

**KA THUP
JINGHIKAI
TM 04 K 11/04**

**KA JINGREP
SIEJ**



NATIONAL MISSION ON BAMBOO APPLICATIONS (NMBA)

Technology Information, Forecasting, and Assessment Council (TIFAC)

Department of Science and Technology, Government of India.



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Ia ka National Mission on Bamboo Applications (NMBA - Ka mishon ri kaba iadei ha kaba peit ia ka rukom pyndonkam ia u siej ha ka ri) la pynkhreh da ka Department of Science and Technology (DST - Ka tnat jong ka saian bad ki buit pyntreikam) jong ka Sorkar India. La sdang ia kane ka mishon da ka Technology Information, Forecasting and Assessment Council (TIFAC), ia kaba la pynkhamti ban pynkhie im thymmai biang ia ka phang ba dei ban bud ban pynroi ia u siej ha ba bun ki liang. Ka kyrshan da kaba kyntiew ia ki buit pyntreikam bad pynroi ia ka bor trei kam ba la bud ha ki jaka ba pher bad la ki lad trei kam, bad ban pyniaid ia ki jingpynmih ha ki iew ki hat ; ban pynbiang ia ka rynsan ban iaphylliew jingmut ia ki buit thymmai, bad pynrung ia ka jngsynrop bad jingiatreilang hapdeng ki tnat bapher bad ki nongiasnoh kti kiba pher ha kane ka kam.

Ki hok kiba don ha kane ka kitab kot ki dei ki jong u nongpynmih. Ym lah ban pynmih shuh shuh ne pynkylla ha kiwei pat ki rukom, da kano kano ka lynti, khlem da ioh jingbit na u nongpynmih.

La pynmih da ka
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Technology Information, Forecasting and Assessment Council (TIFAC)
Department of Science and Technology (DST)
Government of India

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KA 'TIEN LAM KHMAT IA KA JINGPYNKYLLA SHA KA KHASI

KA JINGDON BAD JINGBUN KI siej kiba tap palat ia ka khatsaw na ka shispah bynta (14 %) jong ka sla khyndew jong ka jylla Meghalaya ka donkam ka rukom pyniaid bad jingpyndonkam kaba biang khnang ba ka jingmyntoi kan kyntiew ia ka ioh ka kot bad plie lad ha kaba ai kam ai jam ia kiba bun. Da ka jingshimkhia ka Sorkar Kmie, ki tnat treikam kiba pher ki jong ka bad kiwei pat ki seng bei pisa, la lah ban pynmih katto katne ki skhim na ka bynta ban kham pynroi shibun na ka liang u siej ha kane ka ri. Da ka jingiai wad bniah la lah ban tip ia ki buit ban kham pynroi bha ia ki siej, ban thung ban khet, ban shna bad nang kham pynbha ia ki mar ba mih na ki siej bad da ka jingkyntu ia ki nongtrei kiba pher bad kiwei pat ki nongshim bynta ha kaba pyndonkam ia ki pisa na ki skhim ba pher ban pynkiew ia ka ioh ka kot.

Ka National Mission on Bamboo Application (NMBA) ka la dep pynmih bun ki kitab jinghikai kiba kynthup ia ki mat kiba donkam ha kaba pynmih bad pyndonkam na ka liang ki mar siej. Ban kham pynioh jingmyntoi ha kaba pyndonkam ia ki kitab jinghikai ki ban plie lad ia ki nongrep bad ki nongtrei sorkar ha ki kyrdan kiba kham harum ban kyntiew ia ka jingthung bad jingpyndonkam ia ki siej, la sngew donkam ban pynkylla sha ki ktien kiba pher bad ba kham kongsan ba ju kren da kiba bun ki briew jong ki jylla kiba pher ka ri India. Kane ka kitab jinghikai ba la thoh mynta ka dei kaba nyngkong na ki kitab ki ban mih ter ter hadien ki ban pynmih ha ka ktien Khasi ba kren da bun ki briew ha ki thain Khasi bad Jaintia ha ka jylla Meghalaya.

Don bun ngut ki briew kiba la noh synniang ha kaba la pynkylla ia kane ka kitab jinghikai sha ka ktien Khasi. Ngam lah ban ia id lait ia ka jingsngewnguh ia u V.S.Oberoi, Principal Secretary jong ka Government Meghalaya uba la ai mynsiem bad pyni lynti ha man ki khep kiba donkam ia ka jingiarap ka jong u bad kumjuh ia u V.K.Nautiyal, Principal Chief Conservator of Forests, Meghalaya. Ia ka jingpynkylla na ka ktien English sha ka Khasi la leh da I H.Lato, Assistant Conservator of Forests, ia kaba la pynbha shuh shuh da u R.Shullai, Conservator of Forests (Research & Training), kiba la pynlut por khnang ha ka ban pynkylla ia kane ka thup jinghikai nalog ki kam ba la bynshet ha ki. U H.C.Chaudhury, Planning Officer u la pynlut por khnang da ka jingtrei shitom ka jong u ha kaba pynwan dur pynwan dar bad ka jingshim khia ka jong u ban pynmih ia kane ka kitab jinghikai.

Nga kyrmen ba kane ka thup jinghikai kan plie lad plie lynti ia kiba bun ki nongrep bad kito ki khun samla ka bri u Hynniew Trep kiba kwah ban rep bad pyrshang ban kamai ja kpoh na kaba rep bad pynmih ia ki tiar siej.

Clement Budnah

Chief Conservator of Forests (Territorial & Social Forestry)

Forests & Environment Department, Government of Meghalaya. ■

KA JINGSGEWN GUH



IA KANE KA THUP KOT LYNGKDOP kaba ai jinghikai la pynmih da ka jingai jingmut lem jong bun ki riewstad pyrkhat. La pynmih ia ka hadien ka jingpeit bniah halor ki rukom thung siej kiba kham bha.

Ia ka jinglam lynti ba kham kyrpang la ioh shibun na ka "Mission Advisory Committee" jong ka NMBA. Kiba kham paw khmat napdeng kine ki long kum U Sudeer K. Pandey bad Dr. A. C. Lakshman kiba la iamir jingmut lang halor ka phang ka jingpynroi bad ka rukom thung ia ki siej. Kine ki rangbah ki la ia kynduh haduh lai sien lai wat naduh u bnai May, 2003 haduh July, 2004 ha Delhi, Peechi bad Pantnagar. Kine ki stad pyrkhat ki la pynbit pynbiang bad buh ryntih ia ki jinglum jingtip bad jingthoh baroh.

Ka jinglum jingtip ha kaba iadei bad ki jait siej ba kyrpang la pynkhreh da kine ki riewstad kum u Dr. H. B. Naithani, Consultant, Forest Research Intitute (FRI), Dehradun, Kushwant Singh Sethi, The Energy and Resources Institute (TERI), Delhi, Dr. K. Haridasan and L. K. Bhuyan, State Forest Research Institute (SFRI), Itanagar, Prof. K. V. Devar, College of Forestry, Sirsi, Dr. K. Seethalakshmi, Kerala Forest Research Institute (KFRI), Peechi, Vinod Bhatla, FRI, Dehradun and S. Pattanaik, Scientist, Rain Forest Research Institute (RFRI), Jorhat.

Kine ki riewstad hadien ba ki la peit bad pule bniah ia ki jingthoh lum jingtip baroh, ki la tei shuh shuh ia ki jingtip ba kham bniah.

Nangta U Dr. S. Sarma u la pule bad peit bniah ia kitei ki jingthoh bad u la nang iai tynrong shuh shuh ia ki thup jingtip. U Prakash Lohia u la bynrap shuh shuh ia ki jingtip ba kham bniah halor ka nongrim kaba u la lap dalade hi ia ka rukom thung siej kaba u la leh ha Garh Mukteshwar (Uttar Pradesh).

Ha kaba khatduh ka kynhun jong ka NMBA kaba kynthup ia u (Suneel Pandey, Deepti Dabas bad V. S. Oberoi) ki la lah ban wanrah ia baroh khoit ki jingthoh bad la pynmih ha kane ka thup jinghikai.

U Indira Chandrashekhar u la pynbit pynbiang ia kane ka jingthoh ba la shon katba u Mugdha Sethi pat u la pynbeit ia ki rukom buh jingthoh. Ia ki dur pat la iarap da u Dr. S. Pattanaik, Dr. Sanjay Saxena, Khushwant Singh Sethi and Dr. Muktesh Kumar jong ka KFRI, Peechi. ■

KI 'TIEN LAMPHRANG



IA KANE KA KOT LYNGKDOP thup wad jingtip ka la nang ai shibun ki jingtip halor ka rukom thung bad sumar ia ki khlaw ki siej khamtam ia ki jait siej ba mih rynjup (*sympodial bamboo*) kiba ju shem kynrei ha ri India. Kane ka kot ka batai kham bniah halor ka rukom thung siej ha ki jaka ba ngi thung hi (*plantations*).

Ka don ka jingkyrmen ba kane ka kot lyngkdop kan iarap ban ai mynsiem ia kiba thung siej kham bun, bad kan long ka rynsan ban nang pynkiew ia ka jingmih ki mar ba shna na u siej ha ka ri bad ki ing. Ka jingpynbun ban thung ia ki jait siej kiba bha bad ka jinglah ban pyniaid iew kan pynmih ia ki jingshna ba bun jait.

Ka la don ka jing annud ba kham bha ha kaba thung bad pyndonkam ia u siej na ka bynta ka jing pynmih ia ki tiar ba thymmai bad ka jingpyndonkam ia ki. Ia kane la nang pynkhlain shuh shuh lyngba ka jingwad jingtip ba kham bniah kynthup ruh ia ki jaka kiba u siej u don ne u long.

Bun ki jaka pule, don napdeng jong ki kiba ioh ia ka jingiarap na ka NMBA ki la ia id shakhmat ha kaba pynleit jingmut ban thaw ne wad lad wad lynti ia ki rukom thung ba kham bha bad ba wan rah jingmyntoi. Ka jingmyntoi na kine ki jingwad bniah yn sa lap shen ha ki snem kiban wan ynda ka la shat jingmut shuh shuh ha ki nongrep.

Ha kajuha ka por, ka la don ka jingdawa kaba jur ia u siej ha ki iew ki hat. Bun na ki nongpyndonkam ki la kham nang jied ia ki jait siej ba kyrpang, ba kham bha bad ba la iaw bad bunsien kin ym sngew eiei ban siew ha kano kano ka dor lada ka urlong ia ka jingkwah jong ki.

Kine ki dak ki shin kiba pynshlur ban ialam sha ka jingngeit ba u siej u dei shisha u mar sdang na ka bynta ka lawei. Kane ka ki kitab jinghikai ka dei ka lynti jam shakhmat na ka bynta ban thung siej ba paka. ■

Vinay Sheel Oberoi

Mission Director

National Mission on Bamboo Applications

November 2004



KA JINGLAMKHMAT

La ioh lum jingtip ba ka ri India ka wan ba ar ha pyrthei ha ka jingbun u siej. U tap haduh kumba 10 million hectare ki jaka ha ki khlaw. Nalor kata, ia u siej la thung ruh da ki riew shimet ha ki kper ki phrah bad ha ki jaka shnong. Ha ri India u long ha ki bun jait ki jaka, naduh ki jaka kiba don harud duriaw haduh ki jaka kiba don ka jingjrong kynjang kumba 3000 meters na sla duriaw. Ha ki 1500 jait ki rukom jingpyndonkam ia u, u iadei ha ki bun ki bynta bad ha kiba bun ki jaka.

Ha kine ki khyndiat snem ka la don ka jingkiew ha ka jingkwah ban thung ia u siej na ki kharkhana ha kaba shna tiar na ka bynta ka jing pyniaid iew bad ka jing donkam ha ka jingshna kti. Ka jing lah ban thung kham bha ia ka rukom thung ia u siej ka wanrah ban pyniaid iew ia ki lung siej da kito kiba nang ban shna lung bam. Ki nong thung siej ha ki kper lajong ki la lah ban pyni ia ki jingmyntoi ba ki ioh na ka thung siej da kaba bud ia ki rukom thung bad sumar jong ka juk mynta. Ka jingsngewthuh ba kham bha ha ka rukom pynneh pynsah ia ka mariang ka wanrah ruh ia ka jingithuh ia u siej kum u wei na ki jignthung u ban rah jingmyntoi khlem da pynsniew ia ka mariang. Ka jingduna bad rem dor jong ki dieng kiba ngi ju pyndonkam ha kiba bun ki liang ka pynlong ba u siej un mih pli ha ki jaka jong ki, na ki daw ba u siej u klo i ban heh ban san, u don ka jinglong ba khlain bad ba lah ban pyndonkam ha kiba bun ki liang. Kane ka wanrah ia ka jingiaid iew jong u ha baroh ki liang. U dei ka jingmyntoi ia ka ioh ka kot bad wanrah ia ka ioh kam ioh jam khamtam ha ki jaka ba long sahdien bad hapdeng ki shnong ba dang duna ka ioh ka kot.

Kane ka kot lyngkdop ka ai jinghikai ia uba bun uba lang ha ka rukom thung bad sumar ia ki jait siej ha ri India ki ban kyntiew ia ka ioh ka kot. Ka pynsngewthuh/kdew ia ka jinglah ban pyniaid iew da kaba thung bad sumar kham bun ia u siej. Ka jingthmu ha kane ka kot lyngkdop ka long ban pynshlur ha ka ban thung ia u siej ha ka rukom ba lah ban pyniaid iew khamtam ha ki jaka kiba lait na ka rep ka riang bad jaka ba ieh shrah. ■



KI SIEJ KIBA IAID IEW HA RI INDIA



Bambusa balcooa

Ka jait jaka ba u long bad jingsaphriang: Ha Bihar, Jharkhand, thain shatei lam mihngi, Uttaranchal bad West Bengal.

Ki kyrteng tynrai ha la ki jaka bapher: Bhaluka (Assam); Balku bans, Boro bans (West Bengal); Wamnah, Beru (Garo Hills, Meghalaya), Barak (Tripura); Leewa (Manipur).

Ka rukom long kaba phuh syntiew: U phuh syntiew shisien phuh hynrei tang shi jaka hangne hangtai: ka jingphuh kam pynmih symbai.

Ka jingpud ha ka jingphuh syntiew - 35-45 snem.



Bambusa bambos

Ka jait jaka kaba u long bad jingsaphriang: Lajan baroh kawei ka ri.

Ki kyrteng tynrai ba ju khot ha la ki jaka bapher: Kotoha (Assam); Behor bans (West Bengal); Illi, Mula, Pattill (Kerala); Kanta bans (Orissa).

Ka rukom long haba phuh syntiew: U phuh syntiew shisien phuh lajan baroh ki jaka bad tang shi jaka hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 40-60 snem.



Bambusa nutans

Ka jaka ba u long bad jingsaphriang: Himachal Pradesh, ka thain shatei lam mihngi ka India, Orissa, Sikkim, Uttar Pradesh bad West Bengal.

Ki kyrteng tynrai ba ju khot ha la ki jaka bapher: Bidhuli, Mukia (Assam); Malla (Uttar Pradesh); Mallo, Mahi bans (Sikkim: Lepcha); Badia bansa (Orissa); Kali, Beng, Makla (Tripura); Uttang (Manipur); Rungazumi (Nagaland).

Ka rukom long haba phuh syntiew: Phuh syntiew tang hangne hangtai, bad teng khat shisien phuh la jan baroh ki jaka.

Ki jingpud ha ka jingphuh syntiew: 35 snem.



Bambusa pallida

Ka jaka ba u long bad jingsaphriang: Sikkim, ka thain shatei lam mihngi ka India bad West Bengal.

Ka kyrteng tynrai ha la ki jaka bapher: Bakhal, Burwal (Assam: ka them Barak); Loto (Assam: Karbi-Anglong); Seskien, Tneng, Uskhen (Meghalaya: Khasi Hills); Tesero, Watoi (Nagaland); Pashipo, Pushee (Sikkim: Lepcha); Makaal (Tripura)

Ka rukom long haba phuh syntiew: Phuh syntiew shisien phuh la jan baroh ki jaka.

Ka jingpud ha ka jingphuh syntiew: 40 snem.



Bambusa polymorpha

Ka jaka ba u long bad jingsaphriang: Assam, Arunachal Pradesh, Madhya Pradesh, Meghalaya, Tripura, West Bengal.

Ki kyrteng tynrai ha la ki jaka bapher: Jama betwa, Betwa (Assam, West Bengal); Narangi bans (Madhya Pradesh); Bari (Tripura)

Ka rukom long haba phuh syntiew: Phuh shisien phuh lajan baroh ki jaka / phuh shijaka tang hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 55-60 snem.



Bambusa tulda

Ka jaka ba u long bad jingsaphriang: Bihar, Jharkhand, Kerala, ka thain shatei lam mihngi ka India, Orissa, Sikkim bad West Bengal.

Ki kyrteng tynrai ha la ki jaka bapher: Jati (Assam), Arunachal Pradesh, Nagaland, West Bengal); Kiranti (Bengal: Dooars); Wati (Meghalaya: Garo Hills); Makar (Kerala); Mirtinga (Tripura); Rawthing (Mizoram); Paoshiding, Ying (Sikkim); Deobans (Bihar).

Ka rukom long haba phuh syntiew: Phuh syntiew shisien phuh la jan baroh ki jaka bad teng khat shijaka tang hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 30-60 snem.



Bambusa vulgaris

Ka jaka ba u long bad jingsaphriang: Aarunachal Pradesh, Assam, Bihar, Madhya Pradesh, Manipur, Mizoram, Orissa, Tripura, West Bengal.

Ka kyrteng tynrai ha la ki jaka bapher: Basini bans, Bakal (Bengal); Lam Sameibi (Manipur); Vairua (Mizoram); Sundrogai, Sunderkania bansa (Orissa); Ketuna (Assam: them Barak)

Ka rukom long ha ka por phuh syntiew: Kham niar ka phuh syntiew shisien phuh bad ym ju long symbai.

Ka jingpud ha ka jingphuh syntiew: Palat ia ka 80 snem.



Dendrocalamus brandisii

Ka jaka ba u long bad jingsaphriang: Andamans, Karnataka (Coorg), Kerala, Manipur, West Bengal.

Ka kyrteng tynrai ha la ki jaka bapher: Bulka (Bengal); Wanan (Manipur).

Ka rukom long ha ka por phuh syntiew: Phuh syntiew shisien phuh ha bun ki jaka/phuh shijaka bad tang hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 40-45 snem.



Dendrocalamus giganteus

Ka jaka ba u long bad jingsaphriang: Karnataka, ka shatei lam mihngi ka ri India, Sikkim, Uttaranchal, West Bengal.

Ka kyrteng tynrai ha la ki jaka bapher: Maipo (Arunachal Pradesh: Khamti); Worra (Assam); Ketuna (Assam: them Barak); Bhalo bans (Sikkim); Maribol (Manipur).

Ka rukom long ha ka por phuh syntiew: Phuh shijaka bad tang hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 40-80 snem.



Dendrocalamus hamiltonii

Ka jingsaphriang: Bihar, Himachal Pradesh, ka thain shatei lam mihngi ka ri India, Orissa, Sikkim, Uttaranchal, West Bengal.

Ka kyrteng tynrai ha la ki jaka bapher: Kako (Assam: Karbi-Anglong); Pecha (Tripura, West Bengal); Tama (West Bengal: Darjeeling); Unep (Manipur); Wanoke (Meghalaya: Garo Hills); Pao (Sikkim: Lepcha); Phulrua (Mizoram); Maggar (Himachal Pradesh).

