

Collaborative Exploration for Plant Genetic Resources in Laos, December, 2014

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Summary

The National Institute of Agrobiological Sciences (NIAS) of Japan, has been collaborating on the surveying and exploring on the plant genetic resources under Memorandum of Agreement (MOA) and Memorandum of Understanding (MOU) with the Agriculture Research Center (ARC) of the National Agriculture and Forestry Research Institute (NAFRI) of the Lao People's Democratic Republic (Lao P.D.R., Laos) since 2006. The mission of NIAS was conducted from 15th to 25th December, 2014. The period is the end of the rainy season and hence the final stage of crop harvesting in Luang Namtha Province, Laos. In this region, most village farmlands are opened on hill slopes which are usually far from villages. They store seeds in their farm for next season. This mission was planned for the harvesting period. The explored villages were Ja Oub, Nam An, Ja Yee, Pa Kham, Suan Ja, Nam Kae, Nam Ta Lan and Nam Koy.

By this mission, total number of 183 landrace samples was collected. It is comprised with 22 samples of sorghum (*Sorghum bicolor*), 22 samples of squash (*Cucurbita moschata*), 19 samples of maize (*Zea mays*), 18 samples of cowpea (*Vigna unguiculata*), 16 samples of eggplant (*Solanum melongena*), 13 samples of cucumber (*Cucumis sativus*), 8 samples of rice (*Oryza sativa*), 8 samples of chili (*Capsicum annuum*), 8 samples of bottle gourd (*Lagenaria leucantha* Rusby var. *gourda*), 6 samples of luffa (*Luffa cylindrica*), 5 samples of bitter melon (*Momordica charantia*), 5 samples of sesame (*Sesamum indicum*), 5 samples of taro (*Colocasia esculenta*), 3 samples of Job's tears (*Coix lacryma-jobi*), 3 samples of watermelon (*Citrullus* sp.), 2 samples of rice bean (*Vigna umbellata*), 2 samples of white flowered gourd (*Lagenaria leucantha* Rusby var. *clavata*), 2 samples of winter melon (*Benincasa hispida*), 2 samples of *Cucurbita* sp., 1 sample of foxtail millet (*Setaria italica*), 1 sample of amaranth (*Amaranthus* sp.), 1 sample

of winged bean (*Psophocarpus tetragonolobus*), 1 sample of *Vigna* sp., 1 sample of melon (*Cucumis melo*), 1 sample of *Momordica* sp., 1 sample of *Lagenaria* sp., 1 sample of yam (*Dioscoreaceae* sp.), 1 sample of kudzu (*Pueraria* sp.), and 5 samples of mixed seeds of cucumber and melon (*Cucumis* sp.).

KEY WORDS: Sorghum, millets, corn, Job's tears, bean, cucumber, pumpkin, chili, luffa, rice, squash, sesame, amaranth, gourd, bitter melon, water melon, yam, taro, winter melon.

Introduction

Laos is a multi-ethnic state with more than 47 ethnic groups (Phounvisouk *et al.*, 2013) which was the exploration site of this report. It lies between 20° 30' and 21° 30' north latitude and between 100° 30' and 120° east longitude in the highlands of the northern part of Laos. It is under a more subtropical environment from the low latitude and elevation ranging between 423 m and 770 m as recognized by this exploration mission. The highest elevation of this area is 2,094 m above the sea level (Thongmanivong *et al.*, 2009). Its total land area is about 9,300 km². About 85% of the land area is mountainous with the forest cover of 59%. The province consists of 5 districts called "Muang," 355 villages with total population in 2012 of over 172,000 heads (Phounvisouk *et al.*, 2013).

In the county, typically rice farmers live compactly in villages. They depend greatly on rice from rice fields which are usually situated far from their villages. The exploration site of this mission, the Laung Namtha Province is highland in the northern part of Laos bordering Yunnan, China. Besides lowland rice fields on flat farm lands the villagers prefer to own extra-farm lands on mountain slopes in order to assure additional crops, such as upland rice, millets, beans, cucumbers and vegetables. From around January, bushes on mountain slopes are cut to dry on fields and to burn to sow seed from February. This farm work is done before rainfall which usually starts from April. Such way of land use is known as slash-and-burn (s-a-b) or shifting cultivation because an s-a-b field has to be left vacant for some years to wait for new green bushes. Usually, each farmer has to assure at least two s-a-b fields (Helberg, 2003).

According to Thongmanivong *et al.* (2009), the "Land and Forest Allocation" policy implanted by the provincial authority during the early 1990's was to restrict upland villagers to access to s-a-b farming on uplands. The policy is coupled with relocation of villagers to resettle along new highways. They may reach markets for their agricultural products. From 2000, greater part of income of the relocated villagers is from sugarcane plantation while the ones still remaining in highlands grow rubber on their lands. Now, Luang Namtha Province became the largest rubber plantation in Laos. Under such conditions, what we can do is to collect and conserve the existing landrace in this region as fast as possible.

As Paroda and Arora (1991) already mentioned, genetic diversity can be lost by genetic erosion which can be caused by introduction of relatively small number of varieties bred for high yields, by monocultures, such as, plantations, and social instability.

Since 2006, the National Institute of Agrobiological Sciences (NIAS) of Japan and the Agriculture Research Center (ARC) of the National Agriculture and Forestry Research Institute (NAFRI) of Laos have been working together in the surveying the plant genetic resources under the Memorandum of Agreement (MOA) and the Memorandum of Understanding (MOU) (Sakata *et al.* 2008, Saito *et al.* 2009, Matsunaga *et al.* 2010, Okuizumi *et al.* 2012, Okuizumi *et al.* 2014).

Methods

In this mission, collecting activity was done on multiple plant genetic resources such as cereals, roots and vegetables.

The surveying itinerary is shown in Table 1 and the exploring sites in Fig. 1. A rental car was used in Luang Namtha. Landscape of the surveying sites, information of collected samples, such as, plant height and length of panicle were recorded. Sample collection with its photo was done when it was found as favorable landraces in the collecting sites.

Table 1. Activity schedule for the surveying and collecting mission in December, 2014

Day	Month	Date		Visit Place
1	Dec.	16	Tue.	Vientiane – Luang Namtha (LXG)
2	Dec.	17	Wed.	Ja Oub Village, Muang Long District
3	Dec.	18	Thur.	Nam An and Ja Yee Villages, Muang Long District
4	Dec.	19	Fri.	Pa Kham Village, Muang Long District
5	Dec.	20	Sat.	Suan Ja Village, Luang Namtha Province
6	Dec.	21	Sun.	Nam Kae Village, Luang Namtha Province
7	Dec.	22	Mon.	Nam Ta Lan Village, Luang Namtha Province
8	Dec.	23	Tue.	Nam Koy Village, Luang Namtha Province
9	Dec.	24	Wed.	Luang Namtha – Vientiane

Results and Discussions

Ja Oub Village, Muang Long District (17th December, 2014)

As shown in Table 1, we started survey on 17th December from Luang Namtha to Ja Oub Village (Akha tribe) at latitude N: 21°04'49.1", longitude E: 101°03'23.0", altitude (elevation): 638 m above the sea level in Muang Long District. Ten samples were collected in the village. Mrs. Jeu Lor provided 5 plant genetic resources (PGRs) (L1 - 2, L5, L8 - 9). Mrs. On provided 1 PGR (L3). Mrs. Ya You provided 1 PGR (L4). Mrs. Ma Pha provided 2 PGRs (L6 - 7). Mrs. Iou provided 1 PGR (L10).

Three sorghums (*Sorghum bicolor*) were collected as No. L1, L2, and L3. Their common name is “Khao Fang” and the local names were “Xalor Nam Phou,” “Xalor Laseuo” and “Xalor Nanea,” respectively. The common name “Khao” means *cereal* and “Fang” specifies the *crop species* or *type*. The grain colors were white, yellow, and yellow, respectively. Crops are used for human foods as well as livestock feeds and alcohol fermentation. Seeds of 3 PGRs were sown in May on slash-and-burn (s-a-b) fields on mountain slopes covered with soil to harvest in October. Their plant heights were 2-3 m.

L4 was foxtail millet (*Setaria italica*). Its common name in Laos is “Khao Fang,” but the local name was “Lor Li.” Crops were used as animal feeds. Seeds were sown in May on s-a-b to harvest in October. Its plant height was 1.5-2 m.

L5 was maize (*Zea mays*). Its common name is “Saly” meaning *corn*, but “Outoumouta” as a local name. The grain color is red. Seeds were sown in May to harvest young ears in October. Its plant height was 1.0-1.2 m.

L6 and L7 were cucumbers (*Cucumis sativus* L.). But L7 was conserved with melon seeds (*Cucumis*

melo). Their common name is “Mak Teng Kua” or “Mak Teng Lay,” but their local names were “Siho” and “Baya,” respectively. “Mak” means *fruit*, “Teng” identifies *Cucumis* species and “Kua” indicates a *type* of cucumber. Young fruits were used as vegetable. Seeds were sown on s-a-b in May to harvest young fruits until October. They were weak to worms.

L8 and L9 were squashes (*Cucurbita moschata*). Their common names are “Mak Fak Sanh,” “Mak Fak Yao” or “Mak Tonh,” but the local names were “Tha Ho Yeuo” and “Tha Ho Lou,” respectively. “Fak” identifies *Cucumis sativus* species. “Sanh” means *small* or *short*. “Yao” means *large* and “Tonh” means *round*. Young fruits were used as vegetable. Seeds were sown in May to harvest until the end of the rainy season in October.

L10 was amaranth (*Amaranthus* sp.). Its common name is “Phak Hom” but “O You” as a local name. “Phak” means *vegetable* and “Hom” identifies *Amaranthus* species. Young plants were used as vegetable during rainy season. It was planted in the hill slope and the plant height was 1 m.

Nam An Village, Muang Long District (18th December, 2014)

On 18th, we visited Nam An Village (Lanten tribe) on latitude N: 20°56'22.2”, longitude E: 100°46'21.3”, altitude: 478 m in Muang Long District. Sixteen samples were collected in the village. Mr. Lao Lor provided 1 PGR (L11). Mr. Ngum provided 2 PGRs (L12 - 13). Mr. Anh Bounkeo provided 6 PGRs (L14, L17, L19 - 20, L23 - 24). Mr. Khampha provided 1 PGR (L15). Mr. Lakang provided 3 PGRs (L16, L18, L25). Mr. Lao Teune provided 2 PGRs (L21 - 22). Mr. La Noi provided 1 PGR (L26).

L11 was sorghum (*Sorghum bicolor*). “Khao Fang” is a common name in Laos, but “Mae” in the local. The grain color was grey. Stem was for sweat juice besides its grains used as food or feeds. Seeds were sown on s-a-b in May and harvested in October. The plant height was 2-3 m.

L12 (light purple grains) and L13 (white grains) of maize (*Zea mays*) were collected. The common name of L12 is “Saly Noi,” but “Mong May Yim” as a local name. “Noi” means *small*. The common name of L13 is “Saly Yai,” but “Mong May” as a local name. “Yai” means *large*. Seeds were sown in May on mountain slopes, and harvested in October. Their plant height was 2-3 m.

L14 was a long fruit type with yellow skin of eggplant (*Solanum melongena*). Its common name is “Mak Kheua,” but “Ka Lang” as a local name. “Kheua” means *Solanum* species. Seeds were sown in May to harvest in October on s-a-b. Plant height was 0.5-1.0 m.

L15 and L16 were cucumbers (*Cucumis sativus*). Their common name is “Mak Teng Kua,” but “Kua” as a local name. Seeds were sown in May on mountain slopes. Young fruits were used as vegetable until October.

L17 and L18 were bottle gourds (*Lagenaria leucantha* Rusby var. *gourda*) with fruit scoop. Their common names are “Nam Tao Poum” and “Nam Tao Kan Yao,” respectively, but both “Juice” as a local name. “Nam Tao” means *water bottle gourd*. “Poum” means *round* and “Kan Yao” means *long body*. Seeds were sown on hill slopes in May to harvest young fruits in October.

