かう道路沿いでのみ収集活動を行った。Upper East Region ではオクラとマメ類を中心に計25点、Upper West Region でもオクラとマメ類を中心に計19点を収集した。Bolgatanga まで50kmの部落でササゲなどと一緒に Frafra potato というものを収集した。これはじゃがいもを小さくしたようなもので、PGRU では以前に保存していたが無くしてしまったということで、再度収集できたことを非常に喜んでいた。Upper West Region に入ってすぐの部落の道路沿いで、ナス科植物が果実をつけているのを発見した。ガーナ側は *S. macrocarpon* の野生種といっていたが、この種の特徴の一つである完熟果の果皮の裂開が認められず、農家はこの植物の葉も果実も利用しないとのことであった。Wa の近くの Sabuli で収集したオクラは長さが23cmで、今回収集したものの中で最長のものであった。また、北部地方では雨期用のオクラと乾期用のオクラを区別していることが多かった。

5. 収集品の今後の処置

全収集品の半量を生物研が保管し、野菜類を野菜類遺伝資源キューレーターに、マメ類を雑マメ類のキューレーターに送付した。野菜類については、野菜・茶業試験場が特性評価と増殖を実施する。

6. 所感

今回の探索収集ではガーナ側の対応はほぼ完璧であった。PGRU の研究者である Dr. S. O. Bennett-Lartey 氏と技師の Forson Ayensu 氏が探索に同行したが、今回収集対象とした野菜類やマメ類に詳しく、また、収集に使用する袋などを多数用意しており、日本から持っていたものをほとんど使用する必要がなかった。また、ガーナの人たちは大変友好的で、町の治安が良く、安心して旅することが出来た。

ガーナの部落ではチーフと呼ばれる首長が現在でも力を持っており、チーフと面会し、チーフから種子を持ってくるように指示してもらえると、短時間で多くの品種を効率よく収集できた。このような場合以外でも、我々が訪れると、どこからともなく多くの人が集まってきて、話を聞いては種子を持ってきてくれて、一部ではお金を求められる場合もあったが、素朴で親切な人が多かった。

ガーナの市場で売られている野菜は、オクラ、ガーデンエッグ、トマト、トウガラシ、ココヤムの葉がほとんどで種類は極めて少なかった。北部地方ではこれらの野菜も量的に少なくなるためと思われるが、市場ではササゲや kenaf の葉が野菜として販売されており、実際に農家の kenaf は葉がきれいに摘み取られていた。また、カボチャの葉も野菜として利用されていた。

野菜では一般に農家の品種に対する認識はまだ低いようで、オクラに乾期用と雨期用とがあり、ガーデンエッグの呼び方が地域によっては果形が異なると少し違う程度であった。トウガラシやガーデンエッグの場合は果形や果色が異なるものは別々に販売されていたが、オクラは果形などが違っても混じったままで販売されていた。また、栽培されている野菜はそのほとんどが在来種であり、新品種が導入されることによって野菜の在来種が失われるようなことはまだ起きていないようであった。

これに対してササゲでは作物研究所で育成された改良種が導入され、改良種は収集性が優れることから栽培が増えており、ある市場では販売されているササゲは全て改良種であった。また、バンバラビーンの場合は、ササゲとピーナッツに駆逐されて急速に失われてきており、市場では必ずバンバラビーンを探したが、バンバラビーンのない市場が多かった。Bennett-Lartey 氏は1986年にもササゲの遺伝資源収集を行ったが、その時と比べて明らかにササゲの在来種が少なくなり、バンバラビーンが少なくなったということである。

PGRU では前述の通り、作物によっては在来種が急速に失われつつあることから、IPGRI の援助で既にトウモロコシ、ササゲなどについて探索・収集を実施し、今後も各種作物について実施したい希望をもっている。しかし、今までガーナ政府は遺伝資源収集及び貯蔵施設の建設に資金をほとんど提供していないので、日本からの援助を望んでおり、将来何らかの形で援助が行われることを期待したい。

Table 3 Collection list in Ghana.

No. 1

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov. Vill.. km) & Altitude(m)	Crop season
GJ93/001	22/10	<i>Capsicum annuum</i>	Mako	P	③	Anyabri-Pampango 71 km south of Bunso	minor
GJ93/002	"	"	"	"	"	"	"
GJ93/003	"	"	"	"	"	"	"
GJ93/004	"	<i>Lycopersicon esculentum</i>	Lore tyre	"	"	"	"
GJ93/005	"	"	Navrongo	"	"	"	"
GJ93/006	"	<i>Abelmoschus esculentus</i>	Nkrumah	"	"	"	"
GJ93/007	"	<i>Solanum gilo</i>	Ntorewa	"	"	Teacher Mante	"
GJ93/008	"	<i>C. annuum</i>	Chito	"	"	Ashiaman, 5 km west of Tema	-
GJ93/009	"	"	"	"	"	"	-
GJ93/010	"	"	Ogeyemma	"	"	"	-
GJ93/011	"	"	Akwele waabi	"	"	"	-
GJ93/012	"	"	Tadi	"	"	Srekpo 7 km north of Tema	minor
GJ93/013	"	<i>A. esculentus</i>	Egmomi	"	"	"	"
GJ93/014	"	"	Muomi	"	"	"	"
GJ93/015	"	<i>Vigna unguiculata</i>	Yor	"	"	"	"
GJ93/016	23/10	<i>S. melongena</i>	Atropo	"	"	Akwamu, near Akosombo	"
GJ93/017	"	"	Black Beauty	"	"	"	"
GJ93/018	"	<i>A. esculentus</i>	Krotetenye	"	"	Abortia, near Juapong	"
GJ93/019	"	<i>C. annuum</i>	Kwadea	"	"	"	"
GJ93/020	"	"	"	"	"	"	"
GJ93/021	"	<i>A. esculentus</i>	Muomi	"	"	"	"
GJ93/022	"	<i>V. subterranea</i>	Kponeh	"	"	Juapong	-
GJ93/023	"	<i>V. unguiculata</i>	Ayi	"	"	"	-
GJ93/024	"	<i>S. gilo</i>	Ntrowa	"	"	"	-
GJ93/025	"	<i>C. annuum</i>	?	"	"	"	-
GJ93/026	"	<i>V. unguiculata</i>	Ayi	"	"	"	-
GJ93/027	"	"	"	"	"	"	-
GJ93/028	"	<i>Arachis hypogaea</i>	?	"	"	"	-
GJ93/029	"	"	Azi	"	"	"	-
GJ93-030	"	<i>V. unguiculata</i>	Ayi	"	"	"	-