Ka rukom long ha ka por phuh syntiew: Phuh syntiew shisien phuh ha bun ki jaka/phuh shijaka bad tang hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 30-40 snem.



Dendrocalamus strictus

Ka jaka ba u long bad jingsaphriang: U kynrei ha man ki jaka ka ri; dang pynrung thung thymmai ha ki bynta shatei lam mihngi ka India.

Ka kyrteng tynrai ha la ki jaka bapher: Kanka kara, Sandapa veduru (Andhra Pradesh); Karal (Bengal); Nakur bans, Kiri bidiru (Gujarat); Kallanmula, Kurathimula, Korna (Kerala); Narvel (Maharashtra); Salia (Orissa); Kalmungil (Tamil Nadu).

Ka rukom long ha ka por phuh syntiew: Phuh syntiew shisien phuh la jan baroh ki jaka/phuh shijaka bad tang hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 25-45 snem.



Melocanna baccifera

Ka jaka ba u long bad jingsaphriang: Assam, Manipur, Mizoram, Nagaland, Tripura bad West Bengal.

Ka kyrteng tynrai ha la ki jaka bapher: Mautak (Mizoram); Tarai (Assam: them Brahmaputra); Arten (Assam: Karb-Anglong); Muli (Bengal, Tripura, Assam: them Barak); Watrai (Meghalaya: Garo Hills); Moubi (Manipur); Turiah (Nagaland).

Ka rukom long ha ka por phuh syntiew: Phuh syntiew shisien phuh ha bun ki jaka, kham niar shijaka.

Ka jingpud ha ka jingphuh syntiew: 30-35 snem, 45 bad 60 snem.



Ochlandra travancorica

Ka jaka ba u long bad jingsaphriang: Karnataka (shatei), Kerala, Tamil Nadu.

Ka kyrteng tynrai ha la ki jaka bapher: Eera, Eatta, Earakalli, Kreetta, Oda (Kerala); Odai (Tamil Nadu).

Ka rukom long ha ka por phuh syntiew: Phuh syntiew shisien phuh ha bun ki jaka.

Ka jingpud ha ka jingphuh syntiew: 7-15 snem.



Oxytanathera stocksii

Ka jaka ba u long bad jingsaphriang: Goa, Karnataka (arsut ka rud duriaw Konkan); Kerala (shatei), Maharashtra.

Ka kyrteng tynrai ha la ki jaka bapher: Konda, Oor-shema (Karnataka); Uyi, Mula (Kerala); Chivari, Mes (Maharashtra).

Ka rukom long ha ka por phuh syntiew: Phuh syntiew shisien phuh ha bun ki jaka; hynrei ym don symbai.

Ka jingpud ha ka jingphuh syntiew: 40-45 snem.



Schizostachyum dullooa

Ka jaka ba u long bad jingsaphriang: Ha ki thain shatei lam mihngi ka ri India.
Ka kyrteng tynrai ha la ki jaka bapher: Dolo (Assam, Nagaland, Tripura);
 Toluwa (Manipur); Rawthla (Mizoram).

Ka rukom long ha ka por puh syntiew: Puh syntiew shisien puh ha bun ki
 jaka/tang shijaka hangne hangtai.

Ka jingpud ha ka jingphuh syntiew: 30-45 snem.



Thyrsostachys oliveri

Ka jaka ba u long bad jingsaphriang: Manipur, Tripura.

Ka kyrteng tynrai ha la ki jaka bapher: Kanak kai (Tripura); Keirakwa
 (Manipur).

Ka rukom long ha ka por puh syntiew: Puh syntiew shisien puh bad ha bun
 ki jaka.

Ka jingpud ha ka jingphuh syntiew: 48-50 snem.



Dendrocalamus asper

Ia une u siej ba wan rah na Thailand ha kaba sdang jong ki snem 1990, la thung
 ha bun ki jaka ha ri India kum u jingthung kper (plantations)

U puh syntiew shisien puh ha bun ki jaka halor ka jingpud kumba 100
 snem.

Ki lung siej ki dei kiba don dor bad ka don ka iew ka hat ia kine ki lung hadien
 ba la pynneh bha ia ki.

Ki tang ki biang ban shna jingshna ha bun ki rukom. ■

U SIEJ



U SIEJ U DEI U JAIT PHLANG U BA JRONG, u ba san kloï bad ba long u kynja jingthung uba jrong. U don ar ki bynta ki ba ia syriem, ka bynta kaba don shapoh khyndew bad kawei pat kaba mih shalor khyndew.

- 1 U ba mih shalor khyndew u kynthup ia ki kynja tyndong ba pyndait lang ter ter u wei halor u wei pat u ba jrong bad la khot u tang siej (*culm*) bad ki tnat kiba pyiar shabar jong u met bah ki ba saphriang da pynkiang.
- 2 Uba shapoh khyndew pat u long u kynja met ba don ki thied bad ki shylluid ba sei lung uba khot u tyllong (*Rhizome*).

KI TYNRAI SIEJ

Kine ki don arjaid, uwei uba long marwei bad u wei pat u long shi lynnong ne rynjup ne kynhun. U "Lympung siej" (*clump*) u don shi jaka ki tang ba mih kynhun. Ki siej ba mih kynhun shi jaka (*Sympodial bamboos*) ki mih kynrei ha ki jaka shit (*tropical areas*) kum ka ri India. Ki siej ki bym mih kynhun shi jaka ne ki siej ha kaba ki tang ki mih kham jngai uwei na uwei pat ki kham bun tang ha ki thain kiba syaid.



Ki katto katne ki siej kum u *Dendrocalamus strictus* bad u *Oxytenanthera stocksii* wat la ki lung shapoh haba kyllum, ki long kiba dap ne tylli ki tang ha jinglong rkhiang.

Ka lynnong kynhun siej ka sdang mih nyngkong na u symbai ne bynta tynrai ne jingthung barit bha (*plantlet*) ne bynta uwei pat u lynnong ba la khet ne la bynta ban pynlong kum u bynta sdang ban pynroi.

U lypung kynhun u kylla iaw hapdeng 4-6 snem. Man la u snem u pynmih ia ki tang kiba kham heh ki bynta met, kata ha ka jingjriong bad ka kynnian. Ki lynnong siej ki mih khapngiah (kum ha u *Dendrocalamus hamiltonii*, *Bambusa tulda*) bad bun ki tang kiba ia jan bha ka jingjingai ne kham long kylluid ka jingjingai ki tang (kum ha u *Bambusa vulgaris*, *Oxytenanthera stocksii*) hynrei ba la ithuh ki rynjup/lympung.

U TANG SIEJ

U siej u long thylli ne lung hapdeng kum u tyndong bad u nang rit pat sha kliar. Kane ka dei ka jinglong ba paw bha ha u siej, bad ka dei ka bynta ba shait pyndonkam bad ba iaied iew bha.

U siej u mih na khyndew kum u siej lung bad u sdang heh kloie bad u kylla eh ne tang siej haduh ba un da kot sha ka jing heh jingsan ba pura tang hapoh 80 – 110 sngi. U long iaw pat ha ka snem kaba saw bad ka dei artat ka por ba u la don ka jingkhlain ba pura. Hadien ka snem kaba san pat u kylla tlot bad kylla shroiñ.

Kiba bun hi ki siej ki long rong jyrngam. Wat la katta ruh don hi ki siej ki ba long rong iong, stem rong sarang bad saw byriong. Ki don ki jait siej kiba thoh pan da ka rong jyrngam ne stem. Kiba bun hi ki jait siej ki don ki jingkylla ha ka rong katba ki nang iaw ka rta.

U jait siej uba long uba jriong duh ha ka pyrthei u dei u *Dendrocalamus giganteus*, kaba u tang u lah ban jriong kumba 25-30 meters. Ha Arunachal Pradesh don uwei u tang siej ba la thew bad lap ba u jriong palat ia ka 46 meters.



SIEJ LUNG

U siej lung u dei u ba pynmih ia u tang siej. U mih na ki shylluit jong u tynrai thied bah ba don hapoh khyndew. Ynda u siej lung u la mih shalor khyndew, u la don lypa ki mat bad ki pungmat bad la sop ia u da ka kop siej. Shisien ba u la mih napoh khyndew u mih shajrong. Ki symboh jingbam ba don hapoh ki pynlong ia u ban heh kloï bad ban long siej bah.

Ka shim por 80-105 sngi ban ioh ia ka jingjrong kaba paka ia kito ki tang siej ba mih shi lynnong. U tang jong u siej *Dendrocalamus giganteus* u shim por haduh 90 sngi ban kot sha ka jingjrong kaba 30 metres, kata u sei jrong kumba 30-35 centimetres ha ka shisngi. Ka jingjrong kam long ryntih; ka don ka por ba u mih stet bad don ka por bym jrong ei ei haba ianujor. Ha ka por ba u siej u sei jrong kham stet ka dei ka por mynmiet ha kaba u tang u lah ban sei jrong haduh 5-7 centimetres ha ka shikynta.



KI MAT BAD KI PUNGMAT

Ia u thiedbah, u tang siej bad ki tnat jong u siej la bynta da ki mat ba eh bad dap doh. Kine ki dei ki bynta ba kongsan ba pynlong ia u siej ba un seilung biang bad ban nang heh shuh shuh.

Ka bynta hapdeng ar tylli ki mat ki khot ka pungmat. Ki pungmat kham bunsien, ym barabor, ki long tyndong bad lung. Ia ki la sop da ki kop siej (*sheaths*) ha ka por ba dang lung bad hap noh ynda ki la iaw. Ka jingjrong jong ki pungmat ka iapher ha u wei u jait siej na u wei pat bad barabor ka jingjrong ka long hapdeng 5cm haduh 60cm. Kine ki pung ki khamjrong sha trai bad ki duna ka jingjrong pat sha kliar.





KI SHYLLUIT BAD KI TNAT

Ki mat jong u siej ki pynmih ia ki shylluit tnat bad ki tnat ki don ruh ki mat shuh shuh bad mih mar kyliang na kynriang u tang. Ka jingdon jong ki shylluit ha ki mat ka don ka jingiadei bad ka jingmih ne jing don ki tnat. Ki don ruh ki shylluit ha u thied bah ki ba mih shalor jong ka khyndew ban pynlong ia ki tang.

U TYLLONG SIEJ

Ka jingbun ka jingdon ka bynta u siej (tang) ka jan long kumjuh shabar bad shapoh ka khyndew. Katba nangiaid ka por, ki tyllong bad ki thied jong u jingthung ki pynlong ia ka jar trai kam ka baiar bad ka bym khih hapoh khyndew. Ha ki jaka thung siej ba la pura bha, ka jingkhia jong ki tyllong ka lah ban long haduh 100 ton ha ha shi hectar.

U tyllong u dei u bynta u ba don shapoh khyndew jong u siej. U long u bynta ba donkam eh jong u jingthung. U heh u san bad pyiar hapoh khyndew khyndiat eh ha sla khyndew, u bat ia u tynrai bad u phriang ban pynheh jaka da pynkiang ha khyndew. U dei u bynta ba pynlang bam, ka ban iarap ia u siej ha kaban pynheh pynsan bad pynroi.

U tyllong u kynthup ruh ia ki mat kiba pynmih ia ki thied rit ki ban kjit bam bad ki shylluit kiba pynmih ia kiwei pat ki thied bah shapoh khyndew, nangta kiba sei pat shalor khyndew ki ban pynmih ia ki siej lung. Ka jingiapher na u mat jong u tang na ki mat u tyllong ka long ba u tyllong u shah sakih hapoh khyndew. Kumba long ha u tang siej, ia ki mat jong u tyllong la iada da ki kop (*sheaths*).



Ki don ar jait ki tyllong:

- Kiba pynmih ia ki siej ki ba rynjup- *Pachymorph (Sympodial)*.
- Kiba pynmih tang u wei u siej kiba long da pynkiang ha khyndew - *Leptomorph (Monopodial)*

Bun na ki jait siej ba don ha ri India ki dei kiba pynmih ia ki siej ki ba rynjup.

Don pat ki jait siej kiba u tyllong (*thied bah*) jong ki u lah ban pynmih baroh artyli kitei ki jait siej ia kiba la khot *Amphipodial* Rhizome.



KI THIED

Ki thied rit ki pynskhem ia u siej ha khyndew, ki iarap ha kaba tan um na khyndew sha kiwei ki bynta jong u jingthung. Ki mih na ki mat (*nodes*) jong u tyllong bad na ki mat jong u siej u ba mih ne daitnah bad ka khyndew. Ha ki katto katne ki jait siej, ki thied ki mih shalor khyndew.

Kham bunsien ki thied jong u siej kumba 75 - 85% ki don ha ki bynta ba shalor jong ka syrtap khyndew hajan sla, ha ka jingjylliew kaba tang 35 cm. Kham niar ban shem ba ki thied kin palat ia ka shi metre shapoh jong ka sla khyndew.



KI SLA

Ki tnat jong u siej ki pynmih ki sla kiba pyndonkam ha ka ban shna jingbam ia u jingthung. Ki sla ki iada ruh ia u jingthung na u slap bad u thah.

Kham bun na ki siej ki pynmih sla bun bah bad ha kajuh ka por ki hap pat man u snem bad ha ka jaka ba ki sla ki hap, ki tap ia ka sla khyndew bad pynlong sboh da ka jing pyut jong ki. Ki sla ki long ruh ki jingbam ba kongsan ia ki masi ki blang.

KI SYNTIEW BAD KA JINGPHUH SYNTIEW KI SIEJ

Ki syntiew u siej ki ia pher uwei na uwei pat ha ka rong, ka jingheh bad ha kiwei kiwei de ki jinglong. Ki syntiew ki mih na ki sla ba kham kyrpang ba la jied ne pynlong ban pynroi. Ka jingphuh syntiew jong u siej ka long ka ba ym pat lah ban sngewthuh bha. Ka daw ba ym pat lah ban shemphang ia kane namar ba u siej um ju phuh syntiew thikna bad hadien bun bun snem.

Ka aiom phuh syntiew jong u siej ka lah ban long shisien shi snem ne shisien ha ka shispah snem. Ki don ar jait ki rukom phuh syntiew u siej:



- *Gregorious*: Kawei ka dei ka jingphuh syntiew shisien phuh ha kaba baroh ki tang ha ka lypung shi lynnong (*Clumps*) ki phuh syntiew ha kajuh ka por bad iap noh.
- *Sporadic*: Kawei pat ka rukom phuh ka long ba tang katto katne ki tang ki phuh syntiew hangne hangtai. Kane ka lah ban jia ha ki shi bun ki lypung ne ha ki khyndiat ki kynhun bad hadien kata ki iap noh. Kane ka rukom phuh syntiew ka ju jia man u snem ha ki katto katne ki jait siej.

Don ki jait siej pat ki ba pyni ia baroh ar jait ki rukom phuh syntiew kum ha u siej *Dendrocalamus hamiltonii*. Une u jait siej u phuh syntiew tang ha ki katto katne ki jaka shisien phuh hadien ka jingpud kaba ha ka 30 - 40 snem. ■



Ka jingphuh syntiew shi jaka: *Dendrocalamus hamiltonii*



KA JINGTHUNG IA U SIEJ

U SIEJ UM DEI U dieng hynrei u dei u phlang. Ia ki tang ki siej ba mih na ki tyllong kmie ba la iaw lah ban ot bad pyndonkam tang hadien 4 snem, hadien kata pat lah ban khet ne ot siej man u snem. Katba ha ki dieng pat, ki ba kloieh kum u dieng tyrphin lah ban ot tang hadien 7 - 8 snem. Kane ka pynlong ia u siej u ba ai shisha ia ka jingmyntoi ha ka por ba lyngkot bad u mar ba lah ban pynthymmai biang (*renewable source*).

Lah ban thung siej tang khyndiat ne shibun bad na ka bynta bun ki daw.

Ia u siej lah ban thung na ka bynta ban pyniaid iew ha ki jaka ba tang shi acre ne haduh shi spah hectares. Ka jingthung siej ka iarap ban pynneh pynskhem ia ki khyndew bad pynbha pat ia ki dew shrah.



Ki lypung siej ha ka jaka rep siej.

Ki pynskhem bad pynbha pat ia ka khyndew bad iada na ka jingtwa khyndew. Tang u wei u siej u lah ban bat haduh 6 - 7 cubic metres ka khyndew.

Ha ki jaka rud kper bad u pud u sam lah ban thung ia u siej ban ioh pyndonkam na ka bynta ki jingdonkam barit baria ha ing ha sem bad lah ruh ban pynmih pisa da kaba die ia ki ba la san.

Ha ki kper bad ki madan lah ban thung ia u siej ban pynitynnad ia ka jaka.

U siej u ba thung ha ki rud surok ne ha ki rud jong ki lyngkha u iarap ban iada na ka lyer, u pynduna ia ka jingshit jingkhriat bad na ka jing huri hura.

U SIEJ HA KI RUD JAKA

Ha ki kper jong ki jaka shong briew ki lympung siej ba la thung ki long ki jingkyshew na ka bynta ban pynap ia ka lawei. Ki briew ki sumar bha ia kine ki siej bad ot/pom ha ki por ba donkam. Ki pyndonkam ia kine ki siej na ka bynta ban shna ia ka ing ne jingker ne die haba donkam pisa ban siew ram ne pyndep ia ki kamram ba dei ban leh ka iing ka sem kum ha ka jingshongkurim.

Ha baroh kawei ka ri India, ki briew ki thung siej ha ki kper la jong, ki kper shnong ne ki kper shimet. Ka rukom thung ka iapher pat namar don kiba thung tang shi tynrai ar tynrai harud ing don pat kiba thung haduh 40 - 50 tynrai.

Ka rukom thung harud ing la leh janai bha bad la jied tang ia kito ki jait siej kiba kham pyndonkam ha ing ha sem.

Ka jingmih u siej hajan ing lane ha ki kper ba kham rit ka kham bun na ka daw ba ki nongthung ki sumar bha ia ki jingthung. Ki briew lane ki trai ki pyndonkam daka jingstad kaba ki ioh lum na kawei ka pateng sha kawei pat khnang ba ki siej jong ki kin long kiba bha bad kin mih shibun. Kham niar ban shem ba ki siej ha ki kper ing ki long kiba khah namar ba u nongthung u sumar bha bad um ieh haduh ba kin tymmen ne shroiñ. Shwa ba kin tymmen, la pom noh ia ki khnang ban ai lad ia u ba dang rit ba un heh un san.



Ki lympung siej ha kyrpong ing.



Ka trah kper da ki siej im.



Ka jingpynitynnad ia ka jaka da u siej im.



U jingthung siej hapoh u khiew.

KI SIEJ KUM KI TRAH KPER

Ka rukom ker kper da ki siej ka long kynrei bha ha ki thain Assam. Ia kane ka rukom ki shait leh bha sawdong ka kper ing jong ki nongpeit ia ki kper slash. U jait siej uba ki pyndonkam u dei u *Bambusa multiplex*. Une u jait siej u kham rit bad stang bad long khah bha, ki tnat ki mih bha kham napoh u tynrai, kaba kham pynsuk ha kaba ngor bad u long u ba itynnad ban long kum ki dieng kper.