L19 and L20 (both seed and fruit) were squashes (*Cucurbita moschata*). Their common names are “Mak Eu Nam Tao” and “Mak Eu Monh,” respectively. “Mak Eu” means *pumpkin*. The name “Nam Tao” of L19 sample means *water bottle* after its body form. “Monh” of L20 means *round* type. Their local name was “Yung Kaua.” Seeds were sown on hill slopes in May to harvest young fruits to use as vegetable until

October.

L21 was *Vigna* sp. (species was not identified), L22, L23 and L24 (both seed with pod) were cowpeas (*Vigna unguiculata*). The common name of L21 and 24 is “Taua Hay Med Dam” meaning *black seed bean* and “Top Ja” as a local name. The common name of L22 and L23 is “Taua Hay Med Deng” meaning *red seed bean of upland* and “Top Tee” as a local name. Seeds of 4 accessions were sown on hill slopes in May to harvest young fruits as vegetable until October.

L25 and L26 were chilies (*Capsicum annuum*). Its common name is “Mak Phet” meaning *hot fruit* and both “Bong Maad” as a local name. Both seeds were sown on hill slope in May to harvest fruits until October.

Ja Yee Village, Muang Long District
(18th December, 2014)

On 18th, we also visited Ja Yee Village (Khmu tribe) at latitude N: 20°52'47.8”, longitude E: 100°33'38.8”, altitude: 423 m in Muang Long District. Twenty-one samples were collected in the village. Mr. Ja Yee Noi provided 12 PGRs (L27, L29, L31 - 32, L34 - 36, L38, L41, L43 - 45). Mrs. Tee provided 1 PGR (L28). Mr. Khamseng provided 2 PGRs (L30, L37). Mrs. Ngay provided 4 PGRs (L33, L42, L46 - 47). Mr. Na Tee provided 2 PGRs (L39 - 40).

L27 was sorghum (*Sorghum bicolor*). Its common name is “Khao Fang,” but “Nou Kor” as a local name. It is used as sweet juice. Seeds were sown in May on s-a-b to harvest in October.

L28 and L29 were maize (*Zea mays*). Their common name is “Saly,” but the local name is “Sama Jae.” They had gray, yellow and white grains on the corn. Its young ears are used as vegetable. Seeds were sown in May on s-a-b to harvest young ears in October. Its plant height was 1.8 - 2 m.

L30, L39, L40 and L42 were eggplants (*Solanum melongena*). The common name of L30, L39 and L42 is “Mak Kheua Monh,” L40 is “Mak Kheua Yao,” but their local names were “Ae Lee Xee Krer,” “A Lee Xee,” “A Lee Xee Yee” and “A Lee Xee Krer,” respectively. “Mak Kheua” identifies *Solanum species* and “Monh” indicates *round*, “Yao” indicates *long*. Seeds were sown in May to harvest young fruits until October. Plant height of L30 was 1.8 - 2 m.

L31 was bitter melon (*Momordica charantia*). Its common name is “Mak Haa,” but “Mak Noi” as a local name. Young fruits were used as vegetable. Seeds were sown in May on mountain slope to harvest until October.

L32 and L33 were cowpeas (*Vigna unguiculata*). Their common names are “Mak Taua Hay” and “Mak Taua Yao,” respectively. And local names were “Nor Xee” and “Nor Xee Ye,” respectively. “Mak Taua Hay” means *upland field bean* and “Mak Taua Yao” means *long bean*. Young fruits were harvested to use as vegetable. Seeds were sown in May on mountain slope covered with moist loam soil to harvest until October.

L34 was squash (*Cucurbita moschata*). Its common name is “Mak Eu,” but “You Mou Xee” as a local name. Its young fruits were used as vegetable. Seeds were sown in May to harvest until October.

L35 and L36 were cucumbers (*Cucumis sativus*). But L36 was conserved with melon seeds (*Cucumis melo*). Their common names are “Mak Teng Kua” for L35 and “Mak Teng Lay” for L36, and the local names were “A Phay Xee” and “A Bo Xee,” respectively. Their young fruits were used as vegetable. Seed were sown in May to harvest until October.

L37 was luffa (*Luffa cylindrica*). The common name is “Mak Buab” and the local name was “Dae Ka See.” Its young fruits were used as vegetable and seeds were sown in May to harvest until October.

L38 was winter melon (*Benincasa hispida*). Its common name is “Mak Fak Monh” and the local name was “Hou Mou Xee.” “Mak Fak Monh” means *round type fruit*.

L41 was chili (*Capsicum annuum*). The common name is “Mak Phet,” but “A Phi Xee” as a local name. “Mak Phet” means *hot fruit*. Seeds were sown in May to harvest in October.

L43 was job’s tears (*Coix lacryma-jobi*). The common name is “Mak Douy,” but “Nou Pae” as a local name. Seeds were sown in May to harvest in October.

L44 was sesame (*Sesamum indicum*). Its common name is “Mak Nga” and the local name was “Nou Jee.” Seeds were sown in May to harvest in October.

L45 and L47 were taros (*Colocasia esculenta*). For L45, the common name is “Phuak,” but “Pea Xee Phou” as a local name. For L47, the common name is “Manh On Khao,” but “Mou A You” as a local name. “Manh On Khao” indicates *white yam*. Their tubers were used as starch source. Their tubers were planted in May on mountain slope to harvest at the end of rainy season in October.

L46 was yam (*Dioscoreaceae* sp.). The common name is “Manh On Dam” and the local name was “Mou Naa.” “Manh On Dam” means *black yam*. Tubers were planted in May to harvest in October.

Pa Kham Village, Muang Long District (19th December, 2014)

On 19th, we visited Pa Kham Village (Lanten tribe) on latitude N: 20°57’14.4” longitude E: 100°47’22.4”, altitude: 458 m in Muang Long District. Thirty-two samples were collected in the village. Mr. Boun Yeng provided 6 PGRs (L48, L60, L69, L72 - 74). Mr. Sing Kham provided 8 PGRs (L49, L54, L61, L63, L70, L76, L78 - 79). Mr. Leung provided 2 PGRs (L50, L66). Mr. Thong Phet provided 2 PGRs (L51, L57). Mr. Boun Mak provided 3 PGRs (L52 - 53, L67). Mr. Mao provided 1 PGR (L55). Mr. Pord provided 1 PGR (L56). Mr. Tim provided 2 PGRs (L58, L64). Mr. Khou Fang provided 4 PGRs (L59, L62, L71, L77). Mr. Boun provided 1 PGR (L65). Mr. Khampheng provided 2 PGRs (L68, L75).

L48 was sorghum (*Sorghum bicolor*). The common name is “Khao Fang,” but “Mae” as a local name. Crops were used as human foods as well as livestock feeds. Seeds were sown in May to harvest in October. Its plant height was 2 - 3 m.

L49 and L50 were maize (*Zea mays*). Their common name is “Saly” and the local name was “Bong May.” Seeds were sown in May on mountain slope to harvest ears until October. Their plant heights were 1.5 - 2 m.

L51 was job’s tears (*Coix lacryma-jobi*). The common name is “Mak Douy,” but “Houk Yim” as a local name. Seeds were sown in May to harvest seeds in October. Its plant height was 1.2 - 1.8 m.

L52, L54 and L79 were eggplants (*Solanum melongena*). The common name of L52 and L54 is “Mak Khoua Monh” and L79 is “Mak Khoua Yao.” Their local names were “Kalang,” “Kalang” and “Kalang Dao,” respectively. L52 and L54 were sown on s-a-b, and L79 was sown on hill slope. Their sowing time was May and harvesting time was until October to use young fruits.

L53 was chili (*Capsicum annuum*). The common name is “Mak Phet,” but “Bong Maad Yim” as a local name. Seeds were sown in May to harvest in October.

L55, L56, L61 and L70 were cowpeas (*Vigna unguiculata*). Their common names are “Thua Pee,”

“Thua Door,” “Thua Dam Yao,” and “Thua Deng Lay,” respectively. And their local names were “Top Kai Yim,” “Top Yim,” “Top Yim,” and “Top Jao,” respectively. “Thua Door” indicates *early flowering type*. “Thua Deng Lay” means *stripe skin color*. In May, seeds were sown on s-a-b to harvest young fruits in October.

L57 and L62 - L66 were squashes (L57 was *Cucurbita* sp., species was not identified and others were *Cucurbita moschata*). Their common name of L57 is “Mak Fak Monh,” L62 - L65 is “Mak Eu,” and L66 is “Mak Eu Vaan.” But the local name of L57 was “Jam Bou Yim,” L62 - L65 was “Keng Kua Yim,” and L66 was “Keng Kua.” Their seeds were sown in May on s-a-b to harvest young fruits until October.

L58, L60 and L71 were cucumbers (*Cucumis sativus*), and L72 was melon (*Cucumis melo*). L59 was conserved seeds of cucumber and melon together. The common name of L58 is “Mak Teng,” “Mak Teng Lai” for L59 and L72, and “Mak Teng Kua” for L60 and L71. But the local name of L58 and L71 was “Kua Yim,” L59 and L72 was “Kua Pin Yim” and L60 was “Kua Bo Me.” “Mak Teng Lai” means *stripe skin type*. L58 - L60 were sown in May on s-a-b to harvest young fruit until October. L71 and L72 were sown in May on hill slope to harvest until October.

L67 - L69 were bottle gourds (*Lagenaria leucantha* Rusby var. *gourda*). Their common name is “Mak Nam Tao,” but “Klou Yim” as a local name. “Mak Nam Tao” means *water bottle gourd*. Young fruits were used as vegetable. Seeds were sown in May and harvested in October.

L73 and L74 were watermelons (*Citrullus* sp.). Their common name is “Mak Mo,” but the local name was “Yim Kua Say.” Seeds were sown in May to harvest until October.

L75 was luffa (*Luffa cylindrica*). Its common name is “Mak Buab,” but “Kua Doui Yim” as a local name. “Mak Buab” means *sponge gourd*. Its young fruits and other parts were used as vegetable. Seeds were sown in May to harvest in October.

L76 was winged bean (*Psophocarpus tetragonolobus*). The common name is “Mak Thua Phou,” but “Top Jong” as a local name. Seeds were sown in May on hill slope to use young fruits until October.

L77 was bitter melon (*Momordica charantia*). The common name is “Mak Noi Khom” and the local name was “Mak Noi.” Seeds were sown in May to harvest in October.

L78 was sesame (*Sesamum indicum*). Its common name is “Mak Nga Khao” and the local name was “Sa Pae Yim.” Seeds were sown in May to harvest from October.

Suan Ja Village, Luang Namtha

(20th December, 2014)

On 20th, we visited Suan Ja Village (Lanten tribe) on latitude N: 21°05'40.7" longitude E: 101°33'38.7", altitude: 770 m in Luang Namtha. Forty-one samples were collected in the village. Mrs. La provided 2 PGRs (L80, L84). Mr. Mong provided 3 PGRs (L81, L92, L114). Mrs. Hoa provided 4 PGRs (L82, L104 - 105, L119). Mrs. Thay provided 9 PGRs (L83, L86, L91, L94, L99 - 100, L106, L116, L118). Mr. Thong Vanh provided 11 PGRs (L85, L87 - 90, L93, L98, L101, L103, L115, L117). Mrs. Oil provided 2 PGRs (L95, L102). Mrs. Sengkeo provided 4 PGRs (L96, L109, L112 - 113). Mrs. Nay provided 1 PGR (L97). Mrs. Seng La provided 2 PGRs (L107 - 108). Mrs. Xay Ee provided 2 PGRs (L110, L120). Mr. Seng Tong provided 1 PGR (L111).