(注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ① wild ② weedy ③ landrace ④ improved ⑤ breeder's line
⑥ others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
mono-cropping	vege-table	-	③	①	③		Samuel Odewe Greater Accra Reg.
"	"	-	"	"	"		"
"	"	-	"	"	"		"
"	"	-	"	"	"		"
"	"	-	"	"	"		"
mixed cropping	"	-	"	"	"		"
-	"	-	-	-	-	market	Akosua Oko, Teacher Mante, G.A. Reg.
-	"	-	-	-	-	market	Madam Ayonge Ashiaman, G.A. Reg.
-	"	-	-	-	-	market	"
-	"	-	-	-	-	market	Gawaga Ashiaman, G.A. Reg.
-	"	-	-	-	-	market	Diana Nortey Ashiaman, G.A. Reg.
mixed cropping	"	-	③	①	③		Juliou Nyamadoi Srekpo, G.A. Reg.
"	"	-	"	"	-		Gladys Aku Srekpo, G.A. Reg.
"	"	-	"	"	-		"
"	"	-	"	"	③		"
mono cropping	"	-	-	"	-		Eric sakyе, Akwamu Volta Region
"	"	-	③	"	-		"
mixed cropping	"	-	-	-	-		K.T. Narty Abortia, Volta Reg.
"	"	-	③	①	③		"
"	"	-	"	"	"		"
"	"	-	"	"	"		"
-	food	-	⑦	-	-	market	? Juapong, Volta Reg.
-	"	-	"	-	-	market	? Juapong, Volta Reg.
-	vege-table	-	"	-	-	market	Florence Asante Juapong, Volta Reg.
-	"	-	"	-	-	market, very small fruit	"
-	food	-	"	-	-	market	? Juapong, Volta Reg.
-	"	-	"	-	-	market white color, black eye	Janett Akakpo Juapong, Volta Reg.
-	"	-	"	-	-	market brown color	Rose Senyo Juapong, Volta Reg.
-	"	-	"	-	-	market brown color	Beatrice Wormenor Juapong, Volta Reg.
-	"	-	"	-	-	market grey color	Agnes Teye Juapong, Volta Reg.

注) 3)Topography:①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.
 4) Site:①level ②slope ③summit ④depression. 5) Drainage:①poor ②moderate ③good ④excessive.

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov.Vill., km) & Altitude(m)	Crop season
GJ93/031	23/10	A. hypogaea	Ayi	P	③	Tedafenu 19 km west of Ho	minor
GJ93/032	"	A. esculentus	Gko	"	"	"	"
GJ93/033	"	S. melongena	?	"	"	"	"
GJ93/034	"	V. unguiculata	Ayi	"	"	"	"
GJ93/035	"	S. aethiopicum	Agbitsa	"	"	Kpogadzi 21 km east of Ho	"
GJ93/036	"	S. gilo	"	"	"	"	"
GJ93/037	"	A. esculentus	Fetri	"	"	"	"
GJ93/038	"	A. hypogaea	Azi	"	"	"	"
GJ93/039	"	S. macrocarpon	Gboma	"	"	"	"
GJ93/040	"	S. gilo	Agbitsa	"	"	"	"
GJ93/041	"	C. frutescens	?	In	"	"	"
GJ93/042	"	S. macrocarpon	Gboma	P	"	"	"
GJ93/043	"	C. annum	Kpakpo Shito	In	"	"	"
GJ93/044	"	S. anguivi	Nyegbui	P	"	"	"
GJ93/045	"	Sphenostylis stenocarpa	Kulege	"	"	"	"
GJ93/046	"	P. tetragonolobus	?	-	"	"	off season
GJ93/047	"	Sphenostylis stenocarpa	Kulege	P	"	"	"
GJ93/048	"	A. esculentus	Dekabe	"	"	"	minor season
GJ93/049	24/10	S. gilo	Ete	"	"	Ho	"
GJ93/050	"	A. esculentus	Fetri	"	"	"	"
GJ93/051	"	S. gilo	Ete	"	"	Akrofu Agove on the way to Kpandu	"
GJ93/052	"	A. esculentus	Zidzoe	"	"	"	"
GJ93/053	"	"	"	"	"	"	"
GJ93/054	"	"	"	"	"	"	"
GJ93/055	"	"	"	"	"	"	"
GJ93/056	"	"	"	"	"	"	"
GJ93/057	"	S. gilo	Ete	"	"	"	"
GJ93/058	"	S. aethiopicum	"	"	"	"	"
GJ93/059	"	Sphenostylis stenocarpa	Kulege	"	"	"	"
GJ93/060	"	C. annum	Atadzi	"	"	"	"

注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ①wild ②weedy ③landrace ④improved ⑤breeder's line ⑥others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
mono cropping	vege-table	-	③	①	③		Juliana Halo Tedafenu, V. Reg.
mixed cropping	"	-	"	"	"		"
"	"	-	"	"	"	white color	"
mono cropping	"	-	"	"	"	white color, brown eye	Cecilia Atam Tedafenu, V. Reg.
"	"	-	"	"	"		Awudete Awegble Kpogadzi, V. Reg.
mixed cropping	"	-	"	"	"		"
"	"	-	"	"	"		Beatnie Zole Kpogadzi, V. Reg.
"	food	-	"	"	"		Dzotepe Agnos Kpogadzi, V. Reg.
"	vege-table	-	"	"	"	leafy vegetable	Grace Klu Kpogadzi, V. Reg.
"	"	-	"	"	②		Awudele Awegble Kpogadzi, V. Reg.
"	"	-	"	"	"		Moses Awegble Kpogadzi, V. Reg.
"	"	-	"	-	"		"
"	"	-	"	①	"	C. frutescens ? greenish white corolla	"
"	"	-	"	"	"		"
"	"	-	"	"	③	african yam bean white color, black eye	"
-	food	-	"	"	②	winged bean	"
-	"	-	"	"	"	african yam bean	"
mixed cropping	vege-table	-	"	"	③		"
mono cropping	"	-	"	"	②		Mercy Atipo Ho, V. Reg.
mixed cropping	"	-	"	"	②		"
"	"	-	"	"	"		Godson Asafo Akrofu Agove, V. R.
"	"	-	"	"	"	thin fruit	Phanuel Dei Akrofu Agove, V. R.
"	"	-	"	"	"	large fruit	"
"	"	-	"	"	"	high yield	"
"	"	-	"	"	"	short and thick fruit	"
"	"	-	"	"	"		"
"	"	-	"	"	"		"
"	"	-	"	"	"		"
"	"	-	"	"	"	african yam bean	E. K. Gyidi Akrofu Agove, V. R.
"	"	-	"	"	"		Phanuel Dei Akrofu Agove, V. R.

注) 3)Topography:①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.
 4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.