U SIEJ KUM U JINGIADA LYER

Ka rukom thung siej sawdong ki jaka rep ka iarap ha ka ban iada ia ki jingthung na ka jingbeh kyrthep ka lyer bad na ki pum pum bad ka iarap ruh ha kaba pynbha shibun ia ka jingseisoh ki jingthung. Ka rukom thung siej kaba ar lain ha ka dur laidong ka iarap ban pynneh pynsah ia ka um ne khyndew na ka lyer, khamtam na ka liang ba beh bha ka lyer. Haka juh ka por kine ki siej kiba thung sawdong ki jaka rep ki pyndap ia ki jingdonkam ba bun jait jong u nongrep. ■



KI JAKA REP SIEJ

KA JINGTHMU JONG KANE ka thup jinghikai ka long ban hikai kumno ban thung bad ban sumar ia ki jait siej ki ba long shi rynjup ha ki jaka ki ba heh. Wat la ia u siej la thung naduh ki phew hajar snem mynshwa hynrei ka rukom thung ha kaba khaii la sdang leh dang ha kine ki khyndiat snem. Plantation :-

KI JAKA THUNG SIEJ KABA RIM

Ki riew lum Apa Tani ha ka jaka Subansiri jong ka Arunachal ki thung bha ia u siej ha ki jaka ba ki long trai hajan ing bad ki jaka thung siej kaba ka jingheh ka jaka ka lah ban long naduh 1 acre haduh 3-4 hectare. U siej uba ki kham thung u dei u *Phyllostachys bambusoides* (kyrteng ba la khot: Bije), u jait siej ba mih uwei u tang shijaka. Ia une u jait siej ki Apa Toni ki pyndonkam ia ki tang na ka bynta ban shna ing (tnum, biar), ker kper bad shna shylliah. Ki bam ia ki shylluit.

KI JAKA REP (*Plantations*)

Ka jaka rep/bri ka dei ka jaka ha kaba la thung shibun bah tang u wei u jait jingthung da ki bun bun snem ba la pyndonkam da u symbai ba bha,bad la thung bad sumar ha ka rukom ka ba dei.



Ka jaka rep siej *Phyllostachys bambusoides*

KI JAKA REP SIEJ

Kane ka rukom thung ka ailad bad pynbha bad pynroi ha ka liang ka khaii ka pateng bad ka ioh ka kot ha kane ka dur harum:

- La lah ban pyndonkam bha ia ki jaka ba kin nym lehnohei.
- Ka iarap ha ka ban pynlong ia ki jaka ki ba biang ha ka rukom tan um bad ai um na ka bynta ka rep ka riang.
- Ha ki jaka rep/ka rukom trei ki iaid ryntih bad ka jigdonkam ia ki nongtrei ha kaba thung ban sumar bad ban pom ka kham duna.

Ka jingthmu haba thung shibun ki siej ha ki jaka ba heh ka long ban pynkiew ia ka jing seisoh, bad pynmih jingmyntoi. Kane ka iarap ha ka khaii ka pateng.

Don ki khep ba ia ki siej la thung ym na ka bynta ban khaii hynrei ban pynneh ia ka khyndew bad ban pynkhie im biang ia ki jaka shrah ki bym shym lah shuh banrep.

KI JAKA REP SIEJ

U siej u dei u jingthung ba bha na ka bynta ka khaii ka pateng ne bun kiwei ki jingdonkam.

- Ia u siej lah ban thung ha ki ba bun ki jait khyndew bad jinglong ka suin bneng kiba pher.
- Shisien ba u tynrai kmie u la kot sha ka rta ba long iaw, ia ki siej na kajuh ka tynrai lah ban pom man la u snem. Kane ka wanrah ia ka jigmih ba thikna bad man ka por.
- Lah ban pynkloi ne pynslem ia ka jingot bad jinglum ia u siej kat kum ka jingdawa jong ka iew ka hat.



Ka kper rep u siej
Dendrocalamus asper

- Ki jaka thung siej ki donkam duna bha ia ki nongtrei ha ka ban sumar ia ki jingthung.
- Ka jing dawa na ka bynta u siej ka nang kiew man la ki por.

Ka jingthung siej na ka bynta ka khaii ka pateng

- Ban pynkiew ia ka jingheh ka jingmih jong ki tang siej.
- Ban pynbun ia ka jingmih u siej.
- Ban pynbun ka jingmih u siej bad lung siej.
- Ban pynmih khleh ia ki tang bad ki lung siej.
- Ban pynmih bun ka biomass (kata ka jingdon ka jingkhia da kaba khein lang ia baroh ki bynta u jingthung thied, metbah, tnat, soh bad sla).

Katba ka jingthmu ha ki jingthung siej kin sah kumjuh, kan don ka jingiapher ha ka jingpynmih. Kane ka jingiapher ka lah ban long ha kaba jied ia ki kynja symbai, ka jingia jngai na uwei u tynrai sha uwei pat, ka rukom pynlut ha kaba thung bad sumar, ka rukom pom ia ki siej bad khamtam ha kaba sumar ia u siej.

Ka jingthung siej ka wanrah shibun ki jingmyntoi bad jingioh nong.

- Na ki khlaw siej kiba la sumar bha lah ban pynmih kumba 23 - 30 tonnes u siej ha ka ha. Na kawei pat ka liang lah ban ioh kumba 5 - 6 tylli na u wei u tynrai kata kumba 2500 - 3000 tylli/ha.
- Ia u siej lah ban die lang ha ka ban pyndap ia ki jingdonkam jong ki kharkhana heh, kum ki kharkhana shna kot sada. Ki lah ban thied ia u siej shibun bah shisien thied ha ka dor naduh 800 - 1300 tynka shi ton.



Ki jaka rep siej kiba la pyniaid bad sumar bha ha ki thain India ba shatei ki pynioh ka jingiohnong kumba T22-24,000 ha ka shi akar ha ka shi snem. Don katto katne ki jaka rep kiba la pynioh nong shuh shuh da kaba shna sboh wieh.

- Ia u siej lah ban die khutia ha ka dor ba kham heh ban ia kaba die lang. Hynrei ia u siej u ba lah ban die tylli, u dei ban long u ba bha bad ba la iaw khnang ban lah die ha ka dor kaba heh. Ka dor jong u wei u siej ka iapher na kawei ka jaka sha kawei pat ha ki iew die khutia ka lah ban long naduh 25 - 80 tyngka. Bad ka nang kiew katba ki siej ki nangjingai ki jaka thung ne jaka ba pynmih.
- Ka don ka jingdawa ba shyrkhei ia u siej u ba kham bha bad ba la iaw da ki nongshna ing ba shna jingshna. Ia u siej babha ki lah ban siew ha ka dor kaba naduh 40 - 80 tyngka uwei.
- Ki nongpynmih ia ki lyntang siej bad ki tiar ba la pyndonkam da u siej ki donkam shibun u siej u ba bha.

KA JIGHEH BAD JINGTHEW



Ia ki siej lah ban thung ha ki jaka kiba ka jingheh ka long naduh ½ acre haduh ki spah acre. Kham bun na kito ki ba thmu ban thung siej na ka bynta ban die ki thung ha ki jaka kiba heh (naduh 5-20)acre. Ki nongkhahi siej kiba la kham heh ki lah ban thung ha ki jaka palat ia ki 20 hectare bad ki nong khahi rit pat duna ia ka 5 acre. Hapoh kine ki jingheh lah ban peit bad ban sumar bha bad ka ban pynmyntoi shibun.

Ia ka jingheh jong ka jaka thung lah ban rai halor kine harum:-

- Ka jingdon ka jaka
- Ka jingdon ka pisa tyngka ban long kum ka bai seng.
- Ka jinglah ban ioh ia ki nongtrei bad kiwei kiwei ki jingdonkam.



U tang jong u jait siej
Dendrocalamus giganteus
(hajrong) bad *Bambusa*
balcooa (hapoh)



- Ka jinglah ban sumar bha
- Ka jingiaid iew ka hat ia u siej bad lung siej.

KA RUKOM JIED IA KA JAKA THUNG

Ka jaka thung siej, shisien ba la dep sdang, la khmih lynti ba kan neh bun snem ruh. Ia u siej ym dei ban thung ha kito ki jaka ba lah ban thung da kiwei ki jingthung kiba kham don dor.

Ka rukom thung siej shi jaka ka long kham suk ban sumar. Na kata ka daw katba lah dei ban jied ia ki jaka ba long shi tymplun kum ka jaka thung siej. Kane ka kan pynsuk ha kaba sumar bad jingpynlut.

Lada ki jaka thung ki saphriang kylleng sawdong kane ka pynlut ksan ha kiba bun ki bynta. Ka donkam ruh kham bun kiei kiei lada ia nujor bad kaba thung shi jaka, kum ki jingker bad ka jingpynlut bor, ha ka rukom sumar shuh shuh ka rukom thung shi jaka kan kham pynduna ia ka dor pom bad pynkit sha iew.

U siej u dei u jingthung u ba long tang ha jrong jong ka sla khyndew, ki thied jong u ki long kiba jyndong, ki saphriang kylleng sawdong ban ia knieh jingbam, ka um bad kiwei ki jingthung ba don hajan. Na kata ka daw shwa ban jied jaka ngi dei ban buh jigmut de ia ka jinglong saphriang ki thied jong u.

Lada thung siej hajan jong kiwei pat ki jait jigthung, ngi dei ban wad ki lad ban iada ia ka rukom saphriang ki thied jong u siej sha kiwei pat ki jigthung ba hajan. Ia kane lah ban leh da kaba tih ia ki kharai kiba jylliew 3-4 feet bad 2 feet jingiar. Ia kine ki kharai dei ban pynbha shishien shisnem.



KI JAKA REP SIEJ

Ka jaka thung siej

✗ **Kam dei**

ban long kaba sharing

ban long ka jaka ba jur lyer

Ban long kaba lang um

Kaba tyrkhong eh

✓ **Ka dei**

Kaba madan ba sharing malu mala

Kaba kham duna ka lyer

Ka jaka ba pjiar um

Ba long sngem

KA JAKA SARA IA KI JINGTHUNG KUM SHIBYNTA NA KA JAKA REP SIEJ

Ka long kaba donkam ban pynkhreh ia ka jaka sara kum ka jing donkam ba kongsan ha ka ban pynlong ia ki jingthung siej

Ka jaka sara ka dei:

- Ban long ki tyllong ban pynmih ia ki sara ban thung.
- Bad ban long ki tyllong ha ka ban pynmih ia ki sara ban bujli pat ia kito kiba la iap.



Ka per sara (*nursery*) ka dei ka jaka kaba ai jinghikai ia ki nongtrei ha ka jaka rep dieng/siej. Ka iarap ia ki ban tip ia ki bynta bapher jong u jingthung siej bad ia ka bynta bad ka kam ba ki dei ban trei bad ai jingnang jingtip shaphang ka jingheh jingsan bad ka rukom sumar ia ki jingthung ba dang lung bad kiba la iaw.

Ia ki kam ban trei ha ki jaka pynmih sara lah ban pynbeit ne pyntrei ha ka por ba kham duna kam ha ka rep ka riang khnang ban ioh suk ia ki nongtrei.

Ki jaka kper siej ki dei ki tyllong ba lah ban ioh ia ki tynrai thung (ki thied u siej bad ki tnat ban thung) na ka bynta ban pynroi. Kine ki nang pynbun ia ki tynrai pynroi.

Ia ki jaka pynmih sara lah ban shna katkum ki jingdonkam ban pynmih lane ki jingthmu. Lah ban sdang shwa tang khyndiat bad nang pynheh pat lada donkam, hadien ba la ioh jingmut bha bad tip kumno ban sumar bad pyniaid.

Ki jingdonkam ba kongsan ha ki jaka pynmih sara ki long:-

- Ka dei ban don hapoh ka jaka rep siej kaba ia syriem ha ka jinglong ka khyndew bad kiwei kiwei.
- Ki bunn/nur ki dei ban don ki jingheh ba ia ryngkat bad kin long ha ki lain ter ter bad ban tap da u shyiap bad ka sboh eit.
- Dei ban pynkhreh da ki jingkah na ka bynta ban da bad tap najrong da ki siej bad ki phlang lane lah ban leh ha ka dur ba kham bha da kaba tap da ka plastic bad ki jar ba kah jingdum. ■



KA JING JIED IA KI JAIT SIEJ BAN THUNG

DON KUMBA 130 JAIT KI SIEJ ki ba mih ha ri India kiba ngi lah ban jied ha ka ban thung. Katto katne na kine ki dei (*herbarium species*) kiba la wanrah na shabar ri kiba long tang khyndiat jait kiba ngi lah ban ioh

Na ki jait siej kiba mih kyrpang bad kham bun ha India, kiba la ithuh bad ba lah ban thung ha ki kper ki dei u *Bambusa balcooa*, *B. bamboos*, *B. nutans*, *B. pallida*, *B. polymorpha*, *B. tulda*, *B. vulgaris*, *Dendrocalamus brandisii*, *Dendrocalamus giganteus*, *Dendrocalamus hamiltonii*, *Dendrocalamus strictus*, *Melocanna baccifera*, *Ochhlandra travancorica*, *Oxytenanthera stocksii*, *Schizostachyum dullooa* bad *Thyrsostachys oliveri*.

La jied kyrpang ia kine halor ka nongrim ba ki dei kiba kham pyndonkam bha, kiba ia id iew bha na ki daw ba lah ban pyndonkam ia ki ha ki bun rukom bad kiba don kylleng sawdong. Ka long kaba donkam ban buh jingmut ba ia kitei ki siej lah ban thung jngai na ki jaka ba ki mih lada sumar bha.

Nalor kitei ki 16 jait dang don shuh ki jait siej kiba la wanrah tynrai na bar la bun phew snem mynshuwa bad mynta la sdang ban thung ia ki ha ki jaka rep. nuksa: *Dendrocalamus asper* - une u jait siej u pynmih ia ki lung siej ba bam bad u tang uba bha ban pyndonkam kum ki dieng shna jingshna.

Ha ki jaka thung siej donkam ban thung khleh ar ne lai jait. Kane kan iada na ki jing pynjot ba lada u wei u jait siej u phuh syntiew bad iap, kiwei pat kin dang im Ki don kiwei pat ki jingmyntoi lada thung khleh ar ne lai jait kane kan kham pynsuk ha ka por pom. Lada thung tang shi jait, kan kham shitom ha ka por pom namar u juh u jait ynda iaw ha ka juh ka por bad lada ym lah pom ba lap yn kylla shroin noh. Sa kawei de lada thung ar ne lai jait ka jing mih siej kan long ryntih, bad lah ban pyndap ia ka jing dawa ki iew ki hat. Kane kan pynbun ki lad ki lynti ban pyniaid iew ia u siej bad kan pynkiew ia ka khaii ka pateng.

Ka rukom jied ia u siej kan shong eh ha:

- Ka jinglong ka jaka, ka suin bneng bad ka khyndew.
- Ka jingpyndonkam ia u siej ne ka bynta ki jait mar bad tiar
- Ka jing don ki tynrai siej ban thung.

Kan bha eh ban pynshisha ne pynthikna shwa ia ki jait siej ki ba shait mih barabor ha kito ki jaka ba la thmu ban thung ia kita ki jait siej. Kane ka pynthikna ba u siej un long shisha ha kita ki jaka. Dei ban peit artat ia ki jingpyndonkam ha ki shnong ki thaw bad ka jing lah ban pyniaid iew.

Ka jing ia jngai ban thung siej uwei na uwei kan shong eh ha u jait siej ba ngin thung.

KA JINGPYNDONKAM IA KI JAIT SIEJ BA PHER BAPHER

- Kumba long mynta kiba lah ban pyndonkam ia bun bah ia u siej ki dei ki kharkhana shna kot sada bad la jan baroh khoit ki jait siej lah ban pyndonkam ha kine ki kharkhana. Kane ka jingdonkam ka shong ha ka jingdawa ia ki mar siej kiba pher, ka jingdon ka jingbun jong ka kynja met kaba pynlong ia u jingthung, ka jingsngem bad ka dor.
- Ki Kharkhana ki ba shna ia ki jingshna ban bujli ia ki dieng pat ki donkam ia u siej u ba la iaw ka rta (4 snem) bad uba bha, u ba rben, u ba khlain u tang kum u *Bambusa tulda*, *B. nutans*, *D. hamiltonii* kiba shait pyndonkam bha ha kine ki kharkhana.

U tang jong u siej *Bambusa tulda* (ka diang) bad *Bambusa nutans* (ka mon): ia ki siej la pyndonkam ia ki ban ia ki dieng.



- Ban shna jingshna ki ban tei ryndan donkam ki siej ki ba khlain bad mih kham niar kum u *Bambusa balcooa*, *Oxytenanthera stocksii*. Khlem da khein ia ki jait siej hynrei kaba donkam ban buh jingmut ka long: ba kine ki siej ki dei ban long kiba iaw khnang ban lah ban pyndonkam ha kum kine ki jingdonkam.

U siej *Bambusa balcooa* (ka diang) bad *Oxytenanthera stocksii* (ka mon): ia ki tang la pyndonkam ha ka shna jingtei



Ki siej lung jong u *Dendrocalamus asper* (ka diang) bad u *Dendrocalamus hamiltonii* (ka mon)



- Ki ba kham bun hi na kine ki siej lah ban pyndonkam ha ki ba bun ki bynta ha ing ha sem bad shna jingshna tangba bunsien ha kum kine ki jingshna la pyndonkam na ki siej ba mih hi ha kito ki thain hi. Ban ai nuksa kum ki shang la pyndonkam ha ki bynta pdeng jong ka India ba la shna na u *Dendrocalamus strictus*, ha Tripura pat la pyndonkam da u *Melocanna baccifera*, ha Karnataka da u *Oxytenanthera stocksii*, ha Himachal da u *Dendrocalamus hamiltonii*, katba ha Kerala pat da u *Ochlandra travancorica*. Na ka bynta ban thain jingthain kham bunsien ki pyndonkam da u siej u ba kham tlot.
- Ia ki lung siej lah ba pyndonkam la jan na baroh ki jait siej hynrei ki lungsiej jong kine ki jait siej harum ki long ki ba kham pyndonkam bha da ki nongthied ha ki iew ki hat kum u *Dendrocalamus asper*, *Bambusa balcooa*, *Dendrocalamus hamiltonii*, *Schizostachyum dullooa*. ■

Naduh ki por kiba rim, ia ki tiar kiba pyndonkam ha iing la shna na ki siej ba mih ha kato ka jaka. Ka jingdon bad jingioh ia u siej ka dei kaba mih hadien ka jingjied bad jingsumar kaba shim por da ki spah snem. Ia ka jingleh ki nongshna ban pyndonkam ha ka jingshna kam dei ha ka jingioh ia kine ki jait siej, hynrei ka jingsngewsuk ban trei da kine ki jait siej. Ki kham jied ruh ia ki siej ba dang shu dep pom namar ka suk ban trei.



Ka jingpyndonkam naduh ki por kiba rim: Ka ruh siej kum ka jingiada ia ki jingthung (hajrong sha ka diang), ki lung siej (hajrong sha ka mon), ka jingtei da ki siej ban die jhur (hapoh)

KA JINGDONDAM U JINGTHUNG IA KA JINGLONG KA SUIN BNENG BAD KA KHYNDEW BAN REP

DON SHIBUN KI DAW KIBA kynthup lang ha kaba thew ia ka jingkoit jingkhiah bad ka jingheh jingsan ki tang siej. Kine ki kynthup ia ka jinglong ka khyndew, ka jingsharing, ka jingshit jingkhriat, jingioh sngi, ka jingingai na sla duriaw, ka lyer, u slap bad ka jinglong sngem.

