

Ka rukom rep Kba ha ki jaka lum **(High Altitude Rice Production Technology)**



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Ka jing lamphrang.

U kba u dei u jingthung ba kongsan tam ha Meghalaya bad la thung kumba 40% katkum ka jindon ka jaka rep ha kane ka jylla. La thung ia u kba ha ki jaka lum, ha ki pynthor bad ki jaka ba rep syrti. Ka Meghalaya ka dei kawei na ki jylla naka thain shatei lam mihngi jong ka ri India. Ka don ha ka ki jaka lum, ki rithor bad ki jaka madan. Ka bynta kaba hapdeng jong ka ri lum Meghalaya ka kynthup ia ka Khasi Hills bad ka don ha ka iaaka jaka kaba jrong tam kaba ki khot ka Shillong peak (1961m na ka lebel duriaw) bad sha ka liang mihngi jong ka Khasi Hills don ka Jaintia Hills. Ka Garo Hills kaba long ka jaka madan ka don sha liang sepngi jong ka Khasi Hills. Ka jaka kaba jrong tam ha Garo hills ka dei u lum Nokrek ba d u don ka jing jrong kumba 1515m na ka lebel duriaw. Ki jaka jong ka jylla kiba don kham hajrong ki shong khriat jan baroh shisnem. Ha ki jaka lum, ka jingkhriat ka kham jlan bad dei na kane ka daw ka pynduna ia ka por ia u kba ba un heh un san bad ka khang lad ban thung ruh ia kiwei ki jait jingthung hadien ka jingrep ia u kba. Ha ki jaka kiba kham long lum, lada pynslem ia ka jingthung u kba hadien ka arphew tarik u bnai Jylliew ka pynduna ia ka jingmih u kba haduh 60%. U kba uba thung ha ki jaka lum u hap shah ia ka jingkhriat ha ki por ba u phuh syntiew bad ha ki por ba u sdang ban ih bad dei na kane ka daw ka wanrah ia ka jingbym ryntih ha ka rukom phuh syntiew. Kat kum ka jingshem, katba nangjur ka jingkhrait ka ktah ia ka jingiaid ia ki jingbam bad ka phosphorus sha ki symboh kba bad kane ka pynlong stait ia u symboh.

Ki jait kba kiba lah ban shah ia ka jingkhriat ha ki ri lum.

U jait symbai uba ki ju khot u *Indica* um da don ka jingseisoh ha ki jaka ba long lum na ka daw ba um lah shah ia ka jingkhriat. U jait symbai uba ki ju khot u *Japonica* u long uba lah ban iaishah ia ka jingkhriat hynrei ka jingrep da une u jait kba kam shym la long kaba seisoh ha kane ka jylla. Na kata ka daw, ban pynkiew ia ka ioh ka kot ki nongrep, ar jait u kba (NEH Megha Rice 1 bad NEH Megha Rice 2) lah pynmih ha u snem 1992. Kine ki jait kba kiba dei na kajuh ka lain kiba lah pynmih da kaba ia khleh lang u Pusa 33(*Indica*) bad u Khonorullo (*Japonica*). U NEH Megha Rice 1 bad NEH Megha Rice 2 dei kiba lyngkot ha ka rynnieng, kiba eh met bad kiba ih hapdeng 160-170 sngi. U NEH Megha Rice 2 u kham kloi ka por ban ih bad u lah ban shah ia ka jingkhriat lada ia nujor bad u NEH Megha Rice 1. Kine baroh ar jait ki kba ki long kiba khraw ha ka jingseisoh bad ki lah ruh ban shah ia ka jingpang tram (Rice blast) bad jingpyut jong u jyntang (Sheath rot). Na ka daw jong ka jinglah jong kine ki kba ban iaishah ia ka jingkhriat ha ka por ba u phuh syntiew, kine ki jait kba lah ban kham pyndier ia ka por rah tynrai haduh ka

taiew kaba ar jong u Naitung hadien ba lah dep tih ia u phan. Hynrei, lada pyndier ia ka por rah tynrai ia kine ki kba, lah lap ba u NEH Megha Rice 2 u kham long bha ha ka jingseisoh ban ia u NEH Megha Rice 1. Don ki jait kba kiba lah ju thung ha ka jylla, kiba kynthup ia u AboreB, Khonorullo bad Meghalaya 1, ki lah ban ai shibun ka jingmih ha ki jaka kiba shah ktah haka jingkhriat.



NEH Megha Rice 1



NEH Megha Rice 2

Ka rukom rep ia u kba.