No. 5

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov. Vill., km) & Altitude(m)	Crop season
GJ93/061	24/10	Phaseolus lunatus	Kpokpo	P	③	Akrofu Agove on the way to Kpandu	off season
GJ93/062	"	S. aethiopicum	Agbitsa	"	"	Have Aklewe on the way to Kpandu	mid season
GJ93/063	"	S. gilo	"	"	"	"	"
GJ93/064	"	A. esculentus	Agbagbe	"	"	"	-
GJ93/065	"	"	Dikaba	"	"	"	-
GJ93/066	"	C. annuum	Atadzi	"	"	Gbefi Huime on the way to Hohoe	minor season
GJ93/067	"	S. gilo	Etin	"	"	"	"
GJ93/068	"	S. melongena	Agbitsa	"	"	Hohoe	-
GJ93/069	"	A. esculentus	Agbagba	"	"	Bame Awudome near Anyirawase	-
GJ93/070	"	"	Dikaba	"	"	"	-
GJ93/071	"	S. gilo	Agbitsa	"	"	"	-
GJ93/072	"	"	"	"	"	"	-
GJ93/073	"	V. unguiculata	Eweyi	"	"	"	-
GJ93/074	"	"	"	"	"	"	-
GJ93/075	"	"	"	"	"	"	-
GJ93/076	"	C. annuum	Atadzi	"	"	"	-
GJ93/077	"	S. aethiopicum	Agbitsa	"	"	"	-
GJ93/078	"	C. annuum	Atadzi	"	"	"	-
GJ93/079	"	"	Gbo Kuklui	"	"	"	-
GJ93/080	"	Sphenostylis stenocarpa	Kulege	"	"	"	-
GJ93/081	"	C. annuum	Gbo Kuklui	"	"	"	-
GJ93/082	"	Phaseolus lunatus	Kpokpo	"	"	"	-
GJ93/083	"	A. esculentus	Fetri	"	"	"	-
GJ93/084	"	"	Fetri Dikka	"	"	"	-
GJ93/085	"	S. gilo	Agbitsa	"	"	"	-
GJ93/086	25/10	"	"	"	"	Osiabura on the way to Juapon	minor season
GJ93/087	"	V. unguiculata	Ase Fitaa	"	"	Senchi-Ferry	off season
GJ93/088	"	S. gilo	Ntrowa	"	"	Kpong	-
GJ93/089	"	"	"	"	"	"	-
GJ93/090	"	Lycopersicon spp.	Ntos	"	②	Abiriw on the way to Koforidua	-

注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ①wild ②weedy ③landrace ④improved ⑤breeder's line
⑥others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
mixed cropping	vege-table	-	③	①	②	lima bean	Phanuel Dei Akrofu Agove, V.R.
mono cropping	"	-	"	"	③		?
"	"	-	"	"	②		Have Aklewe, V.R.
"	"	-	-	-	-		"
"	"	-	-	-	-	long fruit	Ewnamel Dertey Have Aklewe, V.R.
"	"	-	-	-	-	short fruit	"
mixed cropping	"	-	③	①	②	thin and medium length fruit	Rose Adzobu Gbefi Huime, V.R.
"	"	-	"	"	"		Joan Klondzoe Gbefi Huime, V.R.
"	"	-	-	-	-	market, white color, green stripe fruit	?
"	"	-	-	-	-		Hohoe, V.R.
"	"	-	-	-	-		Victor Kugbleme Bame Awudome, V.R.
"	"	-	-	-	-	short fruit	Beatsice Nkudedede Bame Awudome, V.R.
"	"	-	-	-	-		Francis Agbeko Bame Awudome, V.R.
"	"	-	-	-	-		Manson Anewane Bame Awudome, V.R.
"	food	-	-	-	-		Ohoca Dzeku Bame Awudome, V.R.
"	"	-	-	-	-		Victoria Akif Bame Awudome, V.R.
"	"	-	-	-	-		Chunshan Awuku Bame Awudome, V.R.
"	vege-table	-	-	-	-		G.K. Amegbletor Bame Awudome, V.R.
"	"	-	-	-	-		Clara Abe Bame Awudome, V.R.
"	"	-	-	-	-		Doe Mawufemo Bame Awudome, V.R.
"	"	-	-	-	-		William Doe Bame Awudome, V.R.
"	food	-	-	-	-	african yam bean	Victoria Akidi Bame Awudome, V.R.
"	vege-table	-	-	-	-		Clara Abe Bame Awudome, V.R.
"	"	-	-	-	-	lima bean	Phanuel Adzd Bame Awudome, V.R.
"	"	-	-	-	-		Seth Wkudedede Bame Awudome, V.R.
"	"	-	-	-	-		Cecilia Amegbletor Bame Awudome, V.R.
"	"	-	-	-	-		Atsupui Aloku Bame Awudome, V.R.
mono cropping	"	-	⑤	①	③	long fruit	M. Ahidu, Osiabura Eastern Region
-	food	-	③	"	③		Joseph Boadu Senchi-Ferry, E.R.
-	vege-table	-	-	-	-	market	?
-	"	-	-	-	-	market, large fruit	Kafui Azaaetsi Kpong, E.R.
garden	-	-	⑤	①	③		Yaa Aboagyewaa Abiriw, E.R.

(注) 3)Topography: ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.

4)Site: ①level ②slope ③summit ④depression. 5)Drainage: ①poor ②moderate ③good ④excessive.

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov. Vill., km) & Altitude(m)	Crop season
GJ93/091	25/10	S. melongena	Atropo	P	③	Abiriw on the way to Koforidua	minor season
GJ93/092	"	"	"	"	"	"	"
GJ93/093	"	S. gilo	Ntrowa	"	"	Mampong on the way to Koforidua	"
GJ93/094	"	S. aethiopicum	"	"	"	"	"
GJ93/095	26/10	S. gilo	"	"	"	Koforidua	-
GJ93/096	"	C. frutescens	Kwadaa	"	"	Aberewankor near Koforidua	minor season
GJ93/097	"	"	"	"	"	"	"
GJ93/098	"	"	"	"	"	"	"
GJ93/099	"	"	"	"	"	"	"
GJ93/100	"	C. annum	"	"	"	"	off season
GJ93/101	"	V. unguiculata	Yor	"	"	"	"
GJ93/102	"	C. annum	Dalwa	"	"	Kaoga near Koforidua	"
GJ93/103	"	"	Kwadaa	"	"	"	"
GJ93/104	"	A. esculentus	Muomi	In	"	"	"
GJ93/105	"	V. unguiculata	Yor	P	"	Takunya near Koforidua	"
GJ93/106	"	"	"	"	"	"	"
GJ93/107	"	"	"	"	"	"	"
GJ93/108	"	S. melongena	Atropo	In	"	Suhum	minor season
GJ93/109	"	A. esculentus	Nkruma	"	"	"	off season
GJ93/110	"	V. unguiculata	Asedua	"	"	"	minor season
GJ93/111	"	"	"	P	"	"	"
GJ93/112	"	Phaseolus lunatus	Apatram	"	"	"	"
GJ93/113	"	A. esculentus	Nkruma	"	"	"	off season
GJ93/114	"	S. gilo	Agbitsa	"	"	Govinakrom near Suhum	minor season
GJ93/115	"	A. esculentus	Fetri	"	"	"	off season
GJ93/116	"	V. unguiculata	Ayi	"	"	"	"
GJ93/117	"	A. esculentus	Fetri	"	"	"	"
GJ93/118	"	S. gilo	Agbitsa	"	"	"	minor season
GJ93/119	"	"	"	"	"	"	"
GJ93/120	"	C. frutescens	Gboble	"	"	"	"