U siej u mih ne long bha ha ki jaka ba long madan ne ki jaka ba sharing malu mala; ha ka khyndew ba seisoh, kaba sngem, ba don ki thliew ki syar ba paka ba pjiar um bad ki nur ba paka ban pyntuid um bad ka khyndew kaba kham long acid. Ka jinglong sngem ha kata ka jaka ka dei ban ia ryngkat bad ka jingwan thikna u slap bad ha ki por ba rang la pynsngem da ka ba ai um.



U siej u ioh ia ka jingheh jingsan kaba pura, ha ka jingbun ka bynta met bad ki jinglong ba paw na shabar, ha ka jinglong kaba biang ka suin bneng bad khyndew kaba donkam na ka bynta u jingthung. Hynrei ha ki jaka bym biang ka jinglong ka suin bneng, u siej da lade u lah ban pynwandur ban pynioh ia ki jingpyndonkam. Namarkata u lah ban mih ha kylleng ki jait jaka bapher, hynrei da ka jingtheh ia ka jingdonkam jong u bad ka jinglah ban pyniaid ha ka sumar sukher.

Ha ki jaka ki bym don jingsumar kum ha ki khlaw, ki siej ki mih bha ha ki jaka them hapteng lum, sha trai ki lum bad ha rud ki nala, ki wahduid lane ha kino kino ki jaka kiba don um.

Kam dei ba u siej um mih kylleng kylleng hynrei lada thung ha ki jaka ba tyrkhong ki bym seiso ka jingpynmih ia ki siej na kine ki jaka kan long khyndiat eh bad nym myntoi.

Bun na ki siej ha India ki shah pynjot na ka daw ba pynshah khriat than bad kim lah ban san ne heh klooi wat ha ki jaka ba syaid ne khriat eh kum ha ka ri shyiap Rajasthan bad jaka khriat ha Ladakh. Bun na ki siej kiba mih shi rynjup kim lah ban mih bha ha ki jaka ba sharing than.

Watla u siej u mih ha baroh ki jaka hynrei um lah ban shah ia ki jaka lang um ki khyndew ba long mluh ne ba long maw. Ha ki jaka lang um ki thied ki pyut bad ki jingthung ki iap. Ka jing pyut ka lah ban long ruh na ka daw ba la ai um than. Ka jingdon um ha khyndew hapoh shisnem u jingthung kam dei ban palat ia ka shi meter na sla khyndew khnang ba u siej un san klooi.

KA JINGJRONG KYNJANG NA SLA DURIW

Ki ba bun hi na ki siej ha India ki mih bha ha ri thor bad ha ki jaka ba jrong kynjang kumba 400 ne 500 metre na sla duriaw. Don napdeng ki jait siej kiba mih bha wat ha ri lum ha ki jaka kumba 500 haduh 1500 metre na duriaw. Ka list kaba don ha ka sla kaba bud kan long kum ka nong kdew lynti ia ka jingthung ki jait siej ba pher ka jingjrong kynjang na duriaw.



**U siej ha ka jaka lum
kiba jrong**

Halor ki lum Makashang (*Himalaya*), ha ka kynjang jingjrong (*altitude*)ba long hapdeng 1220 haduh 2500 metres u don u jait siej *Sinarundinaria falcata* (*Ringal*). La lap ba u long kynrei ha kine ki jaka ha Kumaon bad lum Garhwal ha Uttaranchal bad Himachal Pradesh. U siej Ringal u don ka bynta kaba kongsan ha ka ioh ka kot jong kine ki thain lum. La pyndonkam ia u ban shna shang, shylliah, rwiang khwai, ki tamakhu (tang dih duma) bad tiar iing. Ia ki sla la pyndonkam ha kaba sop tnum.

	Up to
<i>Bambusa balcooa</i>	300 meters
<i>Bambusa bambos</i>	800 meters
<i>Bambusa nutans</i>	1200 meters
<i>Bambusa pallida</i>	1800 meters
<i>Bambusa polyporpha</i>	800 meters
<i>Bambusa tulda</i>	1200 meters
<i>Buambusa vulgaris</i>	1000 meters
<i>Dendrocalamus brandisii</i>	1200 meters
<i>Dendrocalamus giganteus</i>	900 meters
<i>Dendrocalamus hamiltonii</i>	1200 meters
<i>Dendrocalamus strictus</i>	800 meters
<i>Melocanna baccifera</i>	800 meters
<i>Ochlandra travancorica</i>	1500 meters
<i>Oxytenanthera stocksii</i>	700 meters
<i>Schizostachyum dullooa</i>	1500 meters
<i>Thyrsostachys oliveri</i>	1200 meters



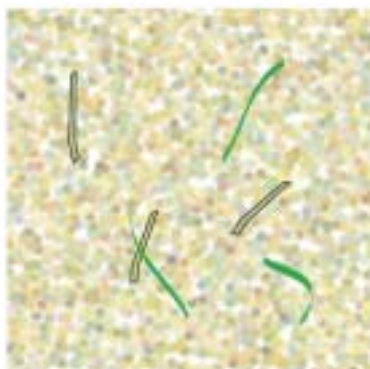
KA RUKOM PYNKHREH IA KI JAKA THUNG

SHWA BAN SDANG thung ia ki jaka thung dei ban pynkhreh lypa ban long kiba biang nadong shadong na ka bynta ban thung. Donkam ban peit bniah ban da thew da woh ia ki jaka bad pynkhreh lypa ha kano ka bynta jong ka jaka rep ban sdang trei, kane kan iarap ha ka ban rai bad shim jingkhein ia ki jingdonkam ki nongtrei bad kiwei de ki jingkyrshan ba donkam.

KA JINGPYNKHUID BAD BANLUR

Ha ka jaka ba la mang ban thung dei ban pynkhuid lypa ia u niut, u phlang bad kiwei kiwei khnang ba kin nym ia knieh ia ki jingbam bad ia ka um. Da kaba pynkhuid ia kine kan ai lad ban thung ia u siej kat kum ba la mang, khamtam ha ka jing ia jngai u wei na u wei pat. Khyndiat khyonsoit hangne hangtai dei ban pynneh ia ki dieng kiban long kum ki jingda ia ki tynrai siej ha ka por ba ki dang rit.

- Ia ka khyndew dei ba lur jylliew da kaba pynkylla, pynlwet bha nangta sa pynbeit bha.
- Ia kaban pynkhuid bad lur dei ban leh lai taiew shwa ban thung. Kane kan ai lad ia ka khyndew ba kan lwet bha bad ba kan pynkhie im ia ki jingthung.





**Ka khyndew ba la khleh
dpei ha ki jaka thung siej**

KA JINGPYNBHA IA KA KHYNDEW

La shem ba ka dew thang ne dpei (*fly ash*) ka iarap lane ka pynmyntoi bha ia ka khyndew. Ia ka dew thang ne ka dpei dei ban pyndonkam ha kito ki khyndew ki bym da sboh than khnang ba kin iarap ban pynsboh ia ka khyndew.

KA JINGKER BAD JINGIADA

Da kaba ker bad iada kan kham pynsuk ia ka rukom sumar ha ki jaka thung siej. Wat lada kaba ker jingker ka long kaba lutksan, ia kane ka don pat ka jingkunai katba nangiaid ki por lyngba ka jinglah pynmih bun ia u siej. Ia ka jaka thung siej ne ka kper siej donkam ban da ker bha ban iada na :-

- Ki jingri kiba wan bam phlang, ne ki bried bad ki mrad kiba iuh pynlwet ia ki jingthung ha ka por ba ki dang rit.
- Ka jingtih ia ki lung siej kiba bang bha ban bam da ki bried bad ki mrad
- Ka jingtuh siej

Ka jingker ka buh pud ia ka jaka ne ka kper thung siej. Ki jingker ki lah ban dei kawei na kine harum.

- Da kaba pyndonkam ban ker da u sainar shiah. Kane kan kham lutksan tangba ka long kaba suk ban trei bad neh skhem.



**Ka jaka thung siej ba la ker
da ki sainar shiah**

- Lah ba ker da kaba pyndonkam ia ki buit thymmai bad jait tiar ba shna hi ne ba ioh lum najan kum ki maw, ki shiah, bad da ki siej.
- Da kaba tih kharai. Kane ka long shipor hynrei kaba duna dor.

Lah ban ker da kano kano ka jingker hynrei katba lah dei ban kiar na kaba pynlait thliw ne jingpynpait. Nalor kane dei ban da buh ruh ia u nongpeit bad nongiada ban sumar ban nang pynbha shuh shuh ia ka jaka siej.

Dei ban da ker ia ka jaka ha shwa ban sdang ia kino kino ki kam kum kaba lur khyndew, tih thliw bad thung. ■



KI TYNRAI SARA BAN THUNG

KA THYMMEI BAN IOH IA KI SARA

Donkam ki tynrai sara kiba pynmih na ki jaka sara,haba thung shibun u siej. Ngi dei ban peit bniah ia ka dor bad ka kyrteng ka jaka ba wanrah ia ki sara. Ia ki tynrai sara ban thung lah ban ioh na ki ophis Forest lane kiwei ki jaka sara jong ka sorkar, riewshimet bad ki kompani.

Lada ngi pyndonkam da ki bynta u tynrai kmie ban thung, kine kin long kum ki nongmihpli jong ka kmie hi. Kane kan dei ka jingmyntoi bah khamtam haba la pynthikna ne tip shaphang ka jaka ba u mih (kynthup ia ka snem ba u phuh syntiew). Lah ban ioh ne pynshisha ia kine ki jingtip na kito ki jaka ba la pynmih ia ki tynrai sara.



Ki tynrai thung ha ki pla plastic



Ki sara siej ha ki pla plastic

Ia ka jingkit dei ban leh ha ka por mynstep ne mynmiet haba ka jingshit ka kham duna. Katba lah dei ban kiar na ka jingpynkit ha ka por mynsngi

Ki tynrai thung na u symbai ki kham pynmyntoi lada tip ia ka rta ban sngewthuh ia ki rukom trei kam ki bynta shapoh met ban pynthikna ia ka jingphuh syntiew shisien phuh (*gregarious flowering*). Hynrei ki sara tynrai ki kham shim por ban heh ban pynlong ia u siej uba paka ban ia u bynta siej ba ot na u tynrai kmie.

Ki tynrai thung kiba mih lyngba ka tissue culture ki kham bha ha ka jinglong, ia kine lah ban thung ha jaka rep hadien ba la pynwan dur ia ki haduh ba kin da long ki tynrai ban thung, Ia kane ka rukom la leh mynta tang na ka bynta katto katne tylli ki jait siej ha ka dor kaba bit bad la lah ban pyndonkam ha kaba thung shibun na ka bynta ka khaii ka pateng. Kum kine ki jait tynrai ki duna bha ban iap bad pynmih ia u siej u ba bha u ba don ka jingheh ba ryntih

KA RUKOM BUH IA KI TYNRAI THUNG

Ia ki tynrai thung katba lah dei ban buh kloi ha ki thliw ban thung. Ka lah ban long ba donkam ba hap buh shwa ha kiwei ki jaka ia ki tynrai shwa ban thung na ki daw bym lah kiar, lehse ba ym pat lah pynbeit pynbiang ia ki jaka thung ne bym shah ka suin bneng. Ha kum kine ki khep ia ki symbai dei ban buh ha ki jaka ba dum bad ba sngem. Donkam ruh ban da ai um. Ka shong ruh ha ka jaka bad ka por ba ngin buh shwa ban thung ban tip ban ai um. Da kaba ai um ka nym pyntyrykhong ia ki thied.

KA RUKOM KIT IA KI TYNARI

Bunsien donkam ban pynkit ia ki tynrai na ki jaka sara sha ki jaka thung. Kane ka shait jia bha lada ngi donkam ban thung ha ki jaka ba heh namar ban thung syndon ym lah lane kam seisoh. Laitnoh da ka ba thung da u tyllong jong u tynrai kmie (ki ba kham duna bad lah ban thung syndon) baroh kiwei ki jait tynrai kiba donkam ban rah ne kit dei ban sumar kumba sumar ia ki ha ki jaka sara kumba katto katne bnai shwa ban thung.

Kum ba ju tip kiba bun ki jaka pynmih sara ki die ia ki sara ha ki plastic, ym dei ban ai um ia kito ki sara ha ka plastic shisngi lane ar sngi shwa ban kit khnang ba ka khyndew ha kato ka plastic kan nym jem bad nym pynpait ia ki thied. Ia kane ka rukom ym dei ban bud ne pyrthuh ha ki jaka shit lane lada donkam ban kit jngai ia ki tynrai.

Haba rah ia ki tyllong khleh tang (*rhizomes off set*) dei ban kynmaw dei ban tap ia ki da ka khyndew bad buh hapoh byrni da pynieng khnang ba nym pynthut ia ki shylluit. ■



KA RUKOM THUNG



KA JINGPYNKHREH LYP A IA KI thliew shwa ban thung bad buh ia ki tynrai harud ki thliew ka dei ka kam kaba donkam eh. Kane ka kdew ia ka jingsdang ia ka jingthung siej.

Barabor dei ban thung ha ka por step bad ia ki tynrai thung dei ban buh bha ha ki bynta ba dum bad ba kah syrngiew jong ki jaka thung. Lada ym don ki jaka ba kah syrngiew dei ban shna khnang.

Ka jingthung ia u siej dei ban pyndep kloi katba lah tang hapoh khyndiat por bad dei ban pyndep syndon. Haden shisnem dei ban thung shuh shuh ban pyndap ia kito ki jaka ba thylli na ka jingiap ki tynrai siej.

KA JING IA JNGAI UWEI NA U WEI U JING-THUNG

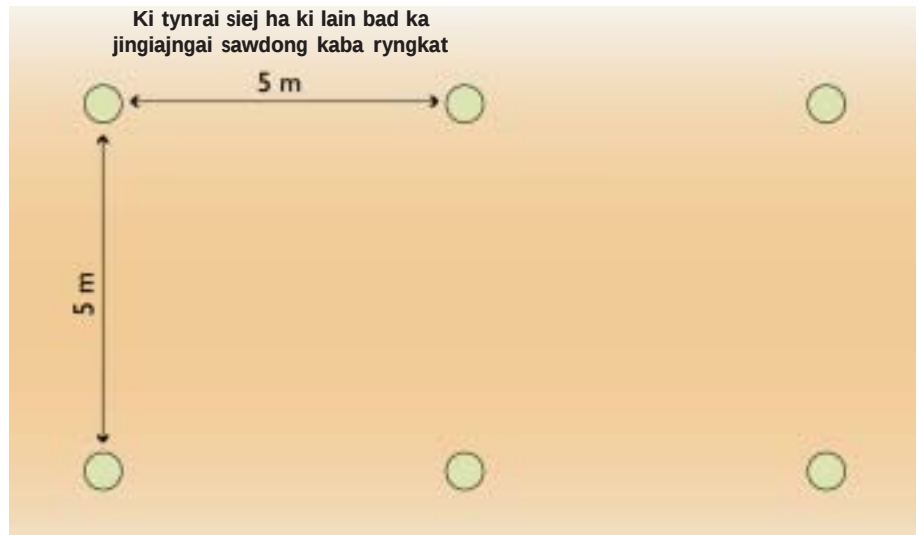
Ia ka jingbuh ia ka jingjngai uwei na uwei u jingthung ha ka por thung ka shong eh ha ki jait siej, ka jingthmu haba thung ia u siej bad ka jinglong ka suin bneng bad ka khyndew.

Ia ka jingkhah jingniar bad jingbun tylli u siej ha kano kano ka jaka ka shong eh ha ki jait siej, ka jingheh bad jinglong jong u siej. Ia ki jait siej rit lah ban thung kham khah katba ia ki jait siej heh pat kham bha ba thung niar.

Lada thung jngai ia ki jingthung u wei na u wei pat kan duna ka jingtap nalar, kin pynlong ka jingshah rong noh jong ka khyndew, ki symboh um bad ki niut ki phlang kin mih bha ban pyntroin ia ka jingsan ki siej. Ka jingthung khah palat pat kan pynlong ia ki jingiaknieh jingbam, ka jingshai bad ka um para ma ki.

Lada ka jingthmu ba kongsan ka long ban pynmih bun ki tang siej dei ban bud ia kine ki jingkdew harum:

- Ia ki jait siej kiba ka jingheh ba long pdeng, ba kham rben u tang, dei ban thung ha ka jingjingai kaba 5 x 5meter. Kane ka rukom thung ka donkam 400 tynrai ha ka shi hectare lane 160 tynrai shi acre. Kane ka jingjingai ka bha na ka bynta ki jait siej kum u *Bambusa tulda*, *Bambusa nutan*, *Dendrocalamus asper* bad *D.brandisii* lada lah ban ai jingsumar kaba paka lah ban thung ha ka jingjingai kaba 6 x 6 ne 7 x 7 meter.



- Ia ki jait siej ba kham rit kum u *Ochlandra travancorica*, ka jingjingai ba tang 4 x 4 meter ka la biang bha, kata ka mut donkam 620 tynrai u siej ha ka shi hectar.
- Ia ki jait siej kiba heh kum u *Dendrocalamus hamiltonii* lah ban thung ha ka jingjingai kaba 7x 7meters lane ban thung 205 tynrai shi hectar. Ia u *Dendrocalamus giganteus* lah ban thung ha ka jingjingai ka ba 10 x 10 meter lane 100 tynrai ha ka shi hectar.

Lada ka jingthmu ban thung siej ka long ban pynskhem ia ka khyndew lah ban thung ha ka jingjingai 3 x 3 meter (1100 tynrai shi hectar).

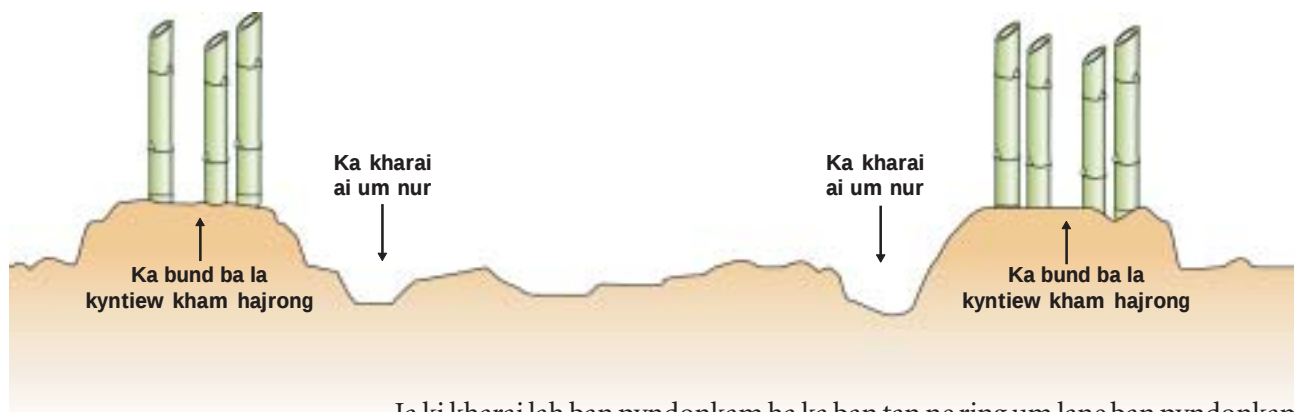
Lada ka jingthmu ka long ban iada na ka jingshah rong ka khyndew kum ha ki rud wah/jaka ba twa ka jingjingai ka dei 3 x 3 meter wat haduh 2.5 x 2.5 meter. ha kum kine ki khep ia u siej dei ban thung mar khap bad ki jait dieng kiba heh kloi.