Seven samples (L80 - L86) were sorghums (*Sorghum bicolor*). Their common name is “Khao Fang.” The local name of L83 was “Mae Yim,” and of others was “Mae.” They were used for sweet juice and its

grains were used as food or feed. Seeds were sown from April to May on s-a-b and harvested from October. Plant height of L80 - L84 was 2 - 3 m, and L85 - L86 was 3 - 4 m.

L87 - L89, L94 - L95 and L106 were squashes (*Cucurbita moschata*). Their common names are “Mak Eu Monh Noi” for L87, “Mak Eu Monh Kang” for L88, “Mak Eu Monh Yay” for L89, “Mak Eu” for L94 and L106, and “Mak Fak Monh” for L95. And their local names were “Yang Kua Yim” for L87, L88, L89 and L106, “Kua Yim” for L94 and “Dam Bou Yim” for L95. Seeds were sown in May or June to harvest young fruits until December.

L90 was bottle gourd (*Lagenaria leucantha* Rusby var. *gourda*). Its common name is “Mak Tao Yao,” and the local name was “Lop.”

L91 was winter melon (*Benincasa hispida*). Its common name is “Mak Fak Yao Noi,” but the local name was “Lop.”

L92 was white flowered gourd (*Lagenaria leucantha* Rusby var. *clavata*). It is called “Mak Nam Thao” as a common name, but “Klou Yim” as a local name. Seeds were sown in May to June to harvest fruits until December.

L93 was *Lagenaria* sp. (species was not identified). Its common name is “Mak Fak Monh,” but the local name was “Klou Yim.” Seeds were sown in May to June to harvest fruits until December.

L96 was job’s tears (*Coix lacryma-jobi*). Its common name is “Mak Douy,” but the local name was “Kou.” Seeds were sown in May to June to harvest in October. Its plant height was 1.8 - 2 m.

L97 - L100 were maize (*Zea mays*). Their common name of L97 - L99 is “Saly Khaeng” and of L100 is “Saly On.” But their local name of L97 and L99 was “Nay Be,” of L98 was “Nay Bee” and of L100 was “May Blod.” “Saly Khaeng” indicates *hard grain type*. L97 and L98 were sown in April to May and harvested until December. L99 was sown in April to May and harvested from November. And L100 was sown in May to June and harvested from November. Their plant heights were 1.8 - 2 m for L98 and L100, and 2 - 3 m for L97 and L99.

L101 - L105 were eggplants (*Solanum melongena*). Their common names are “Mak Kheua,” “Mak Kheua Yao,” “Mak Kheua Pome,” “Mak Kheua Pome Yay” and “Mak Kheua Khom,” respectively. And their local names were “Ka Lang Dao,” “La Lang,” “Kalang,” “Kalang” and “Kalan Pae,” respectively. “Mak Kheua Yao” indicated *long fruit type*, “Mak Kheua Pome” indicates *round fruit type*, “Mak Kheua Pome Yay” indicates *short-round fruit type* and “Mak Kheua Khom” means *bitter eggplant*. L101 - L104 were sown in May to June, L105 in April to May, and L101 was harvested in October, others in December. Fruit color of L101 - L104 were yellow and L105 was red.

L107 and L108 were chilies (*Capsicum annum*). Their common name is “Mak Phet,” but “Doung Mak” as a local name. Seeds were sown in May to June to harvest fruits until December.

L109 - L111 were cucumbers (*Cucumis sativus*). But L110 and L111 were conserved with melon seeds (*Cucumis melo*). The common name of L109 is “Mak Teng Kua,” of L110 and L111 is “Mak Teng Lay.” But the local name of L109 was “Kua Yim” and of L110 and L111 was “Kua Peune.” Seeds were sown in May to June to harvest young fruits until December.

L112 was luffa (*Luffa cylindrica*). Its common name is “Mak Buab,” but “Ka Day” as a local name. Young fruits and other parts were used as vegetable. Seeds were sown in May to June to harvest until December.

L113 - L118 were cowpeas (*Vigna unguiculata*). Their common names are “Mak Thua Yao” for L113 - L115, “Mak Thua Hay” for L116, “Mak Thua” for L117 and L118. But the local name was “Top”

for all. “Mak Thua Yao” and “Mak Thua Hay” means *long fruit bean* and *upland bean*, respectively. Seeds were sown in May to June to harvest young fruits until December.

L119 was sesame (*Sesamum indicum*). Its common name is “Mak Nga Khao,” but “Ja Pae” as a local name. “Mak Nga Khao” indicates *white sesame*. The sowing time was May to June and harvesting time was December.

L120 was taro (*Colocasia esculenta*). Its common name is “Phuak,” but the local name was “Hao Rou.” Tubers were planted in May to June to harvest in December.

Nam Kae Village, Luang Namtha
(21st December, 2014)

On 21st, we visited Nam Kae Village (Lanten tribe) on latitude N: 21°01'32.6”, longitude E: 101°36'05.5”, altitude: 622 m in Luang Namtha. Twenty-three samples were collected in the village. Mr. Chanhkeo provided 3 PGRs (L121, L128, L130). Mr. Bountham provided 3 PGRs (L122, L136, L141). Mr. Somlit provided 5 PGRs (L123, L135, L139 - 140, L143). Mrs. Chanh provided 3 PGRs (L124, L132, L134). Mr. Ngum provided 2 PGRs (L125 - 126). Mr. Khamsing provided 1 PGR (L127). Mr. Saysamone provided 1 PGR (L129). Mr. Tongchanh provided 4 PGRs (L131, L137 - 138, L142). Mr. Khandee provided 1 PGR (L133).

L121 and L130 were upland rice (*Oryza sativa*). The common name of L121 is “Khao Niaw Hay Lanten” and of L130 is “Khao Jao Lanten,” but the local name of L121 was “Brownbras” and of L130 was “Brow Tree.” “Khao Niaw Hay Lanten” means *sticky upland rice of Lanten*, and “Khao Jao Lanten” means *non-glutinous rice of Lanten*. They were sown in April to May and harvested in October.

L122, L123 and L127 were sorghums (*Sorghum bicolor*). Their common name is “Khao Fang,” but “Mae Yim” as a local name. L122 was sown from March to April, L123 and L127 were sown from April to May. And then, L122 and L127 were harvested in October, L123 was in November. Their plant height was 2 - 3 m.

L124 - L126 and L131 were maize (*Zea mays*). Their common names are “Saly On” for L124 - L126 and “Saly Taek” for L131. But local names were “Bou May Blord Game” for L124 - L126 and “May Yo” for L131. “Saly On” means *soft grain*, “Saly Taek” means *corn flake*. Seeds were sown from April to May. L126 was harvested from November to December, others were harvested in October. Their plant height was 1 - 1.5 m. The corn color of L125 were purple with yellow, L126 were black mixed with yellow.

L128 and L129 were eggplants (*Solanum melongena*). Their common names are “Mak Kheua Khaue” and “Mak Kheua,” but the local names were “Ka Lang Hanh” and “Ka Lang Dao,” respectively. They were sown from April to May to harvest until October. Their fruit color was yellow.

L132 was bottle gourd (*Lagenaria leucantha* Rusby var. *gourda*). L132 is called “Mak Fak Yao” as a common name, but “Dop Dao” as a local name. “Mak Fak Yao” indicates *long fruit type*. Seeds were sown from April to May to harvest until October.

L133, L135 and L136 were squashes (*Cucurbita moschata*). Their common names are “Mak Fak Monh,” “Mak Eu,” and “Mak Eu,” respectively. But the local names were “Yam Bou Dao,” “Yang Kua,” and “Yang Kua,” respectively. They were sown from April to May and harvested fruits and other parts as vegetable until October.

L134 was white flowered gourd (*Lagenaria leucantha* Rusby var. *clavata*). Its common name is “Mak

Fak Monh,” but the local name was “Dop Juice.” Seeds were sown from April to May to harvest until October.

L137 and L138 were cucumbers (*Cucumis sativus*). Their common names are “Mak Teng Lay” and “Mak Teng,” but the local names were “Kua Pin” and “Kua Bome,” respectively. Seeds were sown from April to May and young fruits were harvested until October.

L139 was bitter melon (*Momordica charantia*). Its common name is “Mak Haa,” but “Mak Hoi Khoam” as a local name. “Mak Haa” means *bitter gourd*. Seeds were sown from April to May and fruits and other parts were harvested as vegetable until October.

L140 was sesame (*Sesamum indicum*). Its common name is “Mak Nga Khao,” but the local name was “Thak Kear.” “Mak Nga Khao” means *white sesame*. Seeds were sown from April to May to harvest in October.

L141 was luffa (*Luffa cylindrica*). It is called “Mak Buab” as a common name, but “Kra Link” as a local name. Its young fruits and other parts were used as vegetable. Sowing time was from April to May, harvesting time was October.

L142 was rice bean (*Vigna umbellata*). L142 is called “Mak Thua Dam Med Noi” as a common name. But the local name was “Top Brea.” “Mak Thua Dam Med Noi” means *small fruit type of black bean*. Seeds were sown from April to May and harvesting in October.

L143 was cowpea (*Vigna unguiculata*). Its common name is “Mak Thua Yao,” but “Top Dao” as a local name. “Mak Thua Yao” means *long fruit type*. Seeds were sown from April to May and harvesting in October.

Nam Ta Lan Village, Luang Namtha (22nd December, 2014)

On 22nd, we visited Nam Ta Lan Village (Lanten tribe) on latitude N: 20°53'45.1”, longitude E: 101°31'49.9”, altitude: 658 m in Luang Namtha. Twenty-three samples were collected in the village. Mrs. Pay provided 2 PGRs (L144, L150). Mrs. Yam provided 4 PGRs (L145, L160, L165 - 166). Mr. Xamta provided 5 PGRs (L146, L152 - 154, L157). Mrs. Khao provided 5 PGRs (L147 - 148, L159, L162 - 163). Mr. Sengchanh provided 7 PGRs (L149, L151, L155 - 156, L158, L161, L164).

L144, L149, L150 and L151 were upland rice (*Oryza sativa*). Their common names are “Khao Niaw Kam Lanten,” “Khao Jao Lanten,” “Khao Niaw Hay Lanten” and “Khao Kam Hay Lanten,” respectively. But the local names were “Brao Mak Yim,” “Browning,” “Young Brow Thee” and “Brao Mak Yim,” respectively. “Khao Niaw Kam Lanten” means *Lanten sticky rice*, “Khao Jao Lanten” means *Lanten non-glutinous rice*, “Khao Niaw Hay Lanten” means *Lanten sticky upland rice* and “Khao Kam Hay Lanten” means *Lanten black upland rice*. Their seeds were sown from April to May to harvest in October.

L145 - L148 were sorghums (*Sorghum bicolor*). Their common name is “Khao Fang,” but the local name was “Mae Yim.” Seeds were sown in May to harvest in October. Their plant height was 2 - 3 m.

L152 and L153 were maize (*Zea mays*). Their common names are “Saly Kheng” for L152 and “Saly On” for L153. But the local name was both “Bong May.” “Saly Kheng” indicates *hard corn*, “Saly On” indicates *soft corn*. Seeds were sown in May and fruits were harvested in September. Plant height of L152 was 2 - 3 m, L153 was 1.8 - 2.5 m.

L154 was chili (*Capsicum annum*). Its common name is “Mak Phet,” but “Bong Maad” as a local

name. Seeds were sown in May to harvest in September. Its plant height was 1.8 - 2.5 m.

L155 was watermelon (*Citrullus* sp.). It is called “Teng Mo” as a common name, but was called “Kua Yim” as a local name. “Teng Mo” means *round gourd*. Seeds were sown in May to harvest until September.

L156 and L157 were cucumbers (*Cucumis sativus* sp.). Their common names are “Mak Teng Lay” and “Mak Teng Kua,” respectively. But their local name was “Kua Yim.” They were sown in May to harvest young fruits in September.

L158 and L159 were squashes (*Cucurbita moschata*). Their common names are “Mak Eu” and “Mak Eu Noy,” respectively, but both “Kua Yim” as a local name. “Mak Eu Noy” means *tiny gourd*. L158 was sown in May to harvest in September. L159 was sown from April to May to harvest in September.