(注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ① wild ② weedy ③ landrace ④ improved ⑤ breeder's line
⑥ others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
garden	vege-table	-	⑤	①	③		Yaa Aboagyewaa Abiriw, Eastern R.
"	"	-	"	"	"		Kvame Ayisi Abiriw, Eastern R.
"	"	-	"	"	"	small fruit	Yam Minta Manpong, E. R.
"	"	-	"	"	"		"
-	"	-	-	-	-	market	Grace Agyei Koforidua, E. R.
garden	"	-	③	①	③	red fruit	Shadrech Nartey Aberewankor, E. R.
"	"	-	"	"	"	yellow fruit	"
"	"	-	"	"	②	small and yellow fruit	"
"	"	-	"	"	"	small and red fruit	"
-	-	-	-	-	-		"
-	food	-	-	-	-		Addwo Grace Aberewankor, E. R.
-	vege-table	-	-	-	-	short and red fruit	Awisi Agnes Aberewankor, E. R.
-	"	-	-	-	-	long and red fruit	" Aberewankor, E. R.
-	"	-	-	-	-		Alice Dede
-	food	-	-	-	-	red color	Juliana Adjo Takunya, E. R.
-	"	-	-	-	-	mottled brown	"
-	"	-	-	-	-	light red	"
mono cropping	vege-table	-	③	①	③		Kate Bosompemaa Suhum, E. R.
-	"	-	-	-	-		"
mixed cropping	food	-	③	①	②	indeterminate, very long pod, red color	"
mono cropping	"	-	"	"	"	indeterminate, cream color, brown eye	"
mixed cropping	"	-	"	"	"	lima bean	T. W. O. Afra Suhum, E. R.
-	vege-table	-	-	-	-		"
-	"	-	-	-	-		Ababio Govina Govinakrom, E. R.
-	"	-	-	-	-	long fruit	Afagbedzi Govina Govinakrom, E. R.
-	food	-	-	-	-	light red color	Dadoto Govina Govinakrom, E. R.
-	vege-table	-	-	-	-		Joseph Kuxorlu Govinakrom, E. R.
-	"	-	-	-	-	short to medium fruit	"
-	"	-	-	-	-		Kpodo Bukor Govinakrom, E. R.
-	"	-	-	-	-	very small and red fruit	"

注) 3)Topography:①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.
 4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.

No. 9

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/ln ¹⁾	Status ²⁾	Locality(Prov.Vill.. km) & Altitude(m)	Crop season
GJ93/121	26/10	S. melongena	Atropo	P	③	Teachermane near Govinakrom	minor season
GJ93/122	27/10	S. gilo	Ntrowa	"	"	Anyinam on the way to Kumasi	"
GJ93/123	"	"	"	"	"	"	"
GJ93/124	"	S. aethiopicum	"	"	"	"	"
GJ93/125	"	A. esculentus	Asontem	"	"	"	"
GJ93/126	"	"	"	"	"	"	"
GJ93/127	"	"	"	"	"	"	"
GJ93/128	"	C. frutescens	Kwadaa	"	"	"	-
GJ93/129	"	S. gilo	Nyadoa	"	"	Bonfa 50 km east of Kumasi	minor season
GJ93/130	"	"	"	"	"	"	"
GJ93/131	"	S. aethiopicum	"	"	"	"	"
GJ93/132	28/10	S. gilo	"	"	"	Kumasi	-
GJ93/133	"	Citrullus lanatus	Werewere	"	"	"	-
GJ93/134	"	S. melongena	Teton	"	"	"	-
GJ93/135	"	S. anguivi	Nsosua	"	"	"	-
GJ93/136	"	S. gilo	Nsurowia	"	"	"	-
GJ93/137	"	S. melongena	Atropo	"	"	New Asromaso near Kumasi	minor season
GJ93/138	"	A. esculentus	Nkruma	"	"	"	"
GJ93/139	"	S. anguivi	Nusowa	In	"	"	"
GJ93/140	"	Lycopersicon spp.	Ntos	P	② ③	"	major season
GJ93/141	29/10	A. esculentus	Nkruma	"	③	Tanoso near Kumasi	minor season
GJ93/142	"	V. unguiculata	Asedue	"	"	"	off season
GJ93/143	"	A. esculentus	Nkruma	"	"	Atwina-Koforidua	minor season
GJ93/144	"	S. melongena	Nyaadoa	"	"	"	major season
GJ93/145	"	S. gilo	"	"	"	Bekyem	-
GJ93/146	"	"	"	"	"	"	-
GJ93/147	"	S. anguivi	Nsurowia	"	"	"	-
GJ93/148	"	"	Nsusuaa	"	"	"	-
GJ93/149	"	C. annum	Ahemewma Nsatea	"	"	"	-
GJ93/150	"	S. anguivi	Nsusuaa	In	"	Teacher Nsia on the way to Sunyani	major season

(注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ①wild ②weedy ③landrace ④improved ⑤breeder's line
⑥others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
-	vege-table	-	⑤	①	-	yellow color, large and oval fruit	Godfrey Dompreh Teachermante, E.R.
mono cropping	"	-	③	①	③	long fruit	Elder M.T. Kwao Anyinam, E.R.
"	"	-	"	"	"	round fruit	"
"	"	-	"	"	"		"
"	"	-	"	"	"	short and thick fruit	"
"	"	-	"	"	"	medium length fruit	"
"	"	-	"	"	"	long fruit	"
-	"	-	-	-	-	market, very small and red fruit	Mary Owusu Anyinam, E.R.
mono cropping	"	-	③	①	②		Yona Oboo, Bonfa Ashanti Region
"	"	-	"	-	-	large and long fruit	"
"	"	-	"	-	-	large and round fruit	"
-	"	-	-	-	-	market large fruit	Ama Serwah Kumasi, Ashanti R.
-	food	-	-	-	-	market, watermelon for edible seeds	Janet Nuama Kumasi, Ashanti R.
-	vege-table	-	-	-	-	market, white color, green stripe fruit	Monica Hanson Kumasi, Ashanti R.
-	"	-	-	-	-	market, very small and red fruit	Yaa Darboa Kumasi, Ashanti R.
-	"	-	-	-	-	market, small fruit	"
garden	"	-	③	①	③	white and small fruit	Ama Abebrese New Asromaso, A.R.
mono cropping	"	-	"	"	"	very early	"
garden	"	-	"	"	"	very small and red fruit	J.B. Poku New Asromaso, A.R.
"	"	-	"	"	"	small fruit	"
"	"	-	"	"	②		Attaa Afirigie Tanoso, A.R.
-	food	-	-	-	-		"
garden	vege-table	-	③	②	③		Theresa Obeng Atwina, A.R.
"	"	-	"	"	"	green color with purple stripe fruit	"
-	"	-	-	-	-	market	A. Obenewa, Bekyem Brong-Ahafo Region
-	"	-	-	-	-	market	Oanet Marfoa Bekyem, B.R.
-	"	-	-	-	-	market	"
-	"	-	-	-	-	market	"
-	"	-	-	-	-	market	"
garden	medi-cine	-	③	①	③	medicine for fever	Akosue Pokuaa Teacher Nsia, B.R.