KA RUKOM THUNG HA KI BUNN BAD KI KHARAI

Ha kane ka rukom thung donkam ka jaka kaba 1 meter ka jingiar ban kynton ia ka khyndew shalor haduh 50-centimeters shajrong. Ia ki jingkynton la shna da kaba tih ia ka kharai bad kyntiew shijaka ia ka khyndew ba la tih. Ka jingjingai kawei ka kynton na kawei pat ka kynton ha ki kper siej kiba long 5 x 5 meter ki dei ban long 5meter. Ia kine ki kharai ba kynton dei ban shna lypa khnang ba kin skhem shwa ban thung.

Ka jingmyntoi lada thung kumne ka long ba ia u siej la thung ha ka khyndew ba napoh bad un san bha. Ha ki snem ba bud lah ban nang tih shuh shuh ia ka khyndew na ka kharai bad kyntoin sawdong ka tynrai seij. Kane ka rukom ka pynsuk ban kynton bun katba u jingthung u nang san.

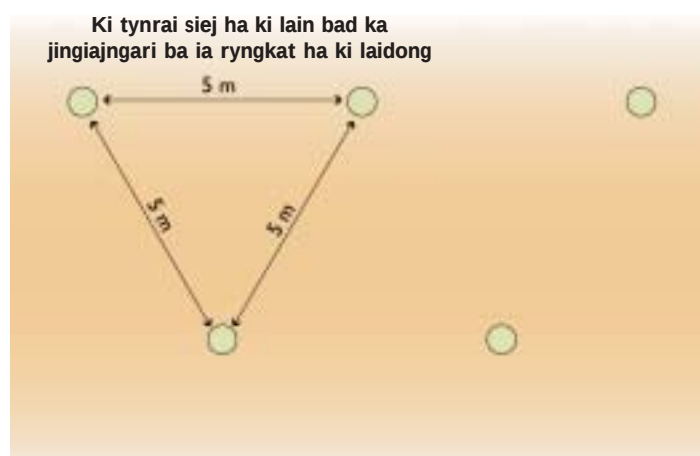
KA RUKOM THUNG



Ia ki kharai lah ban pyndonkam ha ka ban tan ne ring um lane ban pyndonkam kum ki jaka shna sboh wieh. Ka dor haba sdang ban shna ia ka jaka thung da kaba pyndonkam ia kum kine ki rukom ka kham rem dor haba ia nujor bad kiwei pat ki rukom thung.

KA RUKOM THUNG HA KA DUR LAIDONG

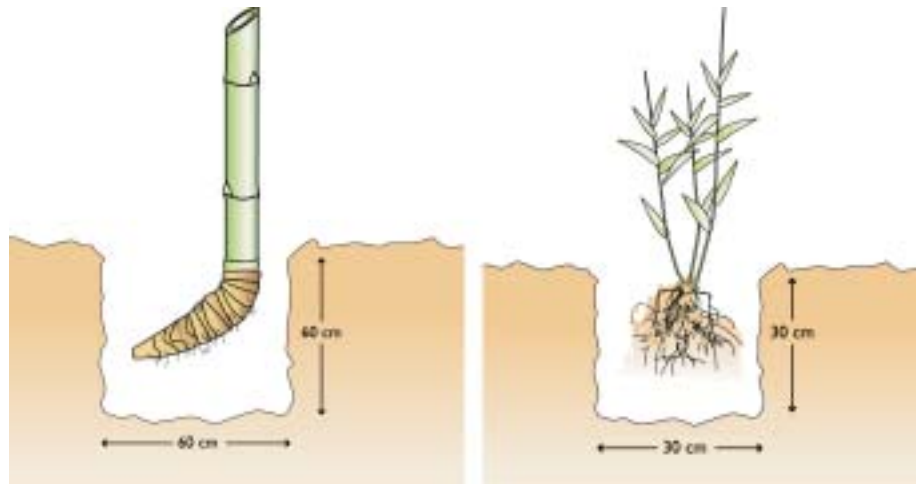
Lada ka jingthmu ban thung siej ka long ban pyniaid iew ia u siej ne ki lung siej ban die, ia kane ka rukom thung dei ban bud. Ha kane ka rukom thung dei ban tih thliw ha u juh u lain bad ki thliw ha u lain pdeng ki long hapdeng jong ki thliw kiba don ha ki lain ba ha khmat.



Kane ka rukom thung kan iarap ban nym pynsepei ia ka jaka bad ai lad ia u siej ba un pyiar bha, ha ka juh ka por ka iarap ban ioh ka juh ka jingjingai na u wei u lain ha u wei pat bad ia kane ka jaka hapdeng lah ban thung da u wei pat u jait jingthung lane ban pynmih sboh wieh.

KI THLIEW

Hadien ba la dep pynkhuid ia ka jaka bad shwa ban tih ia ki thliw ia ki jaka dei ban peit thuh da kaba pyndonkam da u tape, ban pynthikna ia ka jingiajngai katkum ba kwah nangta sa buh dak da u dieng ne u siej ha kato ka jaka kaba long ka pdeng thliw. Ka thliw kan long kaba kham jylliew ban pynthikna ba ki thied kin nym kdor hadien ba la buh hapoh thliw bad khnang ba kin ioh lad bha ban wad jingbam bad ka um.



Ka rukom pynbud nuksa ba ki thliew ba kham heh kin iarap ia ki thied ba kin san kloi, hynrei kane ka rukom pyni kam long kaba lah ban bud bunsien khamtam na ka liang ka jinglut jingsep. Ia ki tynrai kmie bad khun siej dei ban thung ha ka thliew kaba don ka jingheh 60 x 60 x 60 centimeter haduh 100 x 100 x 100 centimeters. Lada thung da ki tynrai ba shu ot na ki tnat ne ia ki symbai ba sara dei ban thung ha ki thliew ka ba heh 30 x 30 x 30 centimeter lane 45 x 45 x 45 centimeters.

Ia ki thliew dei ban tih shwa ban slap khnang ba ka khyndew ba la tih kan ioh lyer.

Ia ki thliew la dei ban tih ha ka jingjingai katkum ka jingdonkam u jait siej ne ka jingthmu ia ka jingrep siej. Ka jingthung ba phikir bha ka pynduna na ka jingma jong ka jingdkoh ha ka jingpynmih.

- Katto katne sngi shwa ban thung, ia ka khyndew ha thliew dei ban kylla bha.
- Pynkhuid ia baroh ki niut bad ki phlang kiba don haduh 3 -4 feet na ka thliew.
- Ha ki thliew kiba heh kum 60 x 60 x 60 centimeters ka khyndew dei ban khleh lang ar shang (5 kilograms) ka sboh eit masi, 100 grams urea, 100 grams superphosphate, 50 gram ka muriate u potash. Ka nitrogen kaba long ha ka rukom ammonia ka iarap ia u jingthung ban ioh bor bha ban kjit um khnang ba un san bha.
- Ia u jingthung dei ban buh da pynieng ban pynthikna ba ki thied ba kin nym song.
- Pynmadan ia ki thliew da kaba khleh lang bad ka sboh.
- Hadien ba la dep thung dei ban ai kumba 12 - 20 litres ka um bad ka shong eh ha ka jinglong ka suin bneng. Kane kan ai jingsngem ia ki thied bad pynskhem ia ka dew synjor sawdong u tynrai siej.

Dei ban ai um biang ha ka sngi kaba bud tang ba lah ban pynduna ne pynbun katba donkam. Ha ki 10 taiew naduh ba thung dei ban ai um lada ym don slap lane duna u slap, dei ban ai um man ka sngi nangta sa pynjlan pat shisien lai sngi. ■

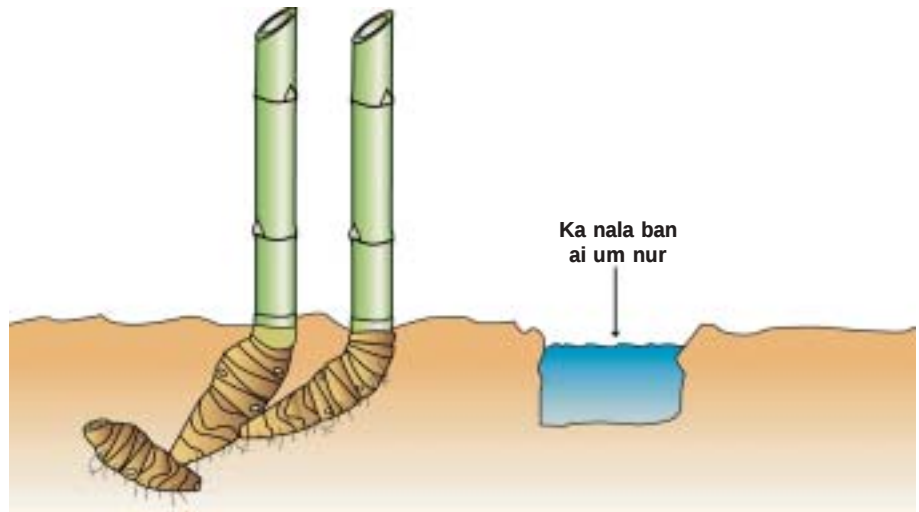
KA RUKOM AI UM

U SIEJ U MIH BHA HA ki jaka ba kham sngem. Ha ka por ba dang rit u donkam ka jingsumar ba kyrpang bad kham bun ka um. Ka jing tyrkhong ka khyndew ka ktah ia ka jingheh jingsan ki thied bad ki jingpynmih ia ki khun siej. Da kaba ai um kane kan pynduna ia ki jingiap ki jingthung ba dang rit, bad ki kham shait kham khlain bad lah ban pynkiew ia ka jingmih ki lympuing siej.

Ka jingdonkam ban ai um ka shong ha ka jinglong ka suin bneng. Ban bud ia ka rukom ai um dei ban da peit bniah ia ka jinglong ka khyndew ha ka por ba ki sdang heh sdang san.

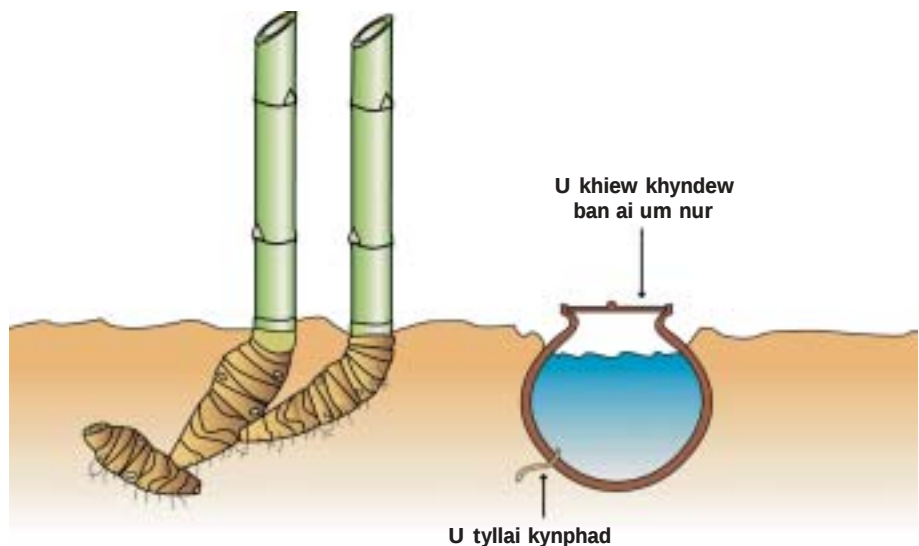


- Kane ka rukom ai um ha ki nur dei ban leh shisien shitaiew ha ka por tyrkhong.



- Ha ki jaka ba kham duna um dei ban ai um da kaba shu pynjaw ha tynrai ka bha shibun hynrei donkam ban da tip ne shemphang bha ia ka jingpyndonkam bad ka kham lutphut eh bun khamtam ha ka por ba dang shna ne pynlong ia ka jaka thung.
- Kumba leh ha ki por barim ka jingpyndonkam ia u 'khiew khra bad u tyllai' ka dei ka rukom ai um kaba myntoi bha bad ka jingdonkam um ruh ka kham duna. Ha u khiew khra u ba ar litar donkam ban pyndap um lai sien ha ka shi taiew.

Ba la ju bud naduh ki por mynbarim ha ki jaka pdeng ka ri India, u 'khiew bad u hit', ia ka rukom ai um nur la leh da kaba sam thliw rit ha trai bad bsuh da u tyllai jain (u hit). U khiew u ai um la jan shiteng litar ka um ha ka shisngi. Ka jingtap nalar u khiew ka iada ia ka jingmih noh ka um na ka jingsyaid. U tynrai siej rit un ioh um kaba biang da kaba pyndap ia u khiew lai sien shitaiew.



Lada ai um ha kano kano ka rukom ne katno katno sien ruh, ka khyndew kam dei ban lang um, lym kumta u siej un iap noh.

Ka rukom thung siej ka ba tang shi jaka pyllun kan ai lad ban kham pynlut bun ha kaba ai um, kane kaba pyniohnong pat da ka jingmih bha u siej. Ha ki jaka thung siej, khamtam ha kito ki jaka ba ka jingioh slap shisien shisnem kaba duna ia ka 700mm, ia ki nur um ki rukom ai um bad ki tyllong um dei ban da pynbeit ne buh jingkein lypa naduh ba sdang. ■



KA RUKOM AI SBOH

KA JINGAI SBOH KA DEI KAWEI na ki bynta ba donkam ha ka rukom sumar bad ba ia dei bad ka jingsumar ba kham paka ha ki jingthung siej. U siej u dei u jingthung u ba donkam shibun ki jingbam bad da ka jingiohsboh u heh kloi. Ki sboh ki pynthikna ia ka jingmih bun, bad pynmyntoi shibun ha ka jingiohnong na ki siej.

KI SBOH DAWAI

Haba kren kyllum u siej u donkam ka jingai sboh dawai kaba thikna kynthup ia u phosphorous, potassium, nitrogen bad kham bun bha ka nitrogen. Ha kito ki jaka thung siej kiba la sumar bha pyndonkam da kito ki sboh dawai kiba ioh na iew, kan bha shibun eh hadien ba la peit thuh ne test ia ka khyndew na ka jaka ba la jied ban thung hadien katto katne snem ban dup tip ban buh jingkhein ia ka jingdonkam ki jait sboh bapher bapher bad ban wad jingiarap na ki riew shemphang lada donkam. Ka jingai sboh palat kan long kaba ma bad mynsaw. Ka khyndew barabor hi ka don ia kine ki jingbam NPK kiba ka jingdon bynta ka long ha kane ka dur 5:2:1 lane 4:2:1; Ia kane ka jingdon bynta (*ratio*) dei ban pynthikna hadien ba la dep test ia ka khyndew.

Katkum ki jingkhein jingdiah, ka jingdonkam sboh ha ki jaka rep lung siej ka kham palat ban ha ka jaka rep ia ki tang siej. Ha ki jaka rep siej donkam ka jingai sboh kumba 1,500 kilograms per hecrae per year. Haba thung lung siej pat dang don kam shuh shuh kiwei ki jait dawai bad ka jingdonkam ia ka sboh ka kot haduh 4000 kilograms shi hectar shi snem.

Ka jingai sboh ka donkam nyngkong ha ka por thung; ia ka sboh dei ban khleh lang ha ka thliew, nangta pat ha ka snem ba nyngkong jong ka jingrep ia ka sboh dei ban ai hapoh ar bnai hadien ba thung, bad sa ai pat hapoh 4-6 taiew shwa ban mih lung u siej. Ka jingkhein ba dei ban bud ka long 150 grams N + 150 grams P + 150 grams K.

Donkam ban da sumar bha ba ia ka sboh dawai ym dei ban ai beit ha u tynrai lane ki bynta ba lung jong u jingthung. Ka dawai sboh kam dei ban snoh ne tyngkhuh ha u siej lung ioh u duh ne u iap noh. Ia ka sboh dei ban ai ha ki kharai bad thliw jong ka lypung siej ha ka por ba ka khyndew ka sngem, bad sa tap pat da ka khyndew na jrong.

KA SBOH NA KI BYNTA MET

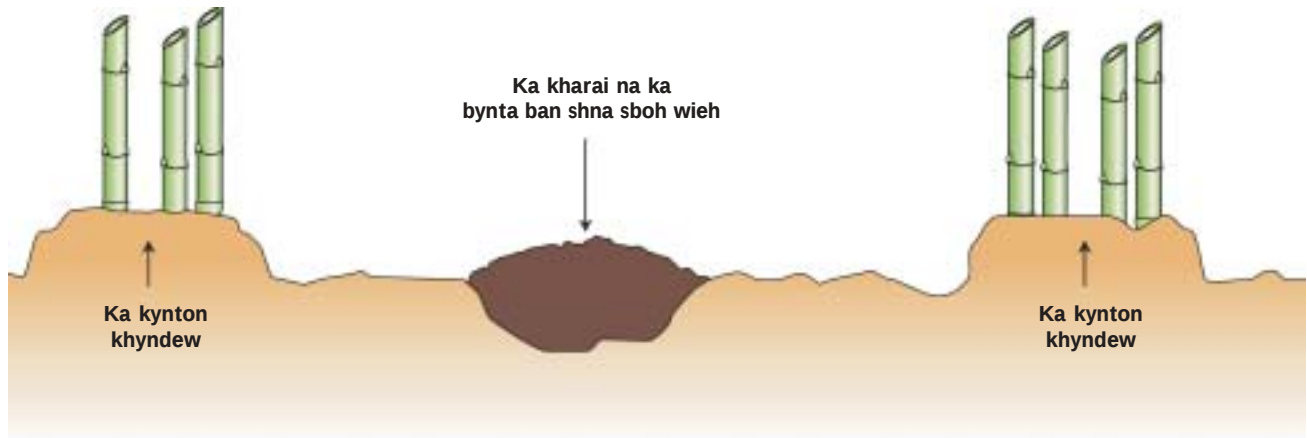
Lah ban thung siej khlem da pyndonkam ia ki sboh dawai bad pyndonkam pat da ki sboh na ki bynta met kum ka sboh wieh bad ki sla pyut. Ha ka jingshisha kan bha shibun lada thung siej da kaba pyndonkam ia kine ki jait sboh bad kham pyniaid iew bha ia u lung siej bad ia u tang siej hi ruh. Ka don ka jingsngew ba wat la ki sboh dawai ki iarap ban pynheh ia ka jingmih u siej, katba nang slem pat kane kan ktah ia ka koit ka khiah bad ka jingsei soh ka khyndew.

Ban kham lah ban pynmih shibun bad ban pyndap pynbiang ha ki jaka rep siej ka long kaba donkam ban da pyrkhat bad pynwandur ha ka ban pyndonkam ia ka sboh na ki bynta met.



Ka bunn shna wieh

KA RUKOM AI SBOH



Ki sboh na ki bynta met ki ai shibun ki jait jingbam ia ka khyndew da kaba iarap ban pynbun ia ki jingdon ki khniang rit kiba khot ki microbes kiba iarap ia ka sboh ban pyntreikam kham slem. Ym kum ki sboh dawai ki jingbam ha ki sboh na ki bynta met ki duna ha ka jingshah rah noh ha ka um slap.