L160 was rice bean (*Vigna umbellate*). It is called “Thua Keaw,” but “Top Pread” as a local name. Its sowing time was May and harvesting time was September.

L161 was cowpea (*Vigna unguiculata*). It is called “Thua Yao Dam,” but “Tao Yim” as a local name. “Thua Yao Dam” means *black long bean*. Seeds were sown in May and harvested in September.

L162 was bottle gourd (*Lagenaria leucantha* Rusby var. *gourda*). Its common name is “Mak Nam Tao Monh,” but “Juice Yim” as a local name. “Mak Nam Tao Monh” means *round fruit of water bottle gourd*. Seeds were sown in May to harvest until September.

L163 was luffa (*Luffa cylindrica*). It is called “Mak Buab” as a common name, but “Ka Douy Yim” as a local name. Seeds were sown in May and young fruits and other parts as vegetable were used until September.

L164 was bitter melon (*Momordica charantia*). Its common name is “Mak Hoy Khom,” but the local name was “Ra Louice.” “Mak Hoy Khom” means *bitter gourd*. Seeds were sown in May and fruits and other parts as vegetable were harvested in September.

L165 and L166 were taros (*Colocasia esculenta*). Their common names are “Phuak” and “Manh On,” but the local names were “Ho” and “Doy Thee,” respectively. “Phuak” means *taro yam*. Their tubers were planted in May to harvest in September.

Nam Koy Village, Luang Namtha (23rd December, 2014)

On 23rd, we collected the PGR samples of Nam Koy Village (Lanten tribe) on latitude N: 20°51'28.8" longitude E: 101°23'38.8", altitude: 535 m in Luang Namtha. Seventeen samples were collected in the village. Mr. Khamsing provided 6 PGRs (L167 - 168, L171, L179, L182 - 183). Mr. Noy provided 2 PGRs (L169, L176). Mr. Kham Pheuy provided 2 PGRs (L170, L173). Mrs. Deng provided 2 PGRs (L172, L180). Mr. Khamhak provided 1 PGR (L174). Mr. Laoteum provided 1 PGR (L175). Mrs. Kam provided 1 PGR (L177). Mr. Pong provided 1 PGR (L178). Mr. Bounphanh provided 1 PGR (L181).

L167 and L168 were sorghums (*Sorghum bicolor*). Their common name is “Khao Fang,” but the local names were “Mae Yim Kua” and “Mae Yim,” respectively. Seeds were sown in May, and harvesting time of L167 was September, L168 was October.

L169 was upland rice and L170 was paddy rice (*Oryza sativa*). L169 was called “Khao Chao Hay Lanten,” L170 was “Khao Chao Na” as common names. But “Kang Pao” and “King Pao” were local names, respectively. “Khao Chao Hay Lanten” means *Lanten non- glutinous upland rice* and “Khao Chao Na” means *non-glutinous rice*. Seeds of L169 were sown in May on upland to harvest in September. Seeds

of L170 were sown in May on paddy field to transplanting in July on main field. Harvesting time was September.

L171 and L172 were maize (*Zea mays*). Their common names are “Saly Vaanh” and “Saly Kheng,” respectively. But the local names were “Bong Meuy” for L171 and “Meuy Tee Yim” for L172. “Saly Vaanh” indicates *sweet corn* and “Saly Kheng” means *hard corn*. Seeds were sown in May to harvest in September. Their plant height was 2 - 3 m.

L173 was eggplant (*Solanum melongena*). It is called “Mak Kheua Yao” as a common name, but “Ka Lang Dao” as a local name. Seeds were sown in May to harvest until October.

L174 was chili (*Capsicum annuum*). Its common name is “Mak Phet,” but “Dou Day Bong Maad” as a local name. Seeds were sown in May to harvest fruits until October.

L175 and L177 were squashes (L175 was *Cucurbita moschata* and L177 was *Cucurbita* sp., species was not identified). Their common names are “Mak Eu” and “Mak Fak,” but the local names were “Kang Kua Yim” and “Jam Bou,” respectively. They were sown in May to harvest in October.

L176 was cucumber (*Cucumis sativus*). Its common name is “Mak Teng,” but “Kua Yim” as a local name. Seeds were sown in May to harvest until October.

L178 was cowpea (*Vigna unguiculata*). It is called “Mak Thua Hay” as a common name, but “Top” as a local name. “Mak Thua Hay” means *upland bean*. It was sown in May and harvested in October.

L179 was luffa (*Luffa cylindrica*). Its common name is “Mak Buab,” but “Ka Douy Yim” as a local name. Seeds were sown in May to harvest in October.

L180 and L182 were bitter melons (L180 was *Momordica charantia*, L182 was *Momordica* sp., species was not identified). Their common names are “Mak Hoy Khom” and “Mak Ka Dome,” respectively. But the local names were “Ho Louis” for L180 and “Dew Kau Yim” for L182. “Mak Hoy Khom” means *bitter gourd*. Seeds were sown in May to harvest in October.

L181 was sesame (*Sesamum indicum*). Its common name is “Mak Nga Dam,” but the local name was “Tha Kua Yim.” “Mak Nga Dam” means *black sesame*. Seeds were sown in May and harvested in October.

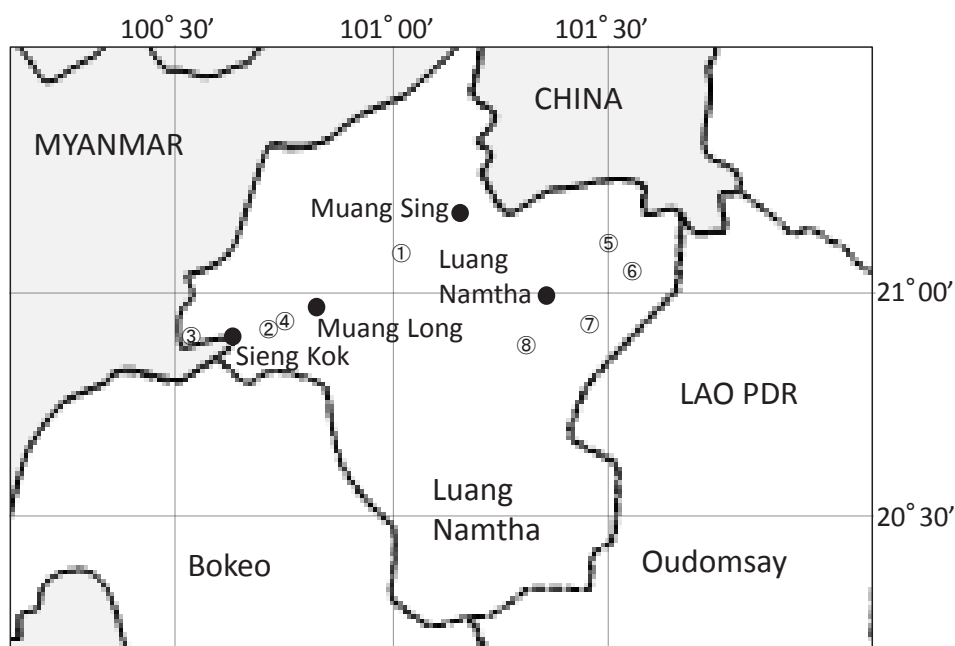


Figure 1. Map of collection sites : ① Ja Oub, ② Nam An, ③ Ja Yee, ④ Pa Kham, ⑤ Suan Ja, ⑥ Nam Kae, ⑦ Nam Ta Lan, ⑧ Nam Koy, ● Major Town/City

Table 2. Collection List

No.	Coll. No.	JP No.	Coll. Date	Species name	Status ^{*1)}	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition ^{*2)}	Collection	Remarks	Photo no. / Original photo ID
L1	2014-12-Lao1	254218	17 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Xalornamphou	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-1-2-3	Seed	Plant hight 2-3 m Mrs. JEU Lor	1/1842
L2	2014-12-Lao2	254219	17 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Xalorlaseuo	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-1-0-3	Seed	Plant hight 2-3 m Mrs. JEU Lor	2/1844
L3	2014-12-Lao3	254220	17 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Xalorneana	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-0-2-3	Seed	Plant hight 2-3 m Mrs. On	3/1846
L4	2014-12-Lao4	254221	17 Dec	<i>Setaria italica</i> (L.) P.Beauv.	4	Lorli	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-1-2-3	Seed	Plant hight 1-1.5 m Mrs. Ya You	4/1847
L5	2014-12-Lao5	254222	17 Dec	<i>Zea mays</i> L.	4	Outoumouta	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-1-2-3	Seed	Plant hight 1-1.5 m Mrs. JEU Lor	5/1848
L6	2014-12-Lao6	254223	17 Dec	<i>Cucumis sativus</i> L.	4	Si ho	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-0-2-3	Seed	Mrs. Ma Pha	6/1853
L7	2014-12-Lao7	254224	17 Dec	<i>Cucumis sativus</i> L. and <i>Cucumis melo</i>	4	Ba ya	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-0-2-3	Seed	Mrs. Ma Pha	7/1857
L8	2014-12-Lao8	254225	17 Dec	<i>Cucurbita moschata</i>	4	Tha ho yeuo	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-1-2-3	Seed	Mrs. JEU Lor	8/1858
L9	2014-12-Lao9	254226	17 Dec	<i>Cucurbita moschata</i>	4	Tha ho lou	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-2-1-2-3	Seed	Mrs. JEU Lor	9/1860
L10	2014-12-Lao10	254227	17 Dec	<i>Amaranthus</i> sp.	4	O you	Luang Namtha, Muang Long, Ja oub village	N21-04-49.1	E101-03-23.0	638	6-1-1-2-3	Seed	Plant hight 1 m Mrs. Iou	10/1862
L11	2014-12-Lao11	254228	18 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Plant hight 2-3 m Mr. Lao Lor	11/1913
L12	2014-12-Lao12	254229	18 Dec	<i>Zea mays</i> L.	4	Mong may yim	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Plant hight 2 m Mr. Ngum	12/1914
L13	2014-12-Lao13	254230	18 Dec	<i>Zea mays</i> L.	4	Mong may	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Plant hight 2 m Mr. Ngum	13/1915
L14	2014-12-Lao14	254231	18 Dec	<i>Solanum melongena</i> L.	4	Ka lang	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Plant hight 0.5 m-1 m Mr. Anh Bounkeo	14/1919
L15	2014-12-Lao15	254232	18 Dec	<i>Cucumis sativus</i> L.	4	Kua	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Khampha	15/1920
L16	2014-12-Lao16	254233	18 Dec	<i>Cucumis sativus</i> L.	4	Kua	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Lakang	16/1921
L17	2014-12-Lao17	254234	18 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Juice	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Anh Bounkeo	17/1924
L18	2014-12-Lao18	254235	18 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Juice	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Lakang	18/1925
L19	2014-12-Lao19	254236	18 Dec	<i>Cucurbita moschata</i>	4	Yung kaua	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Anh Bounkeo	19/1928
L20	2014-12-Lao20	254237	18 Dec	<i>Cucurbita moschata</i>	4	Yung kaua	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Anh Bounkeo	20/1929
L21	2014-12-Lao21	254238	18 Dec	<i>Vigna</i>	4	Top ja	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Lao Teune	21/1930
L22	2014-12-Lao22	254239	18 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top tee	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Lao Teune	22/1931
L23	2014-12-Lao23	254240	18 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top tee	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Anh Bounkeo	23/1933
L24	2014-12-Lao24	254241	18 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top ja	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Anh Bounkeo	24/1932

Table 2 (Continued).