注) 3)Topography:①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountainous ⑦others.
 4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.

No. 11

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/ln ¹⁾	Status ²⁾	Locality(Prov. Vill., km) & Altitude(m)	Crop season
GJ93/151	29/10	S. gilo	Nsrowia	In	③	Teacher Nsia on the way to Sunyani	major season
GJ93/152	"	S. erianthum	Pepeadiawuo	"	①	"	"
GJ93/153	"	S. gilo	Nsurowia	P	③	Kato on the way to Berekum	-
GJ93/154	"	S. aethiopicum	Nyaadoa	"	"	"	-
GJ93/155	"	"	"	"	"	"	-
GJ93/156	"	S. gilo	"	"	"	Berekum	-
GJ93/157	"	"	"	"	"	"	-
GJ93/158	"	"	"	"	"	"	-
GJ93/159	"	"	"	"	"	"	-
GJ93/160	"	A. esculentus	Nkruma	"	"	Nsapor on the way to Biadam	off season
GJ93/161	"	"	"	"	"	"	"
GJ93/162	"	"	"	"	"	"	"
GJ93/163	30/10	V. unguiculata	Asedua	"	"	Fokuokrom near Sunyani	early season
GJ93/164	"	A. esculentus	Nkruma	"	"	"	off season
GJ93/165	"	"	"	"	"	"	"
GJ93/166	"	S. gilo	Nyaadoa	"	"	"	minor season
GJ93/167	"	A. esculentus	Nkruma	"	"	Bowohomoden on the way to Techiman	off season
GJ93/168	"	C. annuum	Mako	"	"	"	-
GJ93/169	"	S. gilo	Nyaadoa	"	"	"	-
GJ93/170	"	"	"	"	"	"	-
GJ93/171	"	A. esculentus	Nkruma	"	"	"	off season
GJ93/172	"	"	"	"	"	"	"
GJ93/173	"	S. gilo	Nyaadoa	"	"	Techiman	-
GJ93/174	"	V. subterranea	Kpaalulu	"	"	"	-
GJ93/175	"	S. gilo	Nyaadoa	"	"	Gyama-Timponim	-
GJ93/176	"	A. esculentus	Nkruma	"	"	"	off season
GJ93/177	"	"	"	"	"	"	"
GJ93/178	"	"	"	"	"	"	"
GJ93/179	"	Mucna pruriens	Adua Apea	"	"	"	"
GJ93/180	"	Canavalia gladiata	Adua Nkrante	In	"	"	"

注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ① wild ② weedy ③ landrace ④ improved ⑤ breeder's line
 ⑥ others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
garden	vege-table	-	③	①	③	very small fruit	A. Pokuaa, Teacher Nsia, Brong-A. R.
"	medicine	-	"	"	"	for a stomachache	"
-	vege-table	-	-	-	-	market small fruit	Afua Kyeraa, Kato Brong-Ahafo Reg.
-	"	-	-	-	-	market, flattened and red color fruit	"
-	"	-	-	-	-	market, flattened and pink color fruit	"
-	"	-	-	-	-	market, small fruit	Akua Serwa Berekum, B.A. Reg.
-	"	-	-	-	-	market, round and small fruit	Adjoa Nkrumah Berekum, B.A. Reg.
-	"	-	-	-	-	market, long fruit	Margaret Tawiah Berekum, B.A. Reg.
-	"	-	-	-	-	market, very small and thin fruit	Awaakrasi Berekum, B.A. Reg.
-	"	-	-	-	-	long fruit(20 cm)	Akua Dede Nsapor, B.A. Reg.
-	"	-	-	-	-	thin fruit	"
-	"	-	-	-	-	short fruit	"
mono cropping	food	-	③	①	③		Alizeta, Fokuokrom, B.A. R.
-	vege-table	-	-	-	-	short and thick fruit	Memuna Fokuokrom, B.A. R.
-	"	-	-	-	-	short and thin fruit	"
-	"	-	-	-	-		Kpakpo Alotey Fokuokrom, B.A. R.
-	"	-	-	-	-		Janet Serwah Bowohomoden, B.A. R.
-	"	-	-	-	-		Cecilia Donkor Bowohomoden, B.A. R.
-	"	-	-	-	-	small fruit	Theresa Amponsah Bowohomoden, B.A. R.
-	"	-	-	-	-	small and round fruit	"
-	"	-	-	-	-		Amoah Christiana Bowohomoden, B.A. R.
-	"	-	-	-	-		Abena Hawa Bowohomoden, B.A. R.
-	"	-	-	-	-	market, bell pepper shaped fruit	Abena Tawiah Techiman, B.A. R.
-	food	-	-	-	-	market	Asibi Techiman, B.A. R.
-	vege-table	-	-	-	-		Ama Ataa, Gyama-Timponim, B.A. R.
-	"	-	-	-	-		Jacob Addae G.-T., B.A. R.
-	"	-	-	-	-	long fruit	"
-	"	-	-	-	-	small fruit	"
-	food	-	-	-	-		"
-	"	-	-	-	-	sword bean	"

注) 3)Topography:①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.

4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.

No. 13

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov. Vill.. km) & Altitude(m)	Crop season
GJ93/181	30/10	Luffa guadriagula	Boofoo	In	③	Gyama-Timpomim	off season
GJ93/182	"	A. esculentus	Nkruma	P	③	"	"
GJ93/183	"	Arachis hypogaea	Nkate	"	"	"	"
GJ93/184	"	V. unguiculata	Adua	"	"	"	"
GJ93/185	"	Phaseolus lunatus	Apateam	"	"	"	"
GJ93/186	"	S. gilo	Nsrowia	"	"	"	minor season
GJ93/187	"	V. subterranea	Akyin	"	"	"	off
GJ93/188	"	C. annuum	Mako	"	"	"	minor
GJ93/189	"	S. gilo	Nyaadoa	"	"	Atrens on the way to Wenchi	off season
GJ93/190	"	A. esculentus	Nkruma	In	③	"	"
GJ93/191	"	S. gilo	Nyaadoa	P	"	"	early season
GJ93/192	"	Lagenaria spp.	Abunsaso	"	"	"	off season
GJ93/193	"	Mucuna pruriens	Adua Apea	"	"	"	"
GJ93/194	"	A. esculentus	Nkruma	"	"	"	"
GJ93/195	"	"	"	"	"	"	"
GJ93/196	"	Citrullus lanatus	Dawe	"	"	"	"
GJ93/197	"	Mucuna pruriens	Adua Apea	"	"	"	"
GJ93/198	31/10	S. gilo	Nyaadoa	"	"	Tenobese near Techiman	minor season
GJ93/199	"	A. esculentus	Nkruma	"	"	"	off season
GJ93/200	"	"	"	"	"	"	"
GJ93/201	"	"	"	"	"	"	"
GJ93/202	"	"	"	"	"	"	"
GJ93/203	"	"	Ope Nkruma	"	"	"	"
GJ93/204	"	"	Nkruma	"	"	"	"
GJ93/205	"	Citrullus lanatus	Werewere	"	"	"	"
GJ93/206	"	S. gilo	Nyaadoa	"	"	"	minor season
GJ93/207	"	Cajanus cajan	Akye	"	"	"	off season
GJ93/208	"	V. subterranea	Akyin	"	"	"	"
GJ93/209	"	Mucuna pruriens	Adua Apea	"	"	"	"
GJ93/210	"	S. gilo	Nsrowia	"	"	"	minor season