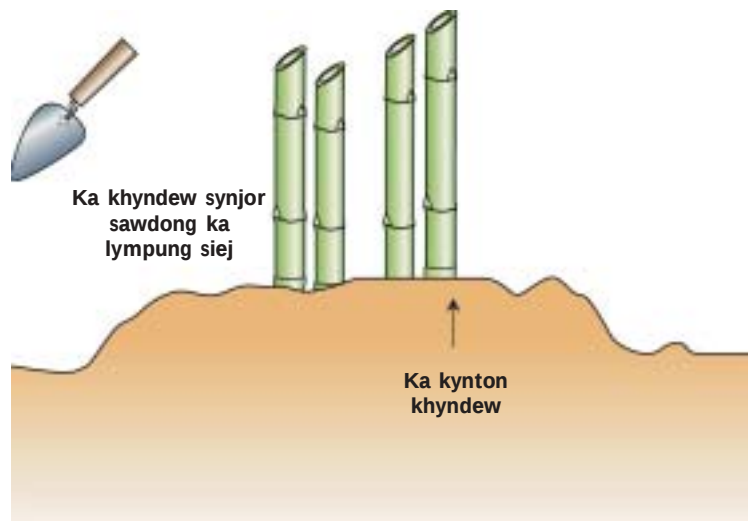
Ka sboh eit masi bad ka sboh na ki jingthung ki long ka tyllong ba don shibun jait ki jingbam kiba suk ban shna bad ban pyndonkam. ■

KA RUKOM SUMAR IA KI LYMPUNG TANG SIEJ

KA JINGSUMAR BHA BAD THIKNA ia u lypung tang siej kmie ka long kaba donkam ban pynthikna ia ka jingmih jingsan bha u siej bad ban pynduna ia ka jingduhnong. Donkam ban pynbha ia kiei kiei baroh sawdong ban wahrah ia ka jingheh jingsan bapura. Katba lah dei ban nym shah ba ki siej ba kin khah than.

KA RUKOM KARA KHYNDEW

Ia ka khyndew ha tynrai u siej dei ban kara ar ne lai sien ha ka shisnem katba donkam, bad kane ka long ban iarap ban pynbha ia ka jinglong ka khyndew sawdong u siej. Kane kan iarap ruh ia ka jingheh jingsan ki siej lung bad ki thied. Ia ka khyndew dei ban kara haduh ka jingjylliew kaba kot haduh 10-15 centimeters na trai u siej bad kham ha jngai na u tynrai haduh 30-45 centimeters.



KA RUKOM THIEW KYNBAT

Ha ka por ban sdang thung, donkam ban thiew ne phut ia ki niut ki phlang man ka por ban nym ai lad ba kine kin khang lad ia ka jingheh ki jingthung. Ia ki niut dei ban thiew bha khamtam ha ba ki jingthung ki dang don hapoh arsnem, ia kane dei ban leh hadien ba slap bad ban haduh ban da kut ka por slap. Ka jingdonkam ban thiew/ pynkhuid phlang bunsien, bad ka jingdonkam ban pynkhuid bha ka shong eh ha ka jinglong ka jaka bad ki jait phlang ki ba mih biang hadien ba la dep pynkhuid. Ha ki katto katne ki jaka donkam ban thiew niut wat hadien ba u slap u la hap malu mala.

Shisien ba u siej u la heh bad sdang hap sla, ka pyntlot bor ia ka jingmih ki phlang.

KA RUKOM TAP BAD PYNPYUT SLA

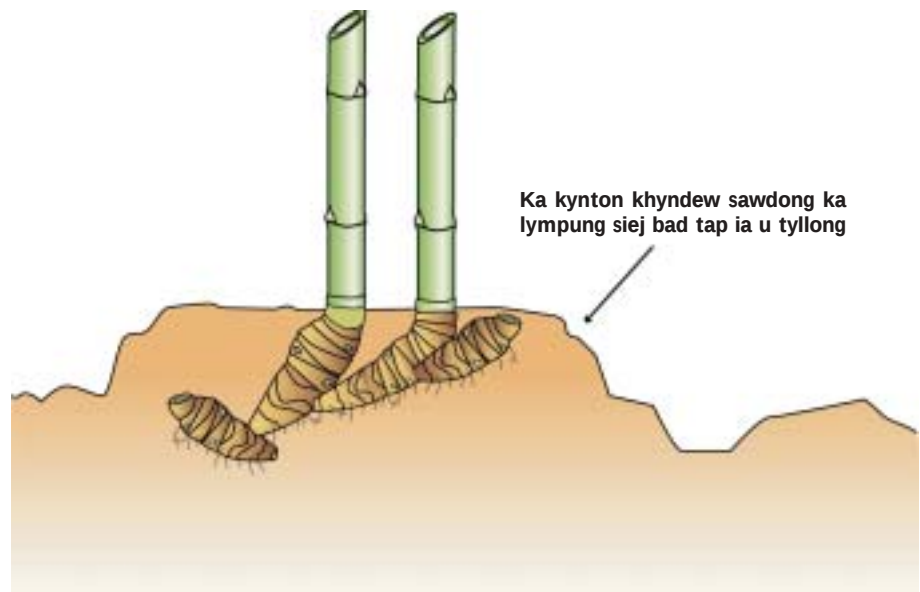
Ki sla siej kiba hap ha madan ki long artad kum ka sboh. Ka jingdon ki sla ba hap ha khyndew ki pynduna ia ka jingmih noh ka jingsngem (*moisture*) na ki thliew ba la thung bad iada ia ka jingmih ki niut bad ki phlang. Ki sla haba ki pyut ki pynmih artad ia ki jingbam/ sboh sha ka khyndew bad pynbha ia ka jinglong ka khyndew da kaba nang pynbun ia ki (*organic carbon*) sboh. Ki siej ki donkam ruh ia ka kynja dawai 'silica' ha ka ban heh ban san kiba long kum u shyiap bad kine ki mih na ki sla hi, kiba hap ha madan.



Ka jingtap da ki sla siej
halor khyndew ban pynpyut
bad ban pynkylla sboh

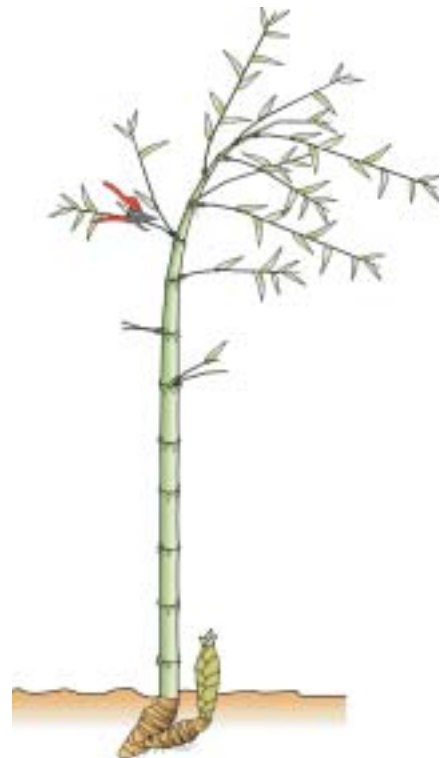
KA RUKOM KYNTON KHYNDEW

Ki thied/ tynrai u siej ki pyiar da saphriang hapoh ha sla khyndew, ynda ki khreh pynmih lung siej/ khun siej ki sa sdang kiew sha jrong bad ki mih na khyndew beit beit. Kum ha kine ki por ka jingthang ka sngi ka pyntlot ia ki bad ka lah ruh ban pynlong ba kin nym heh shuh. Ka rukom ban kynton khyndew ne kara khyndew ha trai u jingthung ka long kaba donkam ban leh.



KA JINGNGORIA KI TNAT

Don ki jait siej (kum u *Dendrocalamus hamiltonii*, *Bambusa bolcooa*) kiba khlain bha ka jingmih tnad na ki mat ba sha trai. Da kaba ngor noh ia kine ki tnad kan pynduna ia ka jingkhapngiah bad kan ai lad ia ka lyer bad ka sngi ba kan rung ha ki siej ba kin long ki ba koit ba khiah. Ka rukom ngor ba malu mala dei ban sdang naduh u snem ba ar bad ba lai bad ban ngor bha pat haduh u snem ba saw ter ter. Ia kane dei ban pyndep ha shwa ba ki tynrai kin pynmih ia ki siej lung. Ki bnai ki ba bha ban ngor ia ki tnad ki dei u December bad January.



KA JINGPYNKHUID

Shisein ba ki lympung siej ki sdang heh (bunsien naduh u snem balai) dei ban sumar bha. Ki thied ki mih na pdeng sha bar bad ki pynmih ia ki siej lung sawdong u jing thung.

Ki siej ki lah ban pynmih shibun ki tnad ba lada ym ngor noh kin ia thain para maki. Kane ym dei tang ba ka pynduh lad ban sei ia u tang ba la iaw ban phrung sha pdeng hynrei kim ai lad ruh ia kiba dang rit ba kin kiew sha jrong. Lada ha ka por ba ki pyrshang ban mih lyngba ki jingthain jong ki tnad, kine ki tang ba dang lung ki lah ban khein bad kdiah ruh bad nang pynkhapngiah shuh shuh. Ka jingdon kito ki tang ki bym ieng beit bad kiba kdor, ka pynshitom shibun ha ka por ba pom ne ot iaki tang ba la iaw. Hadien katto katne por kan long ka ba eh ban pynwandur biang pat ia u siej sha ka dur kumba u dei ban long.

Na kata ka daw ka long ka ba donkam ban pom ne pynkhuid ia ki tynrai kmie naduh ba sdang da kaba weng noh baroh kito ki tang kiba la iap bad kito ki bym long bha. Ki tynrai siej kiba paka, ki pynmih ki siej kiba bha. Ki siej ba la iap ym tang ba ki long ki jaka boi ki khniang, ki long ruh ki ba kloï ban kem ding. Ha ki jaka ba tyrkhong bad ki jaka ba syaid , ka jingiatyngkhuh than para maki kan pynmih ia ki pliah ding bad thang ia baroh ka bri ne ka khlaw.

Ka por kaba bha eh ban pynkhuid ia ki jaka thung siej ka dei ha u bnai u Feb- March. Ha kane ka por ba u siej um khie lung u dang ioh thiah bad hadien ba ka tlang ka la kut noh bad shwa ba un sdang heh bad san, dei hangne ba u jingthung hi baroh uwei u lah ban shah ia ki jingpom/jingweng ha ka por pynkhuid/pom.



Ki tang kiba ia thain

Ha ka por pynstang ym dei ban leh kulmar. Ka jingpom than ka pynduna ia ka jingkah jong ki sla bad tnat na shajrong bad ai lang ia ki kjat sngi ban rung. Kane kan ktah shen ia u jingthung ban pynkylla ia ki tang ha ka lympung ban kylla stem bad pyndor ia ki sla. Ka pyntyrrkhong ia ka khyndew bad pynduna ia ka jingsngem



KA RUKOM POM PYNSTANG

Ban pom pynstang donkam ban leh naduh u snem u ba lai, ban kiar na ka jing khapngiah bad ban pynthikna ia ka jingheh jingsan bad ha kajuha ka por ban pynsuk ia ka thoh ne pom ia ki siej ba la iaw na ki tynrai kmie. Ia ki siej ba tlot bad ba kdor ym dei ban pynneh ha ka lympung siej.

Ia ka jingbha dur jong ki tynrai kmie lah ban pynneh pynsah da ka ba pynstang ne weng ia ki lung siej ki bym i khlain bad pang. Dei ban pynneh tang ia ki siej lung kiba mih bha hapeng ka aiom khie lung.

BAN BUH DAK IA KI SIEJ BALA IAW (*Maturity Marking*)

Ia ka rta jong u tynrai kmie siej lah ban ithuh na ka dur, ka jing i khlain bad ka jing long ka met nangta pat ka jingdonkam. Haduh mynta kam pat don kano kano ka jingkhoh ai jinghikai ban tip shaphang ka rta u tang na u tynrai kmie siej ba la iaw. Na kata ka daw donkam ban buh jing kynmaw ia ka snem ba sdang jong u tynrai kmie. Kawei ka lynti ka lah ban leh ka long da ka ba ai rong, bad lah ban pyndonkam saw jaid ki rong. Kane ka kham suk ban pyntrei bad ban ithuh ha ka por ba sumar lane ha ka por ba thoh ne pom

Kine harum ki rong ba la pruid dak bad ba la kham pyndonkam.

Snem Nyngkong- Rong Saw (2004)

Snem Ba ar- Rong Stem (2005)

Snem ba lai- Rong Blue (2006)

Snem Ba saw- Rong Iong (2007)

Ia kane ka rukom pruid rong (cycle) lah ban leh biang man ka san snem.

Da kawei pat ka rukom ban pyni ia ka rta jong u tang siej ka long da ka pyndonkam tang shi rong, nangta buh dak ter ter da kajuha ka rong. Ha ka snem ba mih u siej buh u wei u dak teh haka jingjrung ka ba 1.5 metre na



Ka jingbuh dak rong ia ki tang ban tip ia ka rta

traí.Ha ka snem ba ar pat buh sa u wei u dak teh halor uto u dak teh ba rim. Ka jingbun ki dak teh ka kdew ia ka rta u siej.

Kawei pat ka rukom ka long ban buh dak da ka ba thoh ia u snem ba mih u siej ha da ki dak jingkhein ha ki mat u siej hi ha u tang siej.

Wad lada ngi pyndokam da kano kano ka rukom,ka jingthmu ka long ban pyni ia u nongrep ne u nong pyndonkam ban tip shaphang ka rta u siej. ■



KA JINGTHUNG SIEJ KHLEH LANG BAD KIWEI PAT KI JINGTHUNG

LAH BAN PYNLONG ia ki kper thung siej hajan ka jaka thung ia kiwei pat ki jait jing thung tangba ka jing jngai la kumno kumno kaba rit eh ka dei ban jngai kumba 5 meter ei ei. Ia kane lah ban leh da kaba tih da ki kharai ne ki jingkah ia ki tyllong.

Kane ka rukom thung khleh ka ai jingmyntoi ha ka por ba dang sdang thung siej katba ki siej kim pat iaw bad kah syrngiew ia ka khyndew.

Ia ki jait jingthung ban thung ha kane ka rukom dei ban da jied phikir, ki ba ki ym tan pyndonkam palat ia ka sboh jingbam. Shuh shuh ia ki jingthung ym dei ban thung jan than sha u tynrai siej.



**Ka jaka thung siej hajan ki
jaka pynmih jingthung ba
bam**



Ka jingkah sla bad tnat siej

Ha poh ki ar snem jong ka jing rep siej, lah ban thung ia ki jait jingthung kiba im tang khyndiat por ne ki bym donkam ia ka jingsyaid sngi kum u sying, u shynrai lane kino kino ki kynbat dawai. Ha ka por ba thiah thai ka jingmih siej, ki jingthung ba tang shi aiom kum u soh saw, riew hadem, u rymbai ja ki long ki jingthung ki ba mih bha haba thung ryngkat ha ki kper siej.

Ha ki snem ki ba bud ka lad ban thung ia kiwei pat ki jing thung ha ki kper siej kan kham duna namar ba ki sla siej ki la sdang kah syrngiew kat ba ki siej ki dang jrong bad ki thied pat ki nang saphriang da pynkiang ha khyndew. Don katto katne ki kynbat dawai kiba lah ban thung kiba san hapoh ki syrngiew ki siej.

Lada ha ki kper siej la thung ia ki tynrai siej ha ka jingiajngai jong uwei u tyllong na uwei pat ka long 5 x 5 meters, 7 x 7 meters, lah ban iai bteng ia ka jingthung khleh bad kiwei kiwei pat ki jait jingthung kham bun por. ■



KA RUKOM THOH/POM SIEJ

HABA THUNG SIEJ dei ban buh jingmut ha kata ka rukom ba lah ban thoh ne pom siej man u snem. Kane kan iarap ban pynmih shuh shuh ia ki siej lung /shylluid bad pynthikna ia ka jingmih bun u siej. Kane kan wan rah ia ka jingmih thikna shibun ki siej bad lung siej ban ioh die.

Naduh ka snem balai lah ban pom ia ki siej bad pyniaid iew .Hynrei ki tynrai kmie ki lah ban pynmih ki siej ba la iaw naduh u snem ba saw.

Ka jing pyndonkam ia u siej ha ki bynta ba pher kat kum ki jingdonkam ka shong ha ka rta jong u:

- Ia kito ki jing tei / jing shna ki bym da donkam eh ia ka jing khlain jong u siej, lah ban pyndonkam da u siej u ba dang ar-lai snem na ka tynrai kmie ka ba la iaw.
- Na ka bynta kiba bun ki jingdonkam, ia u siej dei ban pom/thoh haba u la dap saw snem ka rta.
- U siej u ba la tam san snem ka rta u sdang shroin, long tlot bad sa iap. Kat kum ka kyndon u siej u ba palat ia ka 5 snem ka rta ym dei ban ieh sah ha ki kper siej khnang ban pyniaid iew ia kine ki siej.

Ka por kaba biang bha ban thoh siej ka dei hadien ka aiom slap bad bteng baroh shi tlang. Kane ka dei ka por ba u siej u thiah bad u pyndonkam duna ka jingbam. Ka dei artad ka por ba u siej u lah ban ialeh pyrshah ia ki khniang pynpei thliew, ki dkhiew bad kiwei kiwei pat.

Ia u siej ym dei ban pom ne thoh ha ka por ba u heh u san khamtam ha ki por lyiur. Lada pom/thoh ha kane ka por kan pynjulor ia ki shylluid , ki siej lung ki ba dang rit bad kan pynsuki ia ka jing heh jing san kiwei pat ki siej kiba don ha u juh u lympung siej.

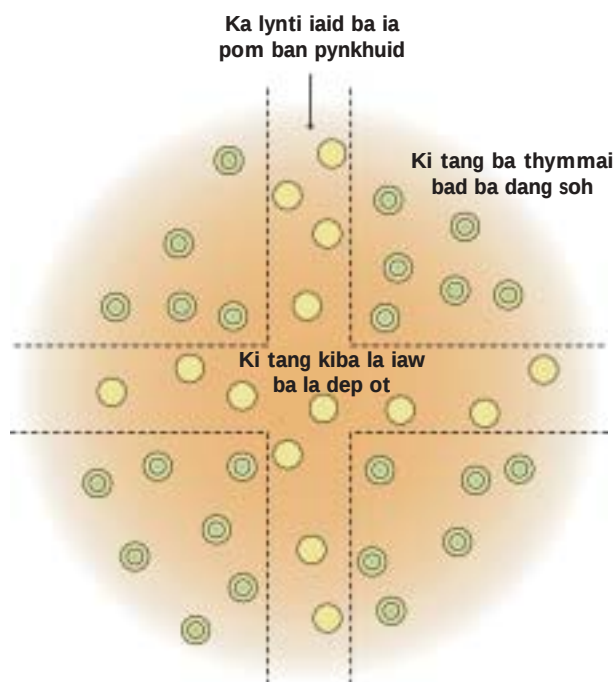
KA RUKOM THOH/POM IA KI LYMPUNG SIEJ BA KHAPNGIAH

U lypung siej u lah ban khapngiah ne bun ki daw kaba kham kongsan ka long ba ia u lypung heh la shu ieh khlem pom ne pynkhuid kumba ar lai snem. Kane ka kham jia ha ki khlaw siej ha kaba ka jingpom ka long tang shisien ha ka saw snem lane kham palat. Kane ka jingieh khlem pom kam dei ban long ha ki kper siej kiba la sumar bha.