No.	Coll. No.	JP No.	Coll. Date	Species name	Status* ¹⁾	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition* ²⁾	Collection	Remarks	Photo no. / Original photo ID
L25	2014-12-Lao25	254242	18 Dec	<i>Capsicum annuum</i> L.	4	Bong Maad	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. Lakang	25/1934
L26	2014-12-Lao26	254243	18 Dec	<i>Capsicum annuum</i> L.	4	Bong Maad	Luang Namtha, Muang Long, Nam an	N20-56-22.2	E100-46-21.3	478	6-2-1-2-3	Seed	Mr. La Noi	26/1938
L27	2014-12-Lao27	254244	18 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Nou Kor	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Plant hight 2-3m Mr. Ja Yee Noi	27/1973
L28	2014-12-Lao28	254245	18 Dec	<i>Zea mays</i> L.	4	Sama jae	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Plant hight 1.8-2 m Mrs. Tee	28/1975
L29	2014-12-Lao29	254246	18 Dec	<i>Zea mays</i> L.	4	Sama jae	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Plant hight 1.8-2 m Mr. Ja Yee Noi	29/1976
L30	2014-12-Lao30	254247	18 Dec	<i>Solanum melongena</i> L.	4	Ae lee xee krer	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Khamseeng	30/1978
L31	2014-12-Lao31	254248	18 Dec	<i>Momordica charantia</i> L.	4	Mak noi	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	31/1979
L32	2014-12-Lao32	254249	18 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Nor xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	32/1980
L33	2014-12-Lao33	254250	18 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Nor xee yee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mrs. Ngay	33/1981
L34	2014-12-Lao34	254251	18 Dec	<i>Cucurbita moschata</i>	4	You mou xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	34/1983
L35	2014-12-Lao35	254252	18 Dec	<i>Cucumis sativus</i> L.	4	A phay xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	35/1984
L36	2014-12-Lao36	254253	18 Dec	<i>Cucumis sativus</i> L. and <i>Cucumis melo</i>	4	A bo xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	36/1985
L37	2014-12-Lao37	254254	18 Dec	<i>Luffa cylindrica</i> M. Roem	4	Dae ka xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-2-2-3	Seed	Mr. Khamseeng	37/1986
L38	2014-12-Lao38	254255	18 Dec	<i>Benincasa hispida</i> Cogn.	4	Hou mou xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	38/1987
L39	2014-12-Lao39	254256	18 Dec	<i>Solanum melongena</i> L.	4	A lee xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Na Tee	39/1988
L40	2014-12-Lao40	254257	18 Dec	<i>Solanum melongena</i> L.	4	A lee xee yee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Na Tee	40/1989
L41	2014-12-Lao41	254258	18 Dec	<i>Capsicum annuum</i> L.	4	A phi xee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	41/1990
L42	2014-12-Lao42	254259	18 Dec	<i>Solanum melongena</i> L.	4	Ae lee xee krer	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mrs. Ngay	42/1991
L43	2014-12-Lao43	254260	18 Dec	<i>Coix lacryma-jobi</i> L. var. <i>ma-yuen</i>	4	Nou pae	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	43/1992
L44	2014-12-Lao44	254261	18 Dec	<i>Sesamum indicum</i> L.	4	Nou jee	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	44/1993
L45	2014-12-Lao45	254262	18 Dec	<i>Colocasia esculenta</i> (L.) Schott	4	Pae xee phou	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mr. Ja Yee Noi	45/1994
L46	2014-12-Lao46	254263	18 Dec	<i>Dioscoreaceae</i>	4	Mou naa	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mrs. Ngay	46/1995
L47	2014-12-Lao47	254264	18 Dec	<i>Colocasia esculenta</i> (L.) Schott	4	Mou a you	Luang Namtha, Muang Long, Ja Yee	N20-52-47.8	E100-33-38.8	423	6-2-1-2-3	Seed	Mrs. Ngay	47/1996
L48	2014-12-Lao48	254265	19 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Plant hight 2-3 m Mr. Boun Yeng	48/2022

Table 2 (Continued).

No.	Coll. No.	JP No.	Coll. Date	Species name	Status ^{*1)}	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition ^{*2)}	Collection	Remarks	Photo no. / Original photo ID
L49	2014-12-Lao49	254266	19 Dec	<i>Zea mays</i> L.	4	Bong may	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Plant hight 1.5-2 m Mr. Sing Kham	49/2023
L50	2014-12-Lao50	254267	19 Dec	<i>Zea mays</i> L.	4	Bong may	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-2	Seed	Plant hight 1.5-2 m Mr. Leung	50/2025
L51	2014-12-Lao51	254268	19 Dec	<i>Coix lacryma-jobi</i> L. var. <i>ma-yuen</i>	4	Houk yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Plant hight 1.2-1.8 m Mr. Thong Phet	51/2026
L52	2014-12-Lao52	254269	19 Dec	<i>Solanum melongena</i> L.	4	Ka lang	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-2-2-3	Seed	Mr. Boun Mak	52/2027
L53	2014-12-Lao53	254270	19 Dec	<i>Capsicum annuum</i> L.	4	Bong maad yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Boun Mak	53/2028
L54	2014-12-Lao54	254271	19 Dec	<i>Solanum melongena</i> L.	4	Ka lang	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Plant hight 1-1.5 m Mr. Sing Kham	54/2029
L55	2014-12-Lao55	254272	19 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top kai yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-2-2-3	Seed	Mr. Mao	55/2031
L56	2014-12-Lao56	254273	19 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Pord	56/2033
L57	2014-12-Lao57	254274	19 Dec	<i>Cucurbita</i>	4	Jam bou yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Thong Phet	57/2034
L58	2014-12-Lao58	254275	19 Dec	<i>Cucumis sativus</i> L.	4	Kua yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Tim	58/2035
L59	2014-12-Lao59	254276	19 Dec	<i>Cucumis sativus</i> L. and <i>Cucumis melo</i>	4	Kua pin yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-2-2-3	Seed	Mr. Khou Fang	59/2036
L60	2014-12-Lao60	254277	19 Dec	<i>Cucumis sativus</i> L.	4	Kua bome	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Boun Yeng	60/2037
L61	2014-12-Lao61	254278	19 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Sing Kham	61/2042
L62	2014-12-Lao62	254279	19 Dec	<i>Cucurbita moschata</i>	4	Keng kua yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Khou Fang	62/2043
L63	2014-12-Lao63	254280	19 Dec	<i>Cucurbita moschata</i>	4	Keng kua yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-2-2-3	Seed	Mr. Sing Kham	63/2045
L64	2014-12-Lao64	254281	19 Dec	<i>Cucurbita moschata</i>	4	Keng kua yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Tim	64/2046
L65	2014-12-Lao65	254282	19 Dec	<i>Cucurbita moschata</i>	4	Keng kua yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Boun	65/2047
L66	2014-12-Lao66	254283	19 Dec	<i>Cucurbita moschata</i>	4	Keng kua	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Leung	66/2049
L67	2014-12-Lao67	254284	19 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Klou yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	0-2-2-2-3	Seed	Mr. Boun Mak	67/2057
L68	2014-12-Lao68	254285	19 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Klou yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-2-2-3	Seed	Mr. Khampheng	68/2058
L69	2014-12-Lao69	254286	19 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Klou yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-2-2-3	Seed	Mr. Boun Yeng	69/2059
L70	2014-12-Lao70	254287	19 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top jao	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Sing Kham	70/2060
L71	2014-12-Lao71	254288	19 Dec	<i>Cucumis sativus</i> L.	4	Kua yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-2	Seed	Mr. Khou Fang	71/2061
L72	2014-12-Lao72	254289	19 Dec	<i>Cucumis melo</i>	4	Kua pin yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Boun Yeng	72/2062
L73	2014-12-Lao73	254290	19 Dec	<i>Citrullus</i>	4	Yim kua say	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Boun Yeng	73/2063

Table 2 (Continued).

No.	Coll. No.	JP No.	Coll. Date	Species name	Status ^{*1)}	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition ^{*2)}	Collection	Remarks	Photo no. / Original photo ID
L74	2014-12-Lao74	254291	19 Dec	<i>Citrullus</i>	4	Yim kua say	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Boun Yeng	74/2064
L75	2014-12-Lao75	254292	19 Dec	<i>Luffa cylindrica</i> M. Roem	4	Kua doui yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Khampheng	75/2065
L76	2014-12-Lao76	254293	19 Dec	<i>Psophocarpus tetragonolobus</i> (L.) DC.	4	Top jong	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	0-0-1-2-2	Seed	Mr. Sing Kham	76/2069
L77	2014-12-Lao77	254294	19 Dec	<i>Momordica charantia</i> L.	4	Mak noi	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	0-2-1-2-3	Seed	Mr. Khou Fang	77/2070
L78	2014-12-Lao78	254295	19 Dec	<i>Sesamum indicum</i> L.	4	Sa pae yim	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Sing Kham	78/2071
L79	2014-12-Lao79	254296	19 Dec	<i>Solanum melongena</i> L.	4	Ka lang dao	Luang Namtha, Muang Long, Pa Kham	N20-57-14.4	E100-47-22.4	458	6-2-1-2-3	Seed	Mr. Sing Kham	79/2072
L80	2014-12-Lao80	254297	20 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 2-3 m Mrs. La	80/2129
L81	2014-12-Lao81	254298	20 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 2-3 m Mr. Mong	81/2130
L82	2014-12-Lao82	254299	20 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 2-3 m Mrs. Hao	82/2131
L83	2014-12-Lao83	254300	20 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Thay	83/2135
L84	2014-12-Lao84	254301	20 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 3-4 m Mrs. La	84/2135
L85	2014-12-Lao85	254302	20 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 3-4 m Mr. Thong Vanh	85/2140
L86	2014-12-Lao86	254303	20 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>Bicolor</i>	4	Mae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 3-4 m Mrs. Thay	86/2141
L87	2014-12-Lao87	254304	20 Dec	<i>Cucurbita moschata</i>	4	Yang kua yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	87/2189
L88	2014-12-Lao88	254305	20 Dec	<i>Cucurbita moschata</i>	4	Yang kua yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	88/2190
L89	2014-12-Lao89	254306	20 Dec	<i>Cucurbita moschata</i>	4	Yang kua yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	89/2191
L90	2014-12-Lao90	254307	20 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Lop	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	90/2192
L91	2014-12-Lao91	254308	20 Dec	<i>Benincasa hispida</i> Cogn.	4	Lop	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Thay	91/2195
L92	2014-12-Lao92	254309	20 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>clavata</i> Makino	4	Klou yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Mong	92/2196/2197
L93	2014-12-Lao93	254310	20 Dec	<i>Lagenaria</i>	4	Klou yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	93/2198/2199
L94	2014-12-Lao94	254311	20 Dec	<i>Cucurbita moschata</i>	4	Kua yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Thay	94/2145
L95	2014-12-Lao95	254312	20 Dec	<i>Cucurbita moschata</i>	4	Dam bou yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Oil	95/2146
L96	2014-12-Lao96	254313	20 Dec	<i>Coix lacryma-jobi</i> L. var. <i>ma-yuen</i>	4	Kou	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-2-2-2	Seed	Plant hight 1.8-2 m Mrs. Sengkeo	96/2147
L97	2014-12-Lao97	254314	20 Dec	<i>Zea mays</i> L.	4	Nay bee	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 1.8-2 m Mrs. Nay	97/2158
L98	2014-12-Lao98	254315	20 Dec	<i>Zea mays</i> L.	4	Nay bee	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 1.8-2 m Mr. Thong Vanh	98/2159

Table 2 (Continued).