注) 1): Sample:Pは集団, Inは個体採取, 2) Status:①wild ②weedy ③landrace ④improved ⑤breeder's line
⑥others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
-	vege-table	-	-	-	-		K. stephen, Gyama-Timponim, B.A. R.
-	"	-	-	-	-		Esther Nyanekye G.-T., B.A. R.
-	food	-	-	-	-		Cecilia Effa G.-T., B.A. R.
-	"	-	-	-	-	white color and black eye	"
-	"	-	-	-	-		"
-	vege-table	-	-	-	-		Esther Nyanekye G.-T., B.A. R.
-	food	-	-	-	-		Cecilia Effa G.-T., B.A. R.
-	vege-table	-	-	-	-		"
-	"	-	-	-	-		Samson Frimpong Atrensu, B.A. R.
-	"	-	-	-	-	long fruit	Florence Kyeremaa Atrensu, B.A. R.
mono cropping	"	-	③	②	③	long and pointed fruit	Gabriel Opoku Atrensu, B.A. R.
-	"	-	-	-	-		Pauline Wamu Atrensu, B.A. R.
-	food	-	-	-	-		Ofoli Kyeremaa Atrensu, B.A. R.
-	vege-table	-	-	-	-		Paulina Manu Atrensu, B.A. R.
-	"	-	-	-	-		Fanstina Akyaa Atrensu, B.A. R.
-	"	-	-	-	-		Elizabeth Afra Atrensu, B.A. R.
-	food	-	-	-	-		Abena Yeboaah Atrensu, B.A. R.
-	vege-table	-	-	-	-		Daniel Sarkodie Tenobese, B.A. R.
-	"	-	-	-	-	short fruit	"
-	"	-	-	-	-	long fruit	Baba Ibrahim Tenobese, B.A. R.
-	"	-	-	-	-	long and thick fruit	"
-	"	-	-	-	-	long and thin fruit	"
-	"	-	-	-	-	for dry season short and thick fruit	A. Samsimme Tenobese, B.A. R.
-	"	-	-	-	-	short and thick furit	"
-	food	-	-	-	-	watermelon for edible seeds	Alhasan Seidu Tenobese, B.A. R.
-	vege-table	-	-	-	-	long and pointed fruit	Kwame Sekyere Tenobese, B.A. R.
-	food	-	-	-	-		Alidu Mamudu Tenobese, B.A. R.
-	"	-	-	-	-		Ale Oduro Mensah Tenobese, B.A. R.
-	"	-	-	-	-		Foustina Kwakye Tenobese, B.A. R.
-	vege-table	-	-	-	-		Ama Kraa Tenobese, B.A. R.

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

4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.

No. 15

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/ln ¹⁾	Status ²⁾	Locality(Prov. Vill., km) & Altitude(m)	Crop season
GJ93/211	31/10	S. anguivi	Nsusuaa	P	③	Tenobese near Techiman	minor season
GJ93/212	"	Phaseolus lunatus	Krobena	"	"	"	off season
GJ93/213	"	V. subterranea	Kwaalulu	"	"	Babato near Kintampo	"
GJ93/214	"	"	"	"	"	"	"
GJ93/215	"	"	"	"	"	"	"
GJ93/216	"	"	"	"	"	"	"
GJ93/217	"	"	"	"	"	"	"
GJ93/218	"	"	"	"	"	"	"
GJ93/219	"	V. unguiculata	Waakye	"	"	"	"
GJ93/220	"	S. gilo	Nyaadoa	"	"	Tamale	-
GJ93/221	1/11	"	"	"	"	Nyankpala west of Tamale	late season
GJ93/222	"	C. frutescens	Namzua	"	"	"	"
GJ93/223	"	A. esculentus	Mana	"	"	"	off season
GJ93/224	"	"	"	"	"	"	"
GJ93/225	"	"	"	"	"	"	"
GJ93/226	"	S. melongena	Black Beauty	"	④	"	late season
GJ93/227	"	Amaranthus spp.	Aleefu	"	③	"	"
GJ93/228	"	A. esculentus	Ademe	"	"	"	"
GJ93/229	"	"	"	"	"	"	"
GJ93/230	"	Arachis hypogaea	Sima	"	"	Deffa, 20 km south west of Tamale	off season
GJ93/231	"	V. unguiculata	Tua	"	"	"	"
GJ93/232	"	V. subterranea	Simkpla	"	"	"	"
GJ93/233	"	Ceratotheca sesamooides	Bungu	"	"	"	"
GJ93/234	"	V. unguiculata	Sanji	"	"	"	"
GJ93/235	"	Zea mays	Kawanji	"	"	"	"
GJ93/236	"	A. esculentus	Shiemana	"	"	Lahagu near Deffa	"
GJ93/237	"	"	Wumana	"	"	"	"
GJ93/238	"	"	Kpatsaa	"	"	"	"
GJ93/239	"	"	Mana	"	"	Zobogo east of Tamale	"
GJ93/240	"	Arachis hypogaea	Sima	"	"	"	"

注) 1): Sample:Pは集団, lnは個体採取, 2) Status: ① wild ② weedy ③ landrace ④ improved ⑤ breeder's line
⑥ others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
-	vege-table	-	③	②	③		Foustina Kwakye Tenobese, B.A. R.
-	food	-	-	-	-		Agnes Abena Kume Tenobese, B.A. R.
-	"	-	-	-	-	market, black color	Agula Musa Babato, B.A. R.
-	"	-	-	-	-	market, red color	"
-	"	-	-	-	-	market, brown color with deep purple spots	"
-	"	-	-	-	-	market, cream color with red spots	"
-	"	-	-	-	-	market, brown color	"
-	"	-	-	-	-	market, cream color	"
-	"	-	-	-	-	market, white color, black eye	"
-	vege-table	-	-	-	-	market	Adahanahu, Tamale Northern, Region
mono cropping	"	-	③	①	③		Ricard Kambeta Nyankpala, N. R.
mixed cropping	"	-	"	"	"		"
"	"	-	"	"	"	short and thick fruit	"
"	"	-	"	"	"	long fruit	"
"	"	-	"	"	"	very short fruit	"
garden	"	-	"	"	"		"
mixed cropping	"	-	"	"	"		"
garden	"	-	"	"	"	long fruit	Euphemie Kakraba Nyankpala, N. R.
"	"	-	"	"	"	short fruit	Adam Fushiena Nyankpala, N. R.
-	food	-	-	-	-	red color with white spots	Jakubu Alhsa Deffa, Northern R.
-	"	-	-	-	-	white color, black eye, small, late type	"
-	"	-	-	-	-	cream color, white eye	"
-	"	-	-	-	-		"
-	"	-	-	-	-	brown color, white eye, early type	"
-	"	-	-	-	-		"
-	vege-table	-	-	-	-	short and thick fruit	Fati Abudulai Lahagu, N. R.
-	"	-	-	-	-	very short fruit	Isahaku Ana Lahagu, N. R.
-	"	-	-	-	-	short and thick fruit	"
-	"	-	-	-	-	short and thick fruit	Bibata Zobogo, N. R.
-	food	-	-	-	-		Issah Alhassan Zobogo, N. R.