Ka jylla Meghalaya ka lah nang iaaid shaphrang ha ka jingpyrshang jong ka ia ka rukom rep kaba khlem pyndonkam ia ki sboh dawai (organic farming) bad ka sorkar ruh ka pynshlur ban pynduna ia ka jingpyndonkam ia ki sboh dawai. Ka rukom rep organic ka dei ka rukom rep kaba iaaid lait na ka jingpyndonkam ia ki sboh dawai ban pynbha khyndew, sboh dawai ban pyniap khniang bad ki sboh dawai ban pynheh ia ki jingthung. Hynrei kane ka rukom rep ka iaaid da kaba pynkylla ia ki jingthung ha man la ki aïom ha kajuha jaka, ka jingpyndonkam ia ki jingthung kiba lah pyut, ki sboh jingri, ki jingthung kiba pynmih ia ki jingbam tei met kum ka nitrogen, ka sboh kaba lah shna tang na ki jingthung jyrngam, ka rukom rep kaba pyndonkam da ki kor kiba tih, thung bad kiba thiew, mar khyndew kiba don ki jingbam kiba tei met bad ki rukom pyniap khniang kiba pyndonkam da ki phngiat jingim, jingthung kum ki sla bad ki umphniang ba mih na ki jingthung khnang ban wanrah ia ka jingkoit jingkhiah jong ka khyndew, ka jingiaid jong ki jingbam na ka bynta ki jingthung bad ban pynduna ia ka jingroi jong ki khniang bad ki kynbat.

1. Ka jingpynkhreh ia ka jaka sara symbai

Jaka sara: Ia ka jaka ban sara ia u kba, donkam kutmba 1/20th na ka jingdon ka jaka ha ka pynthor. Ka nur ka dei ban don ia ka jingjrong kaba 10-15 centimeter, ka pynkiang kaba 1-1.5 meter bad ka lynter kaba 5-8 meter. Ka jaka sara dei ban da lur bha shuwa ban bet ia u symbai. Ha ka jaka sara dei ban ai ia ka sbob jingri kumba 2 kilo ha ka shi square meter (kg/m^2) jong ka jaka rep bad ka sbobwieh kumba 1-1.5 kilo ha ka shi square meter (kg/m^2) jong ka jaka rep.

Ka jingpynkhreh na ka bynta rah tynrai

Ia ka pynthor kba dei ban da lur bha haduh 15-20 centimeter ka jingjylliew khnang ban sbob bha ka khyndew. Ia ki kynbat bad ki jingthung kiba lah pyut dei ban khleh bha bad ka khyndew khnang ban sbob bha ka khyndew. Ka jinglur pynni ne pynktieh bha ia ka khyndew dei ban leh 2-3 sien ban pynduna ia ka jingmih ki kynbat bad ban bat bha ka um. Ka iarap ruh ban pynpra ia ki bynta baeh jong ka khyndew da kaba iada ia ka um ba kan lait tuid bad ban pynneh ia ka um ha kato ka jaka. Ka iarap ruh ban kunai ia ka um slap. Ka jingpynneh slem ia ka um ha ka pynthor ka pynduna ia ka jingrung ka lyer ha ka khyndew bad kane ka lam sha ka jingduna ki jingbam ha ka khyndew, ka pynkiew ia ka jingsniew kaba mih na u iron bad ka aluminium bad ka lyer methane. Kumba 10 ton ka sbob jingri lane 5 ton ka sbob jingri+shob kynbat dei ban ai ryntih bad u neem cake(150kilo) bad ka rock phosphate(150 kilo ha ka shi hectar) kat kum ka jingdonkam u kba bad dei ban khleh bha bad ka khyndew ha ka por pynkhreh ia ka lyngkha. Ha ki jaka ba pyndonkam da ki sbob dawai u phosphorus (60 kilo phosphorus=350 kilo u SSP) bad potash (40 kilo potash=65 kilo MOP) bad 50% ka nitrogen (30 kilo nitrogen=65 kilo u urea) dei ban khleh bha bad ka khyndew shuwa ban rah ia u tynrai. Sa 50% nitrogen dei ban ai arsien, nyngkong ha ka 30 sngi hadien ba lah dep rah tynrai bad hadien pat ha ka por ba u sdang soh.

2. Ka jingdonkam symbai (seed rate).

Ha ka shi hectar ka jaka donkam kurnba 35-40 kilo u symbai ban rah tynrai. Ia u symbai dei ban da pdem ha ka um mluh (250 gram ha ka 10 liter ka um) kumba 10 minit. Hadien ba lah pdem kumne, ki symbai kiba kham khia kin ngam shapoh bad kiba kham sting kin per halor kane ka um mluh. Dei ban jied da ki symbai kiba khia bad kiba ngam shapoh bad ban bret noh ia ki symbai kiba per. Nangta pat sa sait bha ia ki symbai da ka um kaba khuid bad sa thad ia ki ha ka jaka ba lait dei sngi. Ka ingkhleh ia u symbai ha u Trichoderma kumba 5-10gram na ka bynta shi kilo u symbai kan iarap ban lait na ka jingpyut u tynrai. Ka jingpdem ia u symbai kumba 10 minit ha ka um syaid kaba don ka jingkhluit kaba 60-62 °C ka iada ia u symbai ban kem jingpang.