No.	Coll. No.	JP No.	Coll. Date	Species name	Status ^(*)	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition ^(*)	Collection	Remarks	Photo no. / Original photo ID
L99	2014-12-Lao99	254316	20 Dec	<i>Zea mays</i> L.	4	Nay bee	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 1.8-2 m Mrs. Thay	99/2160
L100	2014-12-Lao100	254317	20 Dec	<i>Zea mays</i> L.	4	May blod	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Plant hight 1.8-2 m Mrs. Thay	100/2161
L101	2014-12-Lao101	254318	20 Dec	<i>Solanum melongena</i> L.	4	Ka lang dao	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	101/2162
L102	2014-12-Lao102	254319	20 Dec	<i>Solanum melongena</i> L.	4	La lang	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Oil	102/2163
L103	2014-12-Lao103	254320	20 Dec	<i>Solanum melongena</i> L.	4	Kalang	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	103/2164
L104	2014-12-Lao104	254321	20 Dec	<i>Solanum melongena</i> L.	4	Kalang	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Hao	104/2165
L105	2014-12-Lao105	254322	20 Dec	<i>Solanum melongena</i> L.	4	Kalang pae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Hao	105/2166
L106	2014-12-Lao106	254323	20 Dec	<i>Cucurbita moschata</i>	4	Yang kua yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Thay	106/2167
L107	2014-12-Lao107	254324	20 Dec	<i>Capsicum annuum</i> L.	4	Doung mak	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Seng La	107/2168
L108	2014-12-Lao108	254325	20 Dec	<i>Capsicum annuum</i> L.	4	Doung mak	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Seng La	108/2169
L109	2014-12-Lao109	254326	20 Dec	<i>Cucumis sativus</i> L.	4	Kua yim	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Sengkeo	109/2170
L110	2014-12-Lao110	254327	20 Dec	<i>Cucumis sativus</i> L. and <i>Cucumis melo</i>	4	Kau peune	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Xay Ee	110/2171
L111	2014-12-Lao111	254328	20 Dec	<i>Cucumis sativus</i> L. and <i>Cucumis melo</i>	4	Kau peune	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Seng Tong	111/2172
L112	2014-12-Lao112	254329	20 Dec	<i>Luffa cylindrica</i> M. Roem	4	Ka day	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-2-2-3	Seed	Mrs. Sengkeo	112/2173
L113	2014-12-Lao113	254330	20 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Sengkeo	113/2174
L114	2014-12-Lao114	254331	20 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Mong	114/2175
L115	2014-12-Lao115	254332	20 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	115/2176
L116	2014-12-Lao116	254333	20 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Thay	116/2177
L117	2014-12-Lao117	254334	20 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mr. Thong Vanh	117/2178
L118	2014-12-Lao118	254335	20 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Thay	118/2184
L119	2014-12-Lao119	254336	20 Dec	<i>Sesamum indicum</i> L.	4	Ja pae	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Hao	119/2185
L120	2014-12-Lao120	254337	20 Dec	<i>Colocasia esculenta</i> (L.) Schott	4	Hao rou	Luang Namtha, Suan Ja	N21-05-40.7	E101-33-38.7	770	6-2-1-2-3	Seed	Mrs. Xay Ee	120/2187
L121	2014-12-Lao121	254338	21 Dec	<i>Oryza sativa</i> L.	4	Brow bras	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Chanhkeo	121/2222
L122	2014-12-Lao122	254339	21 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	4	Mae yim	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Plant hight 2-3 m Mr. Bountham	122/2123/2124

Table 2 (Continued).

No.	Coll. No.	JP No.	Coll. Date	Species name	Status ^{*1)}	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition ^{*2)}	Collection	Remarks	Photo no. / Original photo ID
L123	2014-12-Lao123	254340	21 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Plant hight 3-4 m Mr. Somlit	123/2225
L124	2014-12-Lao124	254341	21 Dec	<i>Zea mays</i> L.	4	Bou may blord game	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-1-1-2-3	Seed	Plant hight 1-1.5 m Mrs. Chanh	124/2228
L125	2014-12-Lao125	254342	21 Dec	<i>Zea mays</i> L.	4	Bou may blord game	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Plant hight 1-1.5 m Mr. Ngum	125/2230
L126	2014-12-Lao126	254343	21 Dec	<i>Zea mays</i> L.	4	Bou may blord game	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Plant hight 1.8-2 m Mr. Ngum	126/2232
L127	2014-12-Lao127	254344	21 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Plant hight 2-3 m Mr. Khamsing	127/2233
L128	2014-12-Lao128	254345	21 Dec	<i>Solanum melongena</i> L.	4	Ka lang hanh	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Chanhkeo	128/2234
L129	2014-12-Lao129	254346	21 Dec	<i>Solanum melongena</i> L.	4	Ka lang dao	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Saysamone	129/2235
L130	2014-12-Lao130	254347	21 Dec	<i>Oryza sativa</i> L.	4	Brow tree	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Chanhkeo	130/2236
L131	2014-12-Lao131	254348	21 Dec	<i>Zea mays</i> L.	4	May yo	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Plant hight 1-1.5 m Mr. Tongchanh	131/2237
L132	2014-12-Lao132	254349	21 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Dop dao	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mrs. Chanh	132/2238/2246
L133	2014-12-Lao133	254350	21 Dec	<i>Cucurbita moschata</i>	4	Yam bou dao	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Khandee	133/2239
L134	2014-12-Lao134	254351	21 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>clavata</i> Makino	4	Dop juice	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-2-2-3	Seed	Mrs. Chanh	134/2240/2245
L135	2014-12-Lao135	254352	21 Dec	<i>Cucurbita moschata</i>	4	Yang kua	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Somlit	135/2241
L136	2014-12-Lao136	254353	21 Dec	<i>Cucurbita moschata</i>	4	Yang kua	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-0-2-3	Seed	Mr. Bountham	136/2242
L137	2014-12-Lao137	254354	21 Dec	<i>Cucumis sativus</i> L.	4	Kua pin	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-2-2-3	Seed	Mr. Tongchanh	137/2243
L138	2014-12-Lao138	254355	21 Dec	<i>Cucumis sativus</i> L.	4	Kua bome	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Tongchanh	138/2244
L139	2014-12-Lao139	254356	21 Dec	<i>Momordica charantia</i> L.	4	Rao loui	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Somlit	139/2247
L140	2014-12-Lao140	254357	21 Dec	<i>Sesamum indicum</i> L.	4	Thak kear	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Somlit	140/2248
L141	2014-12-Lao141	254358	21 Dec	<i>Luffa cylindrica</i> M. Roem	4	Kra link	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Bountham	141/2249
L142	2014-12-Lao142	254359	21 Dec	<i>Vigna umbellata</i> (Thunb.) Ohwi et Ohashi (= <i>Phaseolus calcaratus</i>)	4	Top brea	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Tongchanh	142/2250
L143	2014-12-Lao143	254360	21 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top dao	Luang Namtha, Nam kae	N21-01-32.6	E101-36-05.5	622	6-2-1-2-3	Seed	Mr. Somlit	143/2251
L144	2014-12-Lao144	254361	22 Dec	<i>Oryza sativa</i> L.	4	Brao mak yim	Luang Namtha, Nam Ta Lan	N20-55-18.0	E101-28-35.4	555	6-2-1-2-3	Seed	Plant hight 1.5-1.8 m Mrs. Pay	144/2291
L145	2014-12-Lao145	254362	22 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Plant hight 2-3 m Mrs. Yam	145/2314
L146	2014-12-Lao146	254363	22 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Plant hight 2-3 m Mr. Xamta	146/2320
L147	2014-12-Lao147	254364	22 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mrs. Khao	147/2321

Table 2 (Continued).

No.	Coll. No.	JP No.	Coll. Date	Species name	Status ^(*)	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition ^(*)	Collection	Remarks	Photo no. / Original photo ID
L148	2014-12-Lao148	254365	22 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Plant height 2-3 m Mrs. Khao	148/2323
L149	2014-12-Lao149	254366	22 Dec	<i>Oryza sativa</i> L.	4	Browning	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658		Seed	Plant height 0.8-1.2 m Mr. Sengchanh	149/2324
L150	2014-12-Lao150	254367	22 Dec	<i>Oryza sativa</i> L.	4	Young brow thee	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	0-2-1-2-3	Seed	Plant height 1-1.5 m Mrs. Pay	150/2325
L151	2014-12-Lao151	254368	22 Dec	<i>Oryza sativa</i> L.	4	Brao mak yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-0-0-0-0	Seed	Plant height 1-1.5 m Mr. Sengchanh	151/2326
L152	2014-12-Lao152	254369	22 Dec	<i>Zea mays</i> L.	4	Bong may	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-2-2-3	Seed	Plant height 2-3 m Mr. Xamta	152/2327
L153	2014-12-Lao153	254370	22 Dec	<i>Zea mays</i> L.	4	Bong may	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Plant height 1.8-2.5 m Mr. Xamta	153/2328
L154	2014-12-Lao154	254371	22 Dec	<i>Capsicum annuum</i> L.	4	Bong maad	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mr. Xamta	154/2329
L155	2014-12-Lao155	254372	22 Dec	<i>Citrullus</i>	4	Kua yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mr. Sengchanh	155/2333
L156	2014-12-Lao156	254373	22 Dec	<i>Cucumis sativus</i> L.	4	Kua yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mr. Sengchanh	156/2334
L157	2014-12-Lao157	254374	22 Dec	<i>Cucumis sativus</i> L.	4	Kua yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mr. Xamta	157/2335
L158	2014-12-Lao158	254375	22 Dec	<i>Cucurbita moschata</i>	4	Kua yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mr. Sengchanh	158/2336
L159	2014-12-Lao159	254376	22 Dec	<i>Cucurbita moschata</i>	4	Kua yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mrs. Khao	159/2337
L160	2014-12-Lao160	254377	22 Dec	<i>Vigna umbellata</i> (Thunb.) Ohwi et Ohashi (=Phaseolus calcaratus)	4	top pread	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mrs. Yam	160/2338
L161	2014-12-Lao161	254378	22 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	tao yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mr. Sengchanh	161/2339
L162	2014-12-Lao162	254379	22 Dec	<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	4	Juice yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mrs. Khao	162/2340
L163	2014-12-Lao163	254380	22 Dec	<i>Luffa cylindrica</i> M. Roem	4	Klay yim	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mrs. Khao	163/2341
L164	2014-12-Lao164	254381	22 Dec	<i>Momordica charantia</i> L.	4	Ra louice	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mr. Sengchanh	164/2342
L165	2014-12-Lao165	254382	22 Dec	<i>Colocasia esculenta</i> (L.) Schott	4	Ho	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-1-2-3	Seed	Mrs. Yam	165/2344
L166	2014-12-Lao166	254383	22 Dec	<i>Colocasia esculenta</i> (L.) Schott	4	Doy thee	Luang Namtha, Nam Ta Lan	N20-53-45.1	E101-31-49.9	658	6-2-2-2-3	Seed	Mrs. Yam	166/2345
L167	2014-12-Lao167	254384	24 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim kua	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535	6-0-0-0-0	Seed	Mr. Khamsing	167/2425
L168	2014-12-Lao168	254385	24 Dec	<i>Sorghum bicolor</i> (L.) Moench ssp. bicolor	4	Mae yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Khamsing	168/2426
L169	2014-12-Lao169	254386	24 Dec	<i>Oryza sativa</i> L.	4	Kang pao	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Noy	169/2428
L170	2014-12-Lao170	254387	24 Dec	<i>Oryza sativa</i> L.	4	King pao	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535	6-0-0-0-0	Seed	Mr. Kham Pheuy	170/2430
L171	2014-12-Lao171	254388	24 Dec	<i>Zea mays</i> L.	4	Bong meuy	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Khamsing	171/2431
L172	2014-12-Lao172	254389	24 Dec	<i>Zea mays</i> L.	4	Meuy tee yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mrs. Deng	172/2433

Table 2 (Continued).