注) 3)Topography:①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.
 4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov. Vill., km) & Altitude(m)	Crop season
GJ93/241	1/11	S. gilo	Nyaadoa	P	③	Nyankpala west of Tamale	minor season
GJ93/242	2/11	V. subterranea	Kwaalulu	"	"	Tamale	off season
GJ93/243	"	"	"	"	"	"	"
GJ93/244	"	V. unguiculata	Sanji	"	"	Kpong 40 km north of Tamale	"
GJ93/245	"	A. esculentus	Mana	"	"	"	"
GJ93/246	"	C. annuum	Naazua	"	"	"	"
GJ93/247	"	V. unguiculata	Sanji	"	"	Loagri 50 km north of Tamale	"
GJ93/248	"	V. subterranea	Samkpla	"	"	"	"
GJ93/249	"	C. annuum	Naazua	"	"	"	"
GJ93/250	"	V. unguiculata	Tua	"	"	"	"
GJ93/251	"	A. esculentus	Mana	"	"	"	"
GJ93/252	"	?	Frafra Potato	"	"	"	"
GJ93/253	"	A. esculentus	Kubiewa	"	"	Bolgatanga	late season
GJ93/254	"	"	"	"	"	"	"
GJ93/255	"	Urena lobata	Sure	"	"	"	"
GJ93/256	"	V. subterranea	Suma	"	"	"	off season
GJ93/257	"	"	"	"	"	"	"
GJ93/258	"	"	"	"	"	"	"
GJ93/259	"	"	"	"	"	"	"
GJ93/260	"	C. annuum	Nazuse	"	"	"	-
GJ93/261	"	S. melongena	Nyaadoa	"	"	"	-
GJ93/262	3/11	A. esculentus	Mana	"	"	Kandiga near Bolgatanga	late season
GJ93/263	"	Urena lobata	Belse	"	"	"	"
GJ93/264	"	Arachis hypogaea	Senkaa Mengbor	"	"	"	off season
GJ93/265	"	V. subterranea	Suma	"	"	"	"
GJ93/266	"	V. unguiculata	Tia	"	"	"	"
GJ93/267	"	A. esculentus	Mana	"	"	Navrongo	"
GJ93/268	"	"	"	"	"	"	"
GJ93/269	"	"	"	"	"	"	"
GJ93/270	"	"	"	"	"	"	"

注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ① wild ② weedy ③ landrace ④ improved ⑤ breeder's line
⑥ others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
-	vege-table	-	-	-	-	market, green stripe	Selina, Nyankpala Northern Region
-	food	-	-	-	-	market, mixture	Ayesheta Musa Tamale, Northern R.
-	"	-	-	-	-	market, black color, white eye	Samata Alhassan Tamale, Northern R.
-	"	-	-	-	-	mixture	Mariana Adan Kpong, Northern R.
-	vege-table	-	-	-	-	long and thick fruit	"
-	"	-	-	-	-		Jaharatu Simani Kpong, Northern R.
-	food	-	-	-	-		F.W. Haruna Loagri, N. R.
-	"	-	-	-	-		Shetu Nantroma Loagri, N. R.
-	vege-table	-	-	-	-	small fruit	"
-	food	-	-	-	-	white color, black eye	Mahamad Dazo Loagri, N. R.
-	vege-table	-	-	-	-	short fruit, for dry season	F.W. Haruna Loagri, N. R.
-	food	-	-	-	-		Shetu Nantroma Loagri, N. R.
garden	vege-table	-	③	①	③	long fruit	A. Kumasi, Bolgatanga Upper East Region
"	"	-	"	"	"	short and thick fruit	"
"	"	"	"	"	"	Kenaf, leafy vegetable	Mari Kombat Bolgatanga, U.E.R.
-	food	-	-	-	-	cream color, white eye	Agnes Kumasi Bolgatanga, U.E.R.
-	"	-	-	-	-	market, cream color with red spots	Azwe Ayarna Bolgatanga, U.E.R.
-	"	-	-	-	-	market, cream color with brown spots	Mma Ataa Bolgatanga, U.E.R.
-	"	-	-	-	-	market, cream color	Tenii Bolgatanga, U.E.R.
-	vege-table	-	-	-	-	market, red color, long and thin fruit	? Bolgatanga, U.E.R.
-	"	-	-	-	-	market, round fruit	Eufa Yamdaba Bolgatanga, U.E.R.
garden	vege-table	-	③	①	③	medium sized fruit	Akalgia Anyanyayure Kandiga, U.E.R.
"	"	-	"	"	②	kenaf, leafy vegetable	"
-	food	-	-	-	-		"
-	"	-	-	-	-	cream color, white eye	"
-	"	-	-	-	-	white color, dark brown eye	"
garden	vege-table	-	-	-	-	very long fruit	Agnes Dogbe Navrongo, U.E.R.
"	"	-	③	①	③	medium length fruit	"
"	"	-	"	"	"	short and thick fruit	"
"	"	-	"	"	"	very short and thick fruit	"

注) 3)Topography: ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.

4)Site: ①level ②slope ③summit ④depression. 5)Drainage: ①poor ②moderate ③good ④excessive.

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov. Vill., km) & Altitude(m)	Crop season
GJ93/271	3/11	A. esculentus	Mana	P	③	Navrongo	off season
GJ93/272	"	C. frutescens	Nandua	"	"	"	-
GJ93/273	"	A. esculentus	Pora	"	"	Kalivio border of Upper west R.	off season
GJ93/274	"	"	"	"	"	"	"
GJ93/275	"	V. subterranea	Sie	"	"	"	"
GJ93/276	"	Arachis hypogaea	Sunuga	"	"	"	"
GJ93/277	"	V. unguiculata	Soona	"	"	"	"
GJ93/278	"	S. macrocarpon	Chirebio	"	①	Kumchogo border of Upper East R.	late season
GJ93/279	"	A. esculentus	Pora	"	③	"	"
GJ93/280	"	"	"	"	"	Tumu	"
GJ93/281	"	"	Mmene	"	"	"	"
GJ93/282	"	"	"	"	"	"	"
GJ93/283	"	V. subterranea	Simie	"	"	Sabuli	off season
GJ93/284	"	A. esculentus	Saalung	"	"	"	"
GJ93/285	"	"	"	"	"	"	"
GJ93/286	"	S. integri-folium	Kombie	"	"	Wa	"
GJ93/287	"	C. frutescens	Samaane	"	①	"	-
GJ93/288	4/11	V. subterranea	Simbie	"	③	Tanina 15 km south of Wa	off season
GJ93/289	"	C. annuum	Samanii	"	"	"	late season
GJ93/290	"	A. esculentus	Maani	"	"	"	off season
GJ93/291	"	"	"	"	"	"	"
GJ93/292	"	"	"	"	"	"	"
GJ93/293	"	Arachis hypogaea	Genii	"	"	"	"
GJ93/294	"	V. unguiculata	Benga	"	"	"	"
GJ93/295	"	"	"	"	"	"	"
GJ93/296	"	L. esculentum	Kombie	"	"	"	late season
GJ93/297	"	S. integri-folium	Kombri	"	"	Nyoli border of Upper West R.	early season
GJ93/298	"	S. macrocarpon	Nnora Kombri	"	"	"	off season
GJ93/299	"	A. esculentus	Se Maani	"	"	Yipala 75 km south of Wa	"
GJ93/300	"	"	"	"	"	"	"