3. Ka por thung (sowing time).

Ban sara ïa u symbai dei ban leh hapteng jong u bnai Iaiong (April) haduh ka taiew ba nyngkong jong u bnai Jymmang (June). ïa u tynrai sa rah ynda ki sara ki lah dap 20-25 sngi. Ka jingrah tynrai hadien ba lah dep tih ïa u phan (kata haduh ka taiew ba ar jong u bnai Naitung) kam don jingktah ïa ka jingmih jong u kba.

4. Ka rukom thung (planting method).

Dei ban thung da ki symbai kiba bha bad ki bym don khñiang. Ka jing jngai jong kawei ka nur na kawei pat dei ban long kumba 20 centimeter bad uwei u jingthung na uwei pat dei ban long kumba 15 centimeter. Kane ka iarap ban don jingjngai kaba biang hapteng ki jingthung. Ki sara kba ki dei ban long kiba lah don kumba 21-25 sngi.

5. Kumno ban pynbiang ïa ki sboh (Nutrient Management).

Ka jingai ïa ki jingbam ba donkam ki jingthung ha ka jingthew kaba biang ka dei kaba kongsan tam ban ïoh ka jingmih kaba bun. Ka jylla Meghalaya shen kan sa long ka jylla kaba rep khlem da pyndonkam da ki sboh dawai na kata ka daw ka jingai ïa ki sboh khlem dawai kum ka sboh jingri kumba 10 ton ha ka shi hectar lane ka sboh niut kumba 10 ton shi hectar + 30 kilo ka phosphorus (da kaba pyndonkam 150 kilo ka rock phosphate) bad dei ban pdem ia kine kumba 30 sngi. Ka jingkylla ka rukom thung, ka jingai sboh mariang bad ka sboh kaba long kum ki kynja sohpaillen (*Azolla spp*) bad ki sboh khlem dawai kum ka sboh mrad ki iarap shibun ha ka jingmih jong u kba. Ka jingmyntoi jong ka nitrogen fixation da ki jingthung jyrngam kiba pynsboh ïa ka mariang ki ai shibun ki jingmyntoi na ka bynta ban pynsboh ïa ka khyndew. Ka jingpynrkhiang bad ka jingpynshlei um man ka por ka iarap ban pynmih ïa ka phosphorus na ka sboh mariang. La shu antad ba ki jait sboh kiba don ha ki phngit jingim kiba rit (Biofertilizer) kum u *Rhizobia*, *Cyanobacteria* bad *Azospirillum* ki lah ban shna ïa ka jingbam nitrogen. U *Rhizobia* u pynmih kumba 25-30 kilo ka nitrogen ha ka shi hectar, u *Cyanobacteria* u pynmih 15-25 kilo ka nitrogen ha ka shi hectar bad u *Azospirillum* u pynmih 10-30 kilo ka nitrogen ha ka shi hectar. Ka jingdon jong ki jingbam ha ka sboh wieh ka long 1.5-2.5% ka nitrogen, 0.9-1.7% ka phosphorus, 1.5-2.4% ka potassium, 0.5-1.0% ka calcium, 0.2-0.3% ka magnesium bad 0.4-0.5% ka sulphur. Ka jingai ïa ki sboh dawai kata nitrogen kumba 60 kilo shi hectar, phosphorus kumba 60 kilo shi hectar bad potassium kumba 40 kilo shi hectar ka long ka ba donkam ha ka por ba rah tynrai ïa u kba ha ki sharing lum bad ki jaka ba lah shna

terrace. ĩa ka phosphorus bad potassium bad 50 % ka nitrogen dei ban ai ha ka por ba thung bad 25 % ka nitrogen dei ban ai ha ka por ba u kba u sdang ban pynmih ki tnad bad 25 % ka nitrogen ha ka por ba u sdang ban soh. Ka rukom ai dawai kaba biang tam ka long da kaba pyndonkam da ki sboh dawai (synthetic) ha ka jingthew kaba 30 kilo shi hecetar ka nitrogen, 30 kilo shi hecetar ka phosphorus bad 20 kilo shi hecetr ka potassium bad 5 ton shi hecetar ka sboh mrad lane kiwei kiwei de ki jait sboh. Lada ka pynthor ka duna ia ka Zinc (Zn) lah ban ai shisien lai snem da ka zinc sulphate ($ZnSO_4$) ha ka jingthew kaba 25 kilo shi hecetar ha ka por ba pynkhreh ĩa ka jaka thung. Shuwa ban ai sboh dawai, ka khyndew ka dei ban sngem bad ka um kaba lang kham bun dei ban pynrnat noh kumba 24 kynta. Dei ban kynton bha ĩa ka khyndew sharud ka lyngkha khnang ban khang lad ĩa ka jingmih jong ka um.

6. Ka jingpyngbiang um (water management).

U kba u dei u jingthung uba donkam bha ĩa ka um ban ĩa nujor bad kiwei ki jingthung kiba mih ha ka juh ka por. U donkam haduh kumba 3000-4000 liter ka um ban pynmih ĩa shi kilo u kba. Da kaba pyngbiang ĩa ka por bad ĩa ka