No.	Coll. No.	JP No.	Coll. Date	Species name	Status* ¹⁾	Local name	Locality (Province, Village)	Latitude	Longitude	Altitude (m)	Condition* ²⁾	Collection	Remarks	Photo no. / Original photo ID
L173	2014-12-Lao173	254390	24 Dec	<i>Solanum melongena</i> L.	4	Ka lang dao	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Kham Pheuy	173/2434
L174	2014-12-Lao174	254391	24 Dec	<i>Capsicum annuum</i> L.	4	Dou day bong maad	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Khamhak	174/2435
L175	2014-12-Lao175	254392	24 Dec	<i>Cucurbita moschata</i>	4	Kang kau yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Laotuem	175/2436
L176	2014-12-Lao176	254393	24 Dec	<i>Cucumis sativus</i> L.	4	Kua yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Noy	176/2439
L177	2014-12-Lao177	254394	24 Dec	<i>Cucurbita</i>	4	Jam bou	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mrs. Kam	177/2440
L178	2014-12-Lao178	254395	24 Dec	<i>Vigna unguiculata</i> (L.) Walp.	4	Top	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Pong	178/2441
L179	2014-12-Lao179	254396	24 Dec	<i>Luffa cylindrica</i> M. Roem	4	Ka douy yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Khamsing	179/2442
L180	2014-12-Lao180	254397	24 Dec	<i>Momordica charantia</i> L.	4	Ho louis	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mrs. Deng	180/2443
L181	2014-12-Lao181	254398	24 Dec	<i>Sesamum indicum</i> L.	4	Tha kua yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Bounphanh	181/2444
L182	2014-12-Lao182	254399	24 Dec	<i>Momordica</i>	4	Dew kau yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Khamsing	182/2445
L183	2014-12-Lao183	254400	24 Dec	<i>Pueraria</i>	4	Pao yim	Luang Namtha, Nam Koy	N20-51-28.8	E101-23-38.8	535		Seed	Mr. Khamsing	183/2446

*1) 4; landrace

*2)

Topography: 1; swamp, 2; flood plain, 3; plain level, 4; undulation, 5; hilly, 6; mountainous, 7; other (specify)

Site: 1; level, 2; slope, 3; summit, 4; depression

Stoniness: 1; none, 2; low, 3; medium, 4; rocky

Soil texture: 1; sand, 2; loam, 3; clay, 4; silt, 5; highly organic

Drainage: 1; poor, 2; moderate, 3; good, 4; excessive

Table 3. Sample score of seed collection from each village

Scientific name	Plant name	Ja Oub	Nam An	Ja Yee	Pa Kham	Suan Ja	Nam Kae	Nam Ta Lan	Nam Koy	Total
<i>Amaranthus</i> sp.	Amaranth	1								1
<i>Benincasa hispida</i>	Winter melon			1		1				2
<i>Capsicum annuum</i> L.	Chili		2	1	1	2		1	1	8
<i>Citrullus</i> sp.	Watermelon				2			1		3
<i>Coix lacryma-jobi</i> L.	Job's tears			1	1	1				3
<i>Colocasia esculenta</i> (L.) Schott	Taro			2		1		2		5
<i>Cucumis melo</i>	Melon				1					1
<i>Cucumis sativus</i> L.	Cucumber	1	2	1	3	1	2	2	1	13
<i>Cucumis sativus</i> L. and <i>melo</i>	Cucumber and Melon	1		1	1	2				5
<i>Cucurbita</i> sp.	<i>Cucurbita</i> sp.				1				1	2
<i>Cucurbita moschata</i>	Squash	2	2	1	5	6	3	2	1	22
<i>Dioscoreaceae</i> sp.	Yam			1						1
<i>Lagenaria leucantha</i> Rusby var. <i>gourda</i> Makino	Bottle gourd		2		3	1	1	1		8
<i>Lagenaria leucantha</i> Rusby var. <i>clavata</i> Makino	White flowered gourd					1	1			2
<i>Lagenaria</i> sp.	<i>Lagenaria</i> sp.					1				1
<i>Luffa cylindrica</i> M. Roem	Luffa			1	1	1	1	1	1	6
<i>Momordica</i> sp.	<i>Momordica</i> sp.								1	1
<i>Momordica charantia</i> L.	Bitter malon			1	1		1	1	1	5
<i>Oryza sativa</i> L.	Rice						2	4	2	8
<i>Psophocarpus tetragonolobus</i> (L.) DC.	Winged bean				1					1
<i>Pueraria</i> sp.	Kudzu								1	1
<i>Sesamum indicum</i> L.	Sesame			1	1	1	1		1	5
<i>Setaria italica</i> (L.) P.Beauv.	Foxtail millet	1								1
<i>Solanum melongena</i> L.	Eggplant		1	4	3	5	2		1	16
<i>Sorghum bicolor</i> (L.) Moench ssp. <i>bicolor</i>	Sorghum	3	1	1	1	7	3	4	2	22
<i>Vigna</i> sp.	<i>Vigna</i> sp.		1							1
<i>Vigna umbellata</i> (Thunb.) Ohwi et Ohashi	Rice bean						1	1		2
<i>Vigna unguiculata</i> (L.) Walp.	Cowpea		3	2	4	6	1	1	1	18
<i>Zea mays</i> L.	Maize	1	2	2	2	4	4	2	2	19
Total		10	16	21	32	41	23	23	17	183

L183 was kudzu (*Peuraria* sp.). It is called “Mak Teua” as a common name, but “Pao Yim” as a local name. It was sown in May and harvested in October.

Normally, in Laos, farming activities depend on rainfall behavior which usually starts from April and ends in November. In the province of Luang Namtha, at the end of the rainy season, farmers harvest their crops from fields which are mostly opened on hill slopes, and store in warehouses in the villages. This mission was planned for the harvesting season in this region of Laos.

As shown in Table 3, the number of identified crop species were 20 species, 169 accessions and unidentified were 8 genera, 14 accessions, totally 183 accessions of the 8 villages explored in this mission. The largest collections were sorghums and squashes (both 22 accessions) followed by maize (19 accessions). Cereal crops shared 30% (54 accessions). Average number of collected PGRs was 23 accessions per village. Suan Ja provided 41 accessions (22%) at most and Ja Oub provided 10 accessions (5%) at least. This percentage of crop share might be related to a favorable self consumption or market condition of each village in the region.

These samples are multiplied in the field of the ARC Genebank to study their growth characteristics and evaluation of resistance to diseases/pests, and to share genetic resources in Laos and Japan.

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We thank Mr. Phoumy INTHAPANYA, deputy director of NAFRI and Dr. Chay BOUNPHANOUSAY, Director of ARC for their support in the activities of this surveying and collecting. We also thank Drs. Norihiko Tomooka, Yoichi Kawazu, Mitsuhiro Sugiyama and Koichiro Shimomura for their kindly support for identification of collected PGRs accessions in beans and vegetables.

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ラオスにおける植物遺伝資源の探索・収集，2014年12月

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和文摘要

農業生物資源研究所遺伝資源センター (NIAS) はラオス農林省 (MAF) の国立農林研究所 (NAFRI) の傘下である農業研究センター (ARC) との間に締結した共同研究協定 (MOA, MOU) に基づいて 2006 年からラオスで植物遺伝資源の探索・収集を行ってきた。

本報告は 2014 年の活動の成果について記述したものである。今回の探索・収集は 12 月 15 日から同月 25 日の期間で、ラオスの北部に位置するルアナムター県にあるジャ・ウーブ村、ナム・アーン村、パ・カム村、スアーン・ジャ村、ナム・カエー村、ナム・タ・ラン村およびナム・コーイ村を回って植物遺伝資源を収集した。これらの村は山間部に位置しており、村人は山の斜面に焼畑を作り、雨季の初めである 4 月下旬から 5 月にかけて作物を植えて、雨季の終わりごろの 10 月から 11 月にかけて収穫し、得た作物を村の倉庫に納めるのが伝統である。

今回の探索で得られた植物遺伝資源は 183 点であり、その構成はソルガム 22 点、カボチャ 22 点、トウモロコシ 19 点、ササゲ 18 点、ナス 16 点、キュウリ 13 点、イネ 8 点、トウガラシ 8 点、ヒョウタン 8 点、ヘチマ 6 点、ツルレイシ 5 点、ゴマ 5 点、サトイモ 5 点、ハトムギ 3 点、スイカ 3 点、ツルアズキ 2 点、ユウガオ 2 点、トウガン 2 点、カボチャ属 2 点、アワ 1 点、アマランサス 1 点、シカクマメ 1 点、ササゲ属 1 点、メロン 1 点、ツルレイシ属 1 点、ユウガオ属 1 点、ヤマノイモ属 1 点、クズ属 1 点、またキュウリとメロンの混合種子 5 点であった。

現地での栽培特性等を調査するため収集したこれらのサンプルはラオスの農業研究センター (ARC) のジーンバンクにおいて生物研との共同研究による栽培試験を行うとともに、種子増殖

を行い保存する計画である。



Photo 1 *Sorghum bicolor* (1842/L1)



Photo 2 *Sorghum bicolor* (1844/L2)



Photo 3 *Sorghum bicolor* (1846/L3)



Photo 4 *Setaria italica* (1847/L4)



Photo 5 *Zea mays* (1848/L5)



Photo 6 *Cucumis sativus* (1853/L6)



Photo 7 *Cucumis sativus* (1857/L7)



Photo 8 *Cucurbita* sp. (1858/L8)

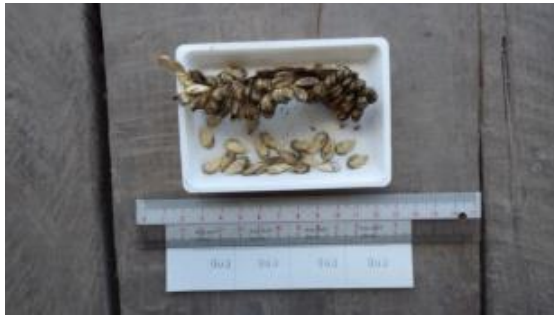


Photo 9 *Cucurbita moschata* (1860/L9)



Photo 10 *Amaranthus* sp. (1862/L10)



Photo 11 *Sorghum bicolor* (1913/L11)

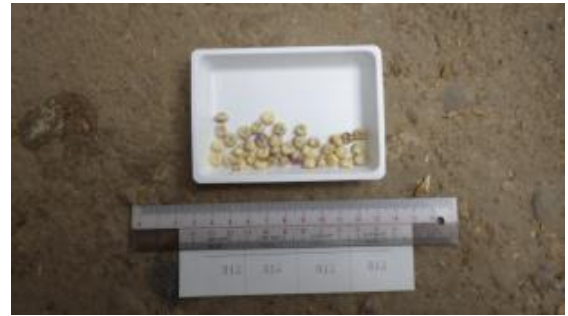


Photo 12 *Zea mays* (1914/L12)



Photo 13 *Zea mays* (1915/L13)



Photo 14 *Solanum melongena* (1919/L14)



Photo 15 *Cucumis sativus* (1920/L15)



Photo 16 *Cucumis sativus* (1921/L16)



Photo 17 *Lagenaria siceraria* (1924/L17)



Photo 18 *Lagenaria siceraria* (1925/L18)



Photo 19 *Cucurbita moschata* (1928/L19)



Photo 20 *Cucurbita moschata* (1929/L20)



Photo 21 *Vigna* spp. (1930/L21)



Photo 22 *Vigna unguiculata* (1931/L22)



Photo 23 *Vigna unguiculata* (1933/L23)



Photo 24 *Vigna unguiculata* (1932/L24)



Photo 25 *Capsicum annuum* (1934/L25)



Photo 26 *Capsicum annuum* (1938/L26)



Photo 27 *Sorghum bicolor* (1973/L27)



Photo 28 *Zea mays* (1975/L28)



Photo 29 *Zea mays* (1976/L29)



Photo 30 *Solanum melongena*
(1978/L30)



Photo 31 *Momordica charantia*
(1979/L31)



Photo 32 *Vigna unguiculata* (1980/L32)



Photo 33 *Vigna unguiculata* (1981/L33)



Photo 34 *Cucurbita moschata* (1983/L34)



Photo 35 *Cucumis sativus* (1984/L35)



Photo 36 *Cucumis sativus* and
Cucumis melo (1985/L36)



Photo 37 *Luffa cylindrica* (1986/L37)