注) 1): Sample:Pは集団, Inは個体採取. 2) Status: ①wild ②weedy ③landrace ④improved ⑤breeder's line ⑥others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
garden	vege-table	-	③	①	③	long and thin fruit	Agnes Dogbe Navrongo, U.E.R.
-	"	-	-	-	-	market, small and red color fruit	? Navrongo, U.E.R.
-	"	-	-	-	-	long and thin fruit	Ayeta Kodewra Kaliovio, U.E.R.
-	"	-	-	-	-	short and thick fruit	"
-	food	-	-	-	-	mixture	"
-	"	-	-	-	-		"
-	"	-	-	-	-		"
-	unused	-	③	①	③	round fruit	? Kumchogo Upper West Region
garden	vege-table	-	"	"	"	medium length fruit	Asana Aebie Kumchogo, U.W.R.
"	"	-	"	"	"	very thick fruit	Elizabeth Deri Tumu, U.W.R.
"	"	-	"	"	"	short and thick fruit	"
"	"	-	"	"	"	medium length fruit	"
-	food	-	-	-	-	cream color, white eye	Felk Dakora Sabuli, U.W.R.
-	vege-table	-	-	-	-	very long fruit	"
-	"	-	-	-	-		"
-	"	-	-	-	-	market	Memuna Mahamudu Wa, U.W.R.
-	"	-	-	-	-	very small fruit	Hajia Wa, U.W.R.
-	food	-	-	-	-	cream color, white eye	Dramani Adama Tanina, U.W.R.
-	vege-table	-	-	-	-	medium length, thin and red color fruit	"
-	"	-	-	-	-	short and thick fruit	"
-	"	-	-	-	-	medium length fruit early type	"
-	"	-	-	-	-	medium thickness fruit	"
-	food	-	-	-	-	red color with white spots	"
-	"	-	-	-	-	mixture	"
-	"	-	-	-	-	black color, white eye	"
-	vege-table	-	-	-	-	large and flat fruit	"
mono cropping	"	-	③	①	③		Kayale, Nyoli, Northern R.
-	"	-	-	-	-		Tangale Nyoli, Northern R.
-	"	-	-	-	-	medium length fruit	Shetu Anidu Yipala, Northern R.
-	"	-	-	-	-	medium length fruit	"

注) 3)Topography: ①swamp ②flood plain ③plain level ④undulating ⑤hilly ⑥mountaineous ⑦others.

4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.

Collection No.	Date Month	Genus & Species	Cultivar or local name	Sample P/In ¹⁾	Status ²⁾	Locality(Prov. Vill., km) & Altitude(m)	Crop season
GJ93/301	4/11	A. esculentus	Nmana	P	③	Grupe 134 km south of Wa	off season
GJ93/302	"	C. frutescens	Gelor	"	①	"	-
GJ93/303	"	V. unguiculata	Seg	"	③	"	off season
GJ93/304	"	V. subterranea	Siwe	"	"	"	"
GJ93/305	"	S. gilo	Keli	In	"	"	"
GJ93/306	"	A. esculentus	Mmana	P	"	"	"
GJ93/307	"	Arachis hypogaea	Kelenku	"	"	"	"
GJ93/308	5/11	V. unguiculata	Tua	"	"	Nabori 14 km east of Larabanga	"
GJ93/309	"	A. esculentus	Sie Mana	"	"	"	"
GJ93/310	"	"	Wu Mana	"	"	"	"
GJ93/311	"	V. unguiculata	Tua	"	"	"	"
GJ93/312	"	V. subterranea	Sumkpla	"	"	"	"
GJ93/313	"	A. esculentus	Ngbini	"	"	Kunkunde 52 km east of Larabanga	"
GJ93/314	"	"	"	"	"	"	"
GJ93/315	"	V. unguiculata	Chibe	"	"	"	"
GJ93/316	"	V. subterranea	Eku	"	"	"	"
GJ93/317	"	Arachis hypogaea	Ekulenku	"	"	"	"

注) 1): Sample:Pは集団, Inは個体採取, 2) Status: ①wild ②weedy ③landrace ④improved ⑤breeder's line
⑥others.

Cultural practice	Usage	Diseases & pests	Topog-raphy ³⁾	Site ⁴⁾	Drain-age ⁵⁾	(現地主要特性データ)	Notes Name & address etc
-	vege-table	-	-	-	-	medium lenght fruit	Moses Laneg Grupe, Northern R.
-	"	-	-	-	-	very small and red fruit	Mumuni Adisa Grupe, Northern R.
-	food	-	-	-	-	mixture	"
-	"	-	-	-	-	cream color, white eye	Moses Laneg Grupe, Northern R.
-	vege-table	-	-	-	-	round fruit	Kibo Dogembe Grupe, Northern R.
-	"	-	-	-	-	very short and thick fruit	Zakaria Mohora Grupe, Northern R.
-	food	-	-	-	-		Timothy Tipo Grupe, Northern R.
-	vege-table	-	-	-	-	light brown color with brown spots, white eye	Nuhu Kyakora Nabori, Northern R.
-	"	-	-	-	-	short and thick fruit	"
-	"	-	-	-	-	very short and thick fruit, for dry season	"
-	food	-	-	-	-	dark brown color	"
-	"	-	-	-	-	cream color, white eye	Abutu Abudalai Nabori, Northern R.
-	vege-table	-	-	-	-	short and thick fruit	Mumuni Karase Kunkunde, N. R.
-	"	-	-	-	-	medium length fruit for dry season	"
-	food	-	-	-	-	dark red, white eye	"
-	"	-	-	-	-	cream color, white eye	Alhassan Pantu Kunkunde, N. R.
-	"	-	-	-	-		Numuni Korase Kunkunde, N. R.

注) 3)Topography:①swamp ②flood plain ③plain level ④undualating ⑤hilly ⑥mountaineous ⑦others.

4)Site:①level ②slope ③summit ④depression. 5)Drainage:①poor ②moderate ③good ④excessive.