Don ki jait siej kum u *Bambusa bambos*, *Bambusa balcooa* bad u *Dendracalamus strictus* bad kiwei ki jait siej ki khapngiah bha ha u lypung siej. Kane ka wanrah ka jingkhapngiah jong uwei u lypung siej na uwei pat. Shuh shuh u jait siej (*Bambusa bambos*) u long shiah bad kane ka pynlong kaba shitom bha ban trei ha kaba pynkhuid bad pom ia une u jait siej. Ha kum kine ki khep dei ban bud ia ka rukom pom siej kaba khot 'tunnel' ne 'lynti iaid shapoh' bad 'horse shoe' ne 'dur kjat kulai'.

KA RUKOM POM/THOH SIEJ DA KI LYNTI IAID SHAPOH

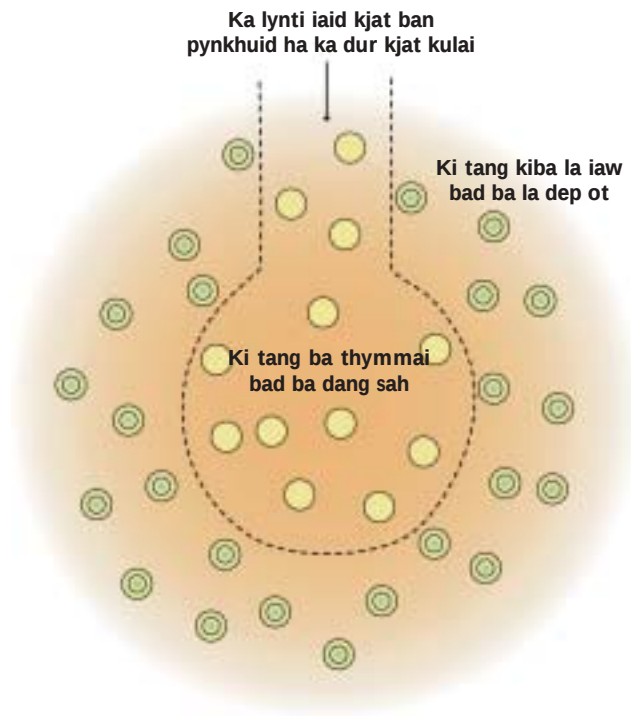
- Dei ban shna 2 tylli ki lynti iaid kiba sam lyngba napdeng ki lypung siej. Kine ki phiah ia ki lypung ha ki saw bynta, kine ki lynti iaid ki ailad ban rung shapoh ki tynrai kmie ban kham suk ban trei.
- Ki siej kiba la biang ka rta dei ban jied ban pom/thoh na baroh saw bynta.
- Ka long kaba donkam ban weng ia ki siej kiba tlot bad ki bym san/heh shuh na baroh sawdong ka tynrai kmie, bad pynsah tang ia ki ba koit ba khlain.



KA RUKOM POM/THOH SIEJ HA KA DUR KA NAR KJAT KULAI

- Ia ki tynrai la pom ha ka dur ka nar kjat kulai ne ha ka dur u 'V' khongpong da kaba sar ne pynkhuid naba sdang ia ka bynta ba pyrshah ia ki bynta ba rben ne ba bha ki siej.

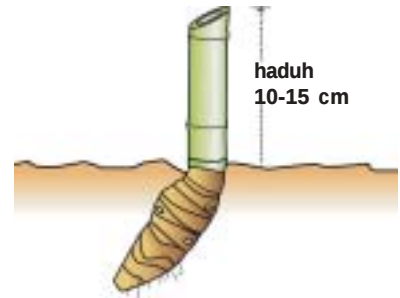
- Baroh ki siej ba la tymmen ne pyut dei ban weng noh bad ieh tang ia kiba dang shisnem bad kiba dang san bha, ryngkat bad katto katne tylli kiba la iaw kiba kham iajngai uwei na uwei pat.



Wat la kane ka rukom ka long kaba lutksan ha ka ba sdang, bad ha ki khep ki khep la hap ot noh, ai ba ki katto katne ki siej ba iaw bad ba dang lung kin neh shipor. Ki iarap pat ban pynduna ia ka jingkhapngiah bad ai jaka ia ki lung siej bad ki siej ba kin ioh jaka ban san. Ki pynthikna ia ka jingsuk ban trei pat ha ki snem ba bud.

KA RUKOM POM SIEJ BA KHAM BHA

- Ka rukom dur kaba biang jong ka lypung siej ka jaka rep ka dei ban long ha ka bynta 3 : 3: 3: 1 ha ka snem ba nyngkong, ba-ar, balai bad basaw la ka jong ka jong. Ki jaka rep ba la rep ban pynmih lung siej ki donkam ka rukom dur jong ki lypung siej kiba kham pher.
- Ka jingbun ki tang ba la weng ne ot noh kam dei ban palat ia ka jingbun jong ki shylluid ba dang shu mih bad heh kum ki tang ba dang lung.
- Ia ka lypung siej dei ban da khmih bha bad ia ki tang kiba mut ban ot dei ban da jied, badsa pynlong ia ka kam ban pom.
- Ka jing pynpyndonkam da ki kyndon dak buh ia ki jinglongiaw ki siej kan iarap ha ka ban pynstet ia ki jingjied ia ki siej ba dei ban pom.
- Ia ki tnat kiba mih na ki mat harum jong ki tang ba la jied dei ban weng noh. Kane kan iarap ha kaba pom bad weng ia ki siej.



- Ia ki tang dei ban ot uwei bad kham bha ot tang shi mat najrong ka sla khyndew. Kane kan pynduna ban pynlait na ka jingpynmomg ia u tyllong.
- Ia u tang dei ban pom kynriang, kata da kaba pynshli ia ka jing ot. Kane kan pynthikna ba ka um slap, ki niut pyut bad ki tnat diengrit kin nym lang ha ka bynta ba la ot halor jong u mat bym pat ot, bad long ruh ki jaka pynroi ia ki tit pdew, ki mangkaring bad kiwe ki khniang.
- Ki tnat dieng rit bad ki bynta ba la kyntait noh na u siej ba la pom dei ban weng na ka jaka kaba ker ia ka lypung siej.
- Ia ki tang ba la pom ym dei ban tan halor khyndew sha ki jaka lum. Kane kan pynmong ne khud ia ki syrtap snieh jyrngam bad balah ban pynhiar ia ka dor die u tang. ■

KA ROKOM BUH THUP BAD JINGLUM IA U SIEJ

IA KI SIEJ BA LA DEP POM hap ban lum bad buh thup shipor hapoh bri ne hajan ka kper siej. Ia kane donkam ban leh na ki katto katne ki daw ha ka ban lum shibun bad shwa ban phah sha iew ne ban ap haduh ban kham bit ka dor iew lane ban kyllan ki dawai ban kham pynneh ia u.

Mar syndep pom bad ha ka por ba dang buh shi jaka ia ki siej kan kham bha ban buh thup da pynieng ban ia kaba buh pynkiang ha madan. Kaba buh thup da pynkiang kan shon/khnyiot ia kito ki siej kiba don shatrai bad ki lah ban pynpait ne pynjutor.





Ka rukom buh thup da pynieng ia ki siej kan kham bha namar ha kiba bun bynta ki ioh lyer bad sngi.

Kane kan pynkloi ban pynrkhiang ryntih. Lada lah kan kham bha ba ki madan ki jaka buh thup ia ki siej ka dei ban long da ka dew bilat haba ki khniang bad ki dkhiew kin nym boi. Kaba ban kham tad ka lad ka long ban siang madan buh thup da ki plastic bad carpet.

Ka jaka ba tap ne kah dum kan kham bha shibun bun ha ka ba buh ia ki siej. Kane kan iada ia ki na jingshoh ka sngi bad u slap. Da ka ba pynshah ha u slap kan pynlong ia u siej ban nang kjit bun ka um bad ban nang slem ban rkhiang, bad haba pynshah sngi pat u rkhiang bad pynlong ba un pait bad pdang. ■



KA POR BAN TREI HA KA JAKA REP SIEJ BAD KA RUKOM BAN PYNBEIT IA KA POR THUNG

KA INDIA KA DEI ka ri kaba heh. Ka don ki jinglong ka suin bneng ba ia pher ha bun ki thain bad kumjuh ruh ka khyndew. Kam long kaba suk ban buh tarik ia ka por thung siej ha baroh ki jaka. Hynrei don katto katne ki nongrim ba donkam ban bud ia ka wat ka don ki jingiapher kumba la kdew ha neng.

Ka por ba kongsan eh hangne ha ri jongngi ka dei ka por slap. Ki jingheh jingsan jong u siej ka shong eh ha kane ka aiom, bad ka ktah bha ia ka jingbha jingsan u siej. Ka por slap ka dei ka por ba donkam ia u jingthung. Ki siej lung ki mih bha da ka jingiarap ka jingsngem, ka jingsyaaid bad baroh kine ki siej lungki pynmih ia u siej ba koit ba khiah bad ki jrong stet tang hapoh lai bnai hadien ba ki la mih. Hadien ka por slap bad ba la wan ka por khriat hangne u jingthung u rung sha ki jinglong ba pynjahthait bad u pynduna ka jingtrei kam bad u shu pynlang jingbam.

(Ban pyndep)
(ha ki bnai)

- Ka jinglum khyndew bad jingtest M - 6
- Ka jingjied jaka bad jingpynkut, ka survey bad jingringpud M - 5
- Ka jingjied ia ki jait siej, ka jingpynkhreh ia ka plan ban thung bad ban buh ia ki bynta ba pher ha ka jaka rep M - 4
- Ka jingseng ia ki nursery/ jingpynbiang ia ki lad ban pynmih t ynrai
- Ka jingker bad jingiada, ka jingshna kharai M - 3
- Ka jingpynioh ia ki trai sara M - 3
- Kaba pynkhuid ia ka jaka rep bad jinglur M - 3
- Ka jingsieh dieng na ka bynta ki thliew M - 3
- Ka jingtieh thliew M - 3
- Ka jingpynkhreh ia ka khyndew, ka jingaisboh na ka bynta met/dawai sboh ha ki thliew
- Ka jingthung ha ki thliew, ka jingai um ha ki thliew bad sawdong ki tynrai siej M - 2

KA POR BAN TREI HA KA JAKA REP SIEJ BAD KA RUKOM BAN PYNBEIT IA KA POR THUNG

Kaba sumar ban pynkhuid ia ka jaka thung, ka kynthup bun jait ki kam. Da kaba pyndonkam ia ka jingwan u slap kum ka dak ka jingsdang bad ki wei de lah ban pynbynta ia ka kam kat kum ka por.

KI KAM BA HADIEN BA LA DEP THUNG HA U SNEM BA NYNGKONG

Ka Sboh. Hadien ka ba la ai sboh ha ki thliw ha ka por ba la thung lada pyndonkam ia ka sboh haka por thung, donkam ban ai biang hapoh 1 - 2 bnai hadien ba la dep thung. Ia kane ka rukom ai dawai donkam ban leh biang kumba 5-6 bnai hadien ka por lyiur/ slap. Ka rukom ba shait ai barabor ka long kumne: Man u wei pa u wei u jingthung u donkam 150 grams N + 150 grams P + 75 grams K. Lada ngi pyndonkam pat da ka sboh pyut ngi lah ban ai baroh shisnem lynter.

Ka rukom ai um. Ha ka snem ba nyngkong dei ban sumar bha ia ki jingthung bad ym dei ban ieh tyrkhong bad kat kum ki kyndon hadien shibnai ba la dep thung dei ban ai thikna ia ka um man la ka ar lai sngi. Nangta pynjlan sha ka shitaiew bad lada jia ba slap dei ban sangeh noh ban ai um hadien ka por slap bad ka shong ha ka jinglong sngem jong ka khyndew, khyndiat khyensoit dei ban ai um ba nym ai lad ia ka khyndew ba kan tyrkhong. Ha ka snem ba nyngkong donkam ban ai um kham bun bad pynduna pat ha ki snem ba bud. Ha kiba bun hi ki bynta jong ka ri India, donkam ban ai um arbnai ha shwa ka por slap bad saw bnai hadien ba la dep slap.

Thiew Niut. Ha u snem ba nyngkong dei ban thiew niut man ka por bad nym ai lad ba ki phlang bad ki niut kin ialeh pyrshah ne khang lad ia ka jingmih u siej. Ha kiba bun ki bynta ka ri India donkam ban thiew niut ar sien kata shisien ha u bnai ba ar ne lai sien hadien ba la dep thung bad shisien pat ha shwa ban kut ka por slap ne lyiur. Ia kane ka rukom thiew niut lah ban leh bunsien ha ki jaka ba slap bha.

Ka Kara Khyndew, Tap Sla Iap Bad Kynton Bun. Ka kara khyndew ka kynthup ia rukom pynsynjor khyndew bad jingtep khyndew da kaba kylla halor tynrai siej kumba ka kynthup ia ka rukom tap sla ia ka kynton bunn. Lah ruh ban pynbud da ka jingtap jong ki sla dieng bad niut ban pynsboh bad iada na ka jingshoh u slap. Ia kine dei ban leh ha ka por khriat lane lai bnai shwa ban slap bad pynbud pat lai san bnai hadien ba la dep slap.

KA RUKOM SUMAR IA KI JAKA THUNGSIEJ HA KA SNEM KABA AR

Ha u snem ba ar dei ban bud ki juh hi ki rukom trei kum ha u snem nyngkong bad ha ki juh ki por.

Ka dur ki tynrai kmie kiba dang shu mih ki long stang bad kham niar wat la katta ruh ki long kiba jyrngam hi.



Ki lypung siej ba dang lung:
Dendrocalamus hamiltonii

- Donkam ban thung biang ha ki jaka jong kito ki symbai ba iap.

- Ka por bad ka rukom ai dawai kan long kumjuh kum ha ka snem ba nyngkong, lada ym don eiei ba kham kyrpang ba yn dang leh ne ban sangeh noh kat kum ka jingbatai ki riew shemphang ba ki la lap ha ki snem ba mynshwa.
- Ka rukom ai um, kara khyndew tap sla bad kyntiew bun kin long kumjuh ha ka juh ka dur lane ban leh haba bud ia ki jingkylla ba kham bha
- Dei ban peit bha ia ki jingker bad ki jaka ba thylli ban pyndap

KA RUKOM SUMAR IA KI JAKA THUNG SIEJ HA U SNEM BA LIA (*Plantation in the third year*)

Ha kane ka snem, ki siej lung ki la long ki siej kiba la kham long met bad ki ba kham jrong ban ia kito ki ba mynshemsnem bad ki tynrai kmie ki la sdang wan dur ki sla ki ba pynlong ia ka jingtap nalar. U siej, kynthup ia ki thied bah bad ki thied rit ki la sdang ban phriang. Ka rukom trei kin long kumjuh kum ha ki ar snem mynshwa bad ka shong ha ka rukom heh jong ka tynrai kmie.

- Ha ka por slap ia ka jingheh bad jingsan jong ki siej lung dei ban da peit thuh bha. Ki siej lung kiba tlot dei ban pom noh
- Ia ka ban pynkhuid pynitynnad bad pynbha ia ki tynrai kmie dei ban leh hapdeng ki por ba ki siej kim heh kim san, kum ka nuksa kum ha u January.
- Ka jigndonkam ban thung kan kham duna

KA JING SDANG KA JINGLONG IAW HA U SNEM BA 4 BAD 5



Ka lympung tang siej ba la iaw: *Dendrocalamus hamiltonii*

Ha u snem ba saw bad ba san, ki jingheh jingsan ki siej ki la sdang ban paw bha ha ki jaka thung, ki tnad ki sdang noh, ki tynrai ki la sdang wandur bad don napdeng jong ki ki ba la kham jrong. Mynta la lah ban ithuh ia ka koit ka khiah bad hapdeng ki tynrai kmie la lah ban ithuh ia ka jing ia pher jong ki, bad hangno lah ban pyndonkam ia ki. Kine ki jing ia pher lah ban dei na ka jingiapher ha ka rukom sumar ia ki. Ki kam ba kongsan kin iai bteng, Hynrei ka jingsumar ia ki tynrai kmie ka long ka ba donkam nangne sha khmat.

Kaba kongsan eh mynta ka dei ban jied ia kito ki seij ba la iaw, ban pom pyn niar ia kito ki ba khah, ban weng ia kito ki ba don jingpang bad ban kyntiew ia ki bun. Hakane ka por ki sla iap ki la kham bun bad lah ban pyndonkam ia ki ha ki kper hi. Ka jing thiew niut kam da donkam shuh.

Ka jingpeit kyrpang dei ban leh ban ot jied ia ki tang ba la iaw (kito kiba mih ha ka snem kaba ar) ka jingpom pynstang ka jingngor jong ki tnat harum ka jingweng ia ki kliar ba don jingpang bad jingkynton khyndew. Ki sla ba hap halor khyndew kin bun bha bad lah ban pyndonkam ha ka rep siej. Ka jingdonkam ka jingthiew niut kan duna namar ki lympung ki tang siej ki lah ban san bha.

KA POR BAN TREI HA KA JAKA REP SIEJ BAD KA RUKOM BAN PYNBEIT IA KA POR THUNG

Ha ki jaka thung ba la pyndonkam da u tyllong bad ki tang ba la ot, lah ban pom ia ki siej naduh ka snem kaba saw

BAN OT/KHEIT IA KA JINGMYNTOI NADUH U SNEM BA 5,6,7

Mynta ki siej ki la long trai ne synshar ia ki jaka ba la thung ia ki, bad ki la lah ban bsa ia lade ban peit ia ki jing donkam lajong, kim donkam shuh ia ki jingiada lait noh ka jingpom tuh. Ia u siej ba 3 snem la lah ban pom. Kane kan iarap ha ka ban pyn itynnat ia ka dur ka dar jong ki lympung bad pynmih pisa ruh ha kajuh ka por.

Ia ki tang ba lai snem lah ban khet mynta bad ban lum. Kane kan iarap ha ka jingsumar ia ki lympung siej bad ban pynmih pisa. ■



Ka jaka/ kper thung siej: *Dendrocalamus hamiltonii*



KA RUKON THUNG BAN PYNMIH IA KI LUNG SIEJ



MYNTA KI SIEJ LUNG ki iaied iew bha. Ia ki siej lung lah ban shu die mar syn tih na kper ne ban shna malu mala bad thep ha ki song ban die ha ki iew bad ha shnong ha thaw.

Ka kper ka ba la thmu ban pynmih tang ka siej lung ne baroh ar ki donkam ka sboh kham bun bad ki jing sumar ka ba kham kyrpang, ban ia ki kper ki ba pynmih ia u tang siej. Kine ki kper ki donkam ia ka khyndew kaba kham bha, ka um kham bun bad ruh ka jingshai bad jingshit kaba biang.

Ia ki siej lung dei ban ot noh ynda ki la kot ka jing heh kumba 15-18 inch na khyndew, kane ka rukom mih jong ki siej lung ka long ka ba sted bad lah ban jia tang hadien katto katne sngi. Ki siej lung ki ba kham iaw ki sdang long eh bad kito ki ba dang rit pat ki rit ka met. Ha ki kper kiba la mang ban pynmih siej lung, donkam ia ki jingsumar kaba paka bad dei ban trei man ka sngi ha ka por ba mih siej lung.

Kan kham bha shibun ban ot ne pom ia ki siej lung tang na kito ki tynrai kmie kiba la iaw, ki siej lung na kito ki tynrai kmie kiba dang rit kin duna ka bynta ban long bam.





KA RUKOM OT POM/TIH IA KI LUNG SIEJ

Nalor ka rukom pyniaid ha kaba sumar bad ki jingpyndonkam kiba pher, ka don ka jingiapher ba kongsan ha ki kper ba sumar tang ia ki lung siej bad ha ka rukom pom.

- U tynrai kmie ba la thung na ka bynta ban pynmih tang ki lung siej u long ha kane ka bynta 4:4:2 ha ka snem kaba nyngkong, ba ar bad ba lai ter ter.
- Kum ha ka ba thoh/ot ia ki lung siej donkam ban da bishar bniah bha ia ki tynrai kmie ban ithuh ia ki lung siej kiba la long ban ot.
- Ki lung siej kiba heh ne san hapdeng jong ka aiom ba ki heh kin kham long ki lung siej kiba shait ba khlain ban ia kito ki ba mih dier por.
- Ha ka kper kiba pynmih ia ki siej lung ryngkat bad ki siej la shem ba kumba 30 na ka 100 dei ban ot /pom man u snem khlem da niew ia kito ki ba la iap bad pang. Ha ki kper kiba la thmu ban pynmih tang ia ki lung siej lah ban pom haduh 50 ne 60 na ka 100.

Dei ban husiar bha ha ka ot ne pom ban nym pynsniew ia ki tyllong lane kiwei pat ki lung siej. Ki lung siej kiba ot ha kane ka por kin sngem sah, kin slem ban tyrkhong. Dei ban bud ia kine ki rukom harum.

- Ieh sawdong ka tynrai u lung siej ban ithuh ia ki tyllong.
- Khlong kumba katto katne inchi na trai ban ithuh bad da phikir ban nym pyntyngkhuh ne ot ia u tyllong.
- Pyndonkam ban ot da ki tiar kiba nep bad kiba khuid khnang ban pynduna ki jingma na kaba pynbit jingpang ia u jingthung.
- Wat nym ot ia ki bynta jong ka sop/kop (*shoot sheath*).
- Hadien ba la dep ot ne khlong ia ki lung siej dei ban tap noh syndon da ka khyndew.

Hadien ba la dep pom ne khlong ia ki lung siej dei ban buh ia ki ha ka jaka ba long sngem bad khuid. ■

Ki jaidbynriew Reangs ka Tripura ki don ka jingpyndonkam tynrai ban sangeh ne pynslem ia ka jingkylla eh ki siej lung bad ban pynioh kham bun ka bynta kaba lung ban bam (lung siej). Ka kyndon kaba nyngkong ka long ban ithuh katba kloi ia u siej lung uba jan mih kham shalor khyndew. Ia kane la lah ban tip da kaba iaaid khlem phong juti sawdong ka lypung siej; lah ban sngewthuh ia ka jingshon ki tduh ba nep ki siej lung da ka jingsngew ia ka jingshon jong ki ha sla kjat.

Ka kyndon kaba ar ka long ban buh ia u khiew khyndew da pyllup halor ki siej lung. Donkam ban pyndap da ka khyndew bad ki sla ba hap halor u khiew, ban ban ia u. Hadien ba la kah ka jingdum bad jingiada na ka lyer bad sawdong mariang, u siej lung u iai heh iai san kumba u dang don hapoh ka khyndew. Um lah ban mih shajrong khyndew, u nang iai heh pynban bad sdang at hapoh khiew bad teng teng u iai kyllain hapoh. Hadien katto katne sngi ia u khiew la weng noh bad ia ka lung la tih noh.



ANNEXURE: KA RUKOM SHNA SBOH DA KABA PYNDONKAM IA KI WIEH

Ka sboh wieh ka dei kawei pat ka jait sboh kaba lah ban bujli ia ka sboh dawai. Nalor ba kane ka sboh ka ai jingbam ia ki jingthung lane kper siej ka sboh wieh ka long kaba myntoi ka ai jingiarap shuh shuh, nalor kaba die ia u siej bad ki lung siej lah ban die sa ia ka sboh wieh.

Ha kane ka sboh wieh ki wieh ki pynkylla ia ki jaboh sha ka sboh kaba bha bad seisoh. Ka eit wieh ka don 5 shah ka nitrogen, 7 shah u phosphorus, 11 shah u potash, 2 shah u calcium, magnesium bad 8 shah ki khniang rit kiba donkam (*bacteria*) ki ban pynbha ia ka khyndew.

KA RUKOM PYNKHREH NA KA BYNTA BAN SHNA SBOH WIEH

Ka eit masi, ki jhur pyut, ki sla iap ki dei ki mar ba bha, na kiba lah ban shna sboh wieh. Ka kper siej shi hectar ka lah ban pynmih 6 - 8 tonne ki sla iap man u snem.

- Lum ia ka eit masi ba thymmai, ki mar rep ba pyut, ki jhur pyut bad ki sla iap. Ia kine la ieh kumba katto katne por ba ki pyut bha. Ia ka eit masi ba dang thymmai dei ban ieh kumba 8 - 10 sngi ba kan kham pyut bha bad ia ki mar rep pat haduh 15 sngi.
- Hadien ba ki la pyut khleh lang ia ki eit masi bad ki mar rep, ki jhur pyut ban long ki kynja jingbam. Ia kine dei ban khleh ha ka 2:1 (ar bynta ki mar pyut, ki jhur pyut, ki sla iap bad shibynta ka eit masi).
- Ia ki wieh lah ban thied na iew lane ki nongri katkum ka kyndon treikam (*working norms*), u wieh u don kumba 670 - 700 tylli ha ka kilogram.
- Pynbeit ia kine ki jingkhleh ha ka syrtap bad buh ha ki bun ne rynsan
- Ieh ia kine bun sngi ba kin pjah. U wieh um lah shah ia ka jingshit.

- Pynlait ia ki wieh ha ki bunn kumba 500 gram ha ka cubic meter
- Tap ia ki bunn da u skum kpa, sla siej iap ban iada na ka jingshit jingshai bad ban pynthynda ia ki wieh.
- Synreit um man ka por (hadien 3 - 4 sngi ha ka por lyiur bad 7 - 8 sngi ha ka por tlang) ban pynneh ia ka jingsngem kumba 50 na ka 100.
- Ia ka khyndew ha ki bunn dei ban pynkylla khongpong man ka 10 sngi khnang ban kham rung lyer. Kane kan nym pynlong tylli ia ka khyndew na kaba ai um.
- Hadien ia kiei kiei kiba donkam ba la kdew haneng la dep leh, ia ka sboh wieh mynta la lah ban pyndonkam hadien ba ka la long khyndew ktieh bad long phur phur
- Khatduh weng noh ia ki sla siej iap, ki skum kba bad rah ia ka sboh na ki bunn.

Ka jinglong ka suin bneng bad kiwei kiwei kiba don sawdong ki trei ia ka kam ba kongsan ha kaban shna sboh wieh kumne harum -

- Ha ka por tlang ka shim por 105 - 180 sngi ban shna sboh.
- Ha ka por shit ka shim por kumba 80 - 90 sngi ban shna sboh.
- Ha ka por slap ka shim por kumba 70 - 80 sngi ban shna sboh.

KA NUKSA JONG KA JINGSHNA SBOH WIEH

Ia ka jingshna sboh wieh lah ban leh hapteng ki lain ba thung siej. Ka jingmutdur ha kane ka nuksa ka jaka thung siej ha kaba ka jingiajngai ka tynrai ka long 5 x 5 metres ter ter ha ki lai dong. Ka bun shna wieh kan long 1 metre ka jingiar bad jingrah ia ka khyndew kumba 25 haduh 30 centimetres. Ka jingjrang kan shong ha ka jingdon ka jaka, kata ka lynter ki lain ha ka jaka thung siej. Kumba shu ong, 10 na ka shispah bynta (10%) lah ban pyndonkam ban shna dawai sboh wieh. Da sumar ba ki kharai/nala ai um bym poi ia kine ki nur dawai wieh.

Ki mar ban pynkylla sboh kynthup ia ka jingsngem ha ka shi cubic metre ki dei ban long 636 kg/ cum. Kane ka mar pynkylla sboh ka kynthup ia ka jingkhah ka khydew, sboh masi, ki sla jingthung bad kiwei ki mar ba la kyntait na ka rep ka riang ha ka bynta 70:30. Ka jingdonkam ia ka por shisien pynkylla kan long kyllum 100 sngi ha shisnem ne 3 sien shiteng (3.5) ha ka jingpynmih ha ka shisnem. Ia ka dor iew jong ka sboh wieh la shim ba kan long T 2 shi kilo.

KA JINGPYNWANDUR HABA DANG:

- Ki mar kythup ia ka jingsngem ha ka cu.foot jong ka nur, ka sboh masi/ muid bad ki mar kyntait na ka rep ka riang ha ka bynta $30:70 = 18 \text{ kg} = 635.8 \text{ kg/cu.m}$
- Ka jingmih (*vermiculture*) kum bynta na shispah bynta (%) jong ki mar haba sdang (*input*) = 30
- Ki cycle ha ka shisnem = 3.5
- Ka dor iew ka dawai sboh wieh = T 2/ kg

KI JINGKHEIN HABA DANG:

- Ka jingheh ka jaka thung = 10,000 sq.metres (*1hectare*)
- Ka jingheh ka jaka na ka bynta ka shna sboh wieh = 1,000 sq.metres (10%)
- Ka jingshim jaka (*volume*) jong ka nur shna sboh wieh = 10,760 cu.ft, 305 cu.m bad 1ft ka kynjang
- Ki mar sdang = 1,93,680 kg
- Ka jingmih/ cycle = 58,104 kg
- Ka jingmih/ shisnem = 2,03,364 kg, 203.3.364 m.tons (3.5 cycles ha ka shisnem)

$$= \text{T } 4, 06, 728 @ \text{T } 2/ \text{ kg}$$

KA GLOSSARY

a

acre ka jingheh ka jaka kaba long 43,560 phut sawdong ne 0.405 hectare

amphipodial ka jinglong ki tyllong siej ha kaba don khleh ki tang ba mih kynhun shi jaka (sympodial) bad ba tang marwei (monopodial)

axis u lain ba mut dur ba long pdeng ha ka ki bynta uno uno u jingthung ne ki bynta met

b

bud u shylluit jong u syntiew ne sla ba dei u bynta ha ka jingsdang ka jingheh jingsan u jingthung

C

canopy ka ne ki syrtap jong ki tnat bad ki sla ha ki bynta ba shajrong/ klier jong u jingthung siej

clump ba khein kyllum ia u siej kum uwei u jingthung da kaba kynthup lang ia baroh ki tang siej ba mih shi jaka ne lympung

complete fertilizer ka jingbam ne sbob jong u jingthung kaba don lut baroh ki sbob jingbam: nitrogern, phosphorus bad potassium (N,P,K)

culm ba la tip kum u siej ne u tang, ba dei uwei u tang bad ba lah ban sngewthuh kum u bynta ba shajrong khyndew jong u siej lait noh u tyllong

f

farm yard manure (FYM) ki tait na ka rep ka riang ne jong ki mrad ba ri ba pyndonkam ban pynsboh ia ka khyndew

fertilizer ki dawai sbob ne sbob na ka bynta ka jingbam jong ka met ki jingthung kiba long ha ka dur um ne

saphit tylli ba la pyndonkam ban pynbha ia ka khyndew ban pynkham bha ia ka jinglong bha ne pynmih bun ia u jingthung

flowering ka jingjia ha ka jingim u jingthung ha kaba pynlong ia ki kynhun ba kyrpang jong ki sla ba kin mih ha ka jingthmu ban shim bynta ban kha roi da kaba puh syntiew

g

gregarious flowering ha kaba baroh ki tang siej kynthup ia ki tyllong jong ka lympung siej kaba ka jaka kaba palat 5 hectar ki puh syntiew bad iap noh hadien ba la pynmih ia ki symbai

h

habitat ka sawdong mariang ne ka jaka mih u jingthung bad ka jaka sah ki mrad; ka jaka ba la lap ba ki mih ne sah

hectare ka jingheh ka jaka kaba ka jingthew ka long 100 meter sawdong ne 2.47 akar

i

inflorescence ka jingmih kynhun jong ki syntiew shi jaka ha u tnat u jingthung ba la pynbeit ia ki ha kata ka dur ba ki pher na uwei u jait jingthung na uwei pat

intercropping kaba thung khleh palat ia uwei u jait jingthung ha ka shi jaka ha kajuh ka por

internode u bynta jong u tang siej, tnat ne tyllong siej ba don hapdeng ar ki mat ba ter ter; la ju khot ruh 'pungmat'

irrigation ka jingai um da ki nur ia ka khyndew na ka byna ka jingheh jingsan ki jingthung

I

leptomorph uwei na ki ar jait ki tyllong la pyni dak da u met ba jrong bad raikhoh, u pungmat ba jrong bad ka jingsan ha ka jingjrong bym lah ban thikna

m

mulch kano kano ka kynja met ne bynta jong ki jingim ba kham rew kum ki sla, ba la buh halor khyndew ban pynduna ia ki kynbat bad pynneh ia ka jingsngem

monopodial bamboos ki siej kiba mih ha ki jaka kiba ka jingkhriat jingshit ka long pdeng bad teng khat ba lah ban shah ia ka jingdait thah, la pyni dak da ki tyllong kiba jrong bad ki pungmat kiba ryntih ha ka jingwan dur, kiba ka lynter ka jrong ban ia ka jingiar; ki tang ki ieng marwei ym kum ka lympung siej

n

node ka mat ne jaka ba kynduh ar tylli ki pungmat; ka jaka kaba ka tangsop, ki sla lung barit, ki tnat bad ki syntiew ki mih

nutrients ki saphit jingbam u jingthung ba donkam na ka bynta ka jingsan bad jingpynkha roi ia ki jingthung kiba kham kongsan ki dei ka nitrogen (N), phosphorus (P) bad potassium (K)

p

pH ka jingthew ia ka jingbun ka kynja shun (calcium) ba la kynthup ha ka khyndew; ka dak pH ba la pyni da ki dak naduh u 'O' haduh '6.5' ka pyni ia ka jinglong 'ra' (acidic) ka khyndew bad ka dak pH ba la kdew da u 7.0 ka long pdeng (neutral) bad palat ia u 7.0 ka pyni ia ka jinglong lam shun (alkaline)

plantation ka bynta ka sla khyndew ha kaba la rep shi jaka ia ki jait jingthung ha ka rukom pyniaid kiba paka bad da kaba bud ia ki buit saian

pruning ka jinglor ne jingpynduna ia ki bynta ki jingthung da kaba pom ia ki bynta ba la iap ne ba shah

pynjutor bad ban pyniaid bad ban pynkhie im ia ka jingsan bad jingplung ki jingthung

r

rhizome u metbah ba shapoh khyndew ne u bynta jong u metbah ba don ki mat bad pungmat, ba tap da ki snep stang ne sla bad ju mih thied ha ki mat

S

shoot u tang siej ba dang lung

species ka thup sdang ha ka ban pynithuh bad pynlong kynhun ha ka jingialong hajan/ hajngai ki jingthaw ba im; ka kynthup ia baroh ki jingthaw kiba long jan bad ba iasyriem bha bad ba lah ban iashongkha bad ki khun kiba shah kha ki syriem ne don ka jinglong kum ki kmie ki kpa jong kajuh ka kynhun

sympodial jong u metbah ha kaba ka jingsan ka kut ha ki jingmih ki kynhun syntiew ne iap noh bad ka jingsan jingjrong la pynmih biang ter na kawei pat ka liang ba thymmai

t

thinning ka jingpynduna noh ia katto katne ki tang siej ban pynbha ia ka bor bad jinglong ba kham bha jong ki tang kiba dang sah, ban pynkham niar ban lait ia ka jingiaknieh ia ka bam bad ki kjat sngi

V

vermiculture ka jingri ia ki wieh bad ka jingpynmih na ki ban pynioh ia ka sboh

W

windbreak kaba thung ia ki dieng, ki siej ne jingthung ba la pynwandur ban iada ia ka khyndew, ki jingthung, ki iing ki sem ne ki bri dieng na ka lyer kaba khlain bad pynduna ia ka jingshah rah noh ka khyndew

KI KOT BA PYNMIH KA NMBA (NMBA PUBLICATIONS)

An Annotated Bibliography

CD

T200/ \$20

Palat 3000 ki kyrteng ki jingthoh kiba kynthup ia ki jait jingtrei kam ba pher kiba don ka jingdei ha ka liang u siej (bamboo sector)

The Bamboo Book

Field Guide (FG 01 02/04)

T150/ \$15



Ka kot pynithuh ia ki bun jait ki siej, khamtam ia ki siej ba mih lympung. Ka nonglam lynti bad ka jingpyni ia ki dak kumo ban ithuh ia ki jait siej ba don kynrei ha ri India.

Bamboo Flooring

Market Assessment (MA 01 02/04)

T250, \$25



Ka jingpynshongdor ia ka iew ka hat

hapoh ri kaba iadei ia ka dor jingiadie iathied ia ki lyntang madan iing ba la shna da u siej bad ka buit pyniaid iew ia u siej.

Bamboo Furniture Components

Market Assessment (MA 02 02/04)

T250/ \$25



Ka jingpynshongdor ia ka iew ka hat hapoh ri jong ka iadie iathied ia ki miej, ki shuki, almari bad kiwei kiwei kiba la sumar da kaba pyndonkam khleh lang ia u siej bad ka buit ban pyniaid iew.

Building with Bamboo

Training Manual (TM 01 02/04)

T200/ \$20



Ka kitab jinghikai na ka bynta ban shna iing da ki siej bad kiwei ki jait dieng khleh lang bad u siej.

Bamboo Shoot Processing

Training Manual (TM 01 02/04)
T100/ \$10



Ka kitab jinghikai na ka bynta ka imlang sahlang, ka rukom shna synrop lang ia ka lung siej da kaba pyndonkam ia ki tiar kiba kham tad.

Propagating Bamboo

Training Manual (TM 03 11/04)
T150/ \$15



Ka kitab jinghikai ban thung ia u siej bad ka jingban kyrpang halor ka rukom rep shi jaka ia ki siej da ka jingpyniaid kaba kham paka bad ki jingbud ia ki buit saian.

Cultivating Bamboo

Training Manual (TM 04 11/04)
T200/ \$20



Ka kitab jinghikai shaphang ka jingthung siej, bad ka jingban kyrpang halor ki jingpyniaid kiba paka ia ki kper thung siej.

Ka jingpynshongdor ia ka iew ka hat hapoh ri kaba iadei ia ka dor jingiadie iathied ia ki lyntang madan iing ba la shna da u siej bad ka buit pyniaid iew ia u siej.

Kino kino ki briew kiba kwah ban thied ia kine ki kot, kin sngewbha ban phah ia ka crossed (a/c payee only) bank drafts ne ka cheque jong ka bank ha Delhi ba la thoh ha ka kyrteng "TIFAC".

Ia ki bank draft dei ban thoh ba dei ban siew ha New Delhi. Ia ki cheque ki bym dei ha Delhi dei ban ai sa T 60 nalar ka dor jong ka (ki) kot na ka bynta ka jingpyniaid ia ki cheque (\$2 na ka bynta ki cheque na ri nongwei). Ki dor ia ki kot ba la pynmih hangne ki kynthup ia ka bai song bad bai phah parcel ha India bad shabar ri.

Na ka bynta ki orders kiba palat T 3000 kan don ki jingpynduna dor 10% kat kum ka rukom.

Ia ki cheque/ draft dei ban poi sha ngi ha kane ka address harum:

NMBA

(National Mission on Bamboo Applications)

TIFAC

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