Photo 38 *Benincasa hispida* (1987/L38)

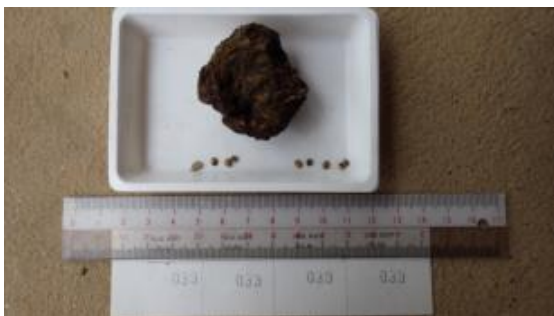


Photo 39 *Solanum melongena* (1988/L39)



Photo 40 *Solanum melongena* (1989/L40)



Photo 41 *Capsicum annuum* (1990/L41)



Photo 42 *Solanum melongena* (1991/L42)



Photo 43 *Coix lacryma-jobi* (1992/L43)



Photo 44 *Sesamum indicum* (1993/L44)



Photo 45 *Colocasia esculenta* (1994/L45)



Photo 46 *Dioscoreaceae* sp. (1995/L46)



Photo 47 *Colocasia esculenta* (1996/L47)



Photo 48 *Sorghum bicolor* (2022/L48)



Photo 49 *Zea mays* (2023/L49)



Photo 50 *Zea mays* (2025/L50)



Photo 51 *Coix lacryma-jobi* (2026/L51)

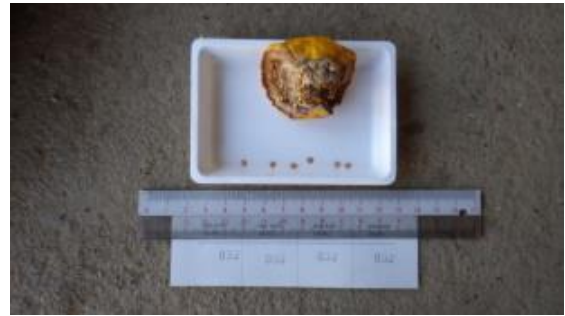


Photo 52 *Solanum melongena*
(2027/L52)



Photo 53 *Capsicum annum* (2028/L53)



Photo 54 *Solanum melongena*
(2029/L54)



Photo 55 *Vigna unguiculata* (2031/L55)



Photo 56 *Vigna unguiculata* (2033/L56)



Photo 57 *Cucurbita* sp. (2034/L57)



Photo 58 *Cucumis sativus* (2035/L58)



Photo 59 *Cucumis sativus* and
Cucumis melo (2036/L59)



Photo 60 *Cucumis sativus* (2037/L60)



Photo 61 *Vigna unguiculata* (2042/L61)



Photo 62 *Cucurbita moschata* (2043/L62)



Photo 63 *Cucurbita moschata* (2045/L63)



Photo 64 *Cucurbita moschata* (2046/L64)



Photo 65 *Cucurbita moschata* (2047/L65)



Photo 66 *Cucurbita moschata* (2049/L66)



Photo 67 *Lagenaria siceraria* (2057/L67)



Photo 68 *Lagenaria siceraria* (2058/L68)



Photo 69 *Lagenaria siceraria* (2059/L69)



Photo 70 *Vigna unguiculata* (2060/L70)



Photo 71 *Cucumis sativus* (2061/L71)



Photo 72 *Cucumis melo* (2062/L72)



Photo 73 *Citrullus lanatus* (2063/L73)



Photo 74 *Citrullus lanatus* (2064/L74)



Photo 75 *Luffa cylindrica* (2065/L75)



Photo 76 *Psophocarpus tetragonolobus* (2069/L76)



Photo 77 *Momordica charantia* (2070/L77)



Photo 78 *Sesamum indicum* (2071/L78)



Photo 79 *Solanum melongena* (2072/L79)



Photo 80 *Sorghum bicolor* (2129/L80)



Photo 81 *Sorghum bicolor* (2130/L81)



Photo 82 *Sorghum bicolor* (2131/L82)



Photo 83 *Sorghum bicolor* (2135/L83)



Photo 84 *Sorghum bicolor* (2136/L84)



Photo 85 *Sorghum bicolor* (2140/L85)



Photo 86 *Sorghum bicolor* (2141/L86)



Photo 87 *Cucurbita moschata* (2189/L87)



Photo 88 *Cucurbita moschata* (2190/L88)



Photo 89 *Cucurbita moschata* (2191/L89)



Photo 90 *Lagenaria siceraria*
(2192/L90)



Photo 91 *Benincasa hispida* (2195/L91)



Photo 92 *Lagenaria siceraria*
(2196-7/L92)



Photo 93 *Lagenaria* sp. (2198-9/L93)



Photo 94 *Cucurbita moschata* (2145/L94)



Photo 95 *Cucurbita moschata* (2146/L95)



Photo 96 *Coix lacryma-jobi* (2147/L96)



Photo 97 *Zea mays* (2158/L97)



Photo 98 *Zea mays* (2159/L98)



Photo 99 *Zea mays* (2160/L99)



Photo 100 *Zea mays* (2161/L100)



Photo 101 *Solanum melongena*
(2162/L101)



Photo 102 *Solanum melongena*
(2163/L102)



Photo 103 *Solanum melongena*
(2164/L103)



Photo 104 *Solanum melongena*
(2165/L104)



Photo 105 *Solanum melongena*
(2166/L105)



Photo 106 *Cucurbita moschata* (2167/L106)



Photo 107 *Capsicum annuum*
(2168/L107)



Photo 108 *Capsicum annuum*
(2169/L108)



Photo 109 *Cucumis sativus* (2170/L109)



Photo 110 *Cucumis sativus* and
Cucumis melo (2171/L110)



Photo 111 *Cucumis sativus* and
Cucumis melo (2172/L111)



Photo 112 *Luffa cylindrica* (2173/L112)



Photo 113 *Vigna unguiculata* (2174/L113)



Photo 114 *Vigna unguiculata* (2175/L114)



Photo 115 *Vigna unguiculata* (2176/L115)

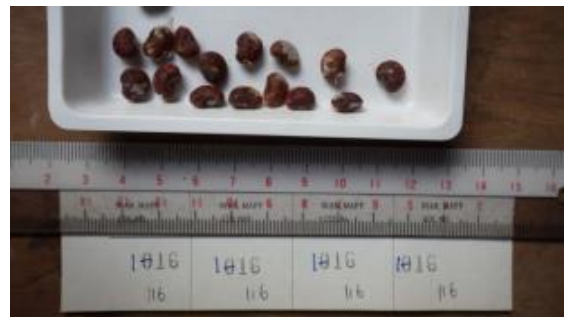


Photo 116 *Vigna unguiculata* (2177/L116)



Photo 117 *Vigna unguiculata* (2178/L117)



Photo 118 *Vigna unguiculata* (2181/L118)



Photo 119 *Sesamum indicum*
(2185/L119)



Photo 120 *Colocasia esculenta*
(2187/L120)



Photo 121 *Oryza sativa* (2222/L121)



Photo 122 *Sorghum bicolor*
(2123-4/L122)



Photo 123 *Sorghum bicolor* (2225/L123)



Photo 124 *Zea mays* (2228/L124)



Photo 125 *Zea mays* (2230/L125)



Photo 126 *Zea mays* (2232/L126)



Photo 127 *Sorghum bicolor* (2233/L127)



Photo 128 *Solanum melongena*
(2234/L128)



Photo 129 *Solanum melongena*
(2235/L129)



Photo 130 *Oryza sativa* (2236/L130)



Photo 131 *Zea mays* (2237/L131)



Photo 132 *Lagenaria siceraria*
(2238, 2246/L132)



Photo 133 *Cucurbita moschata* (2239/L133)



Photo 134 *Lagenaria siceraria*
(2240, 2245/L134)



Photo 135 *Cucurbita moschata* (2241/L135)



Photo 136 *Cucurbita moschata* (2242/L136)



Photo 137 *Cucumis sativus* (2243/L137)



Photo 138 *Cucumis sativus* (2244/L138)



Photo 139 *Momordica charantia*
(2247/L139)



Photo 140 *Sesamum indicum*
(2248/L140)



Photo 141 *Luffa cylindrica* (2249/L141)



Photo 142 *Vigna umbellata* (2250/L142)



Photo 143 *Vigna unguiculata* (2251/L143)



Photo 144 *Oryza sativa* (2291/L144)



Photo 145 *Sorghum bicolor* (2134/L145)



Photo 146 *Sorghum bicolor* (2320/L146)



Photo 147 *Sorghum bicolor* (2321/L147)



Photo 148 *Sorghum bicolor* (2323/L148)



Photo 149 *Oryza sativa* (2324/L149)



Photo 150 *Oryza sativa* (2325/L150)



Photo 151 *Oryza sativa* (2326/L151)



Photo 152 *Zea mays* (2327/L152)



Photo 153 *Zea mays* (2328/L153)



Photo 154 *Capsicum annuum*
(2329/L154)



Photo 155 *Citrullus lanatus* (2333/L155)



Photo 156 *Cucumis sativus* (2334/L156)



Photo 157 *Cucumis sativus* (2335/L157)



Photo 158 *Cucurbita moschata* (2336/L158)



Photo 159 *Cucurbita moschata* (2337/L159)



Photo 160 *Vigna umbellata* (2338/L160)



Photo 161 *Vigna unguiculata* (2339/L161)



Photo 162 *Lagenaria siceraria* (2340/L162)



Photo 163 *Luffa cylindrica* (2341/L163)



Photo 164 *Momordica charantia*
(2342/L164)



Photo 165 *Colocasia esculenta*
(2344/L165)



Photo 166 *Colocasia esculenta*
(2345/L166)



Photo 167 *Sorghum bicolor* (2425/L167)



Photo 168 *Sorghum bicolor* (2426/L168)



Photo 169 *Oryza sativa* (2428/L169)



Photo 170 *Oryza sativa* (2430/L170)



Photo 171 *Zea mays* (2431/L171)



Photo 172 *Zea mays* (2433/L172)



Photo 173 *Solanum melongena*
(2434/L173)



Photo 174 *Capsicum annuum*
(2435/L174)



Photo 175 *Cucurbita moschata* (2436/L175)



Photo 176 *Cucumis sativus* (2439/L176)



Photo 177 *Cucurbita* sp. (2440/L177)



Photo 178 *Vigna unguiculata* (2441/L178)



Photo 179 *Luffa cylindrica* (2442/L179)

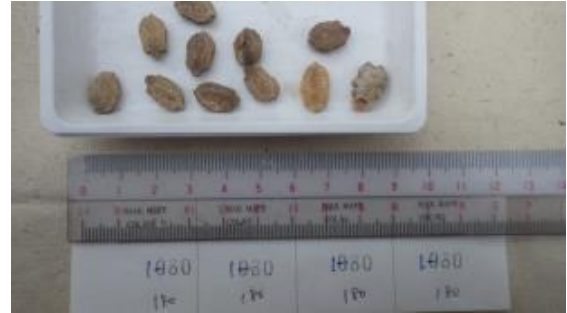


Photo 180 *Momordica charantia*
(2443/L180)

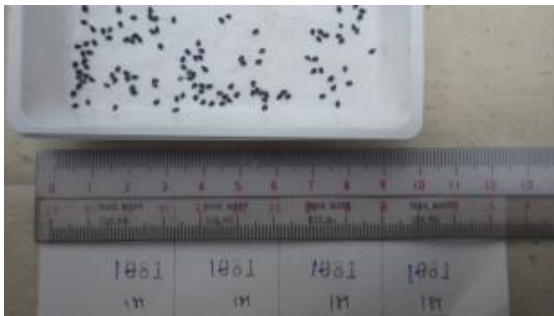


Photo 181 *Sesamun indicum* (2444/L181)



Photo 182 *Momordica* sp. (2445/L182)



Photo 183 *Pueraria* spp. (2446/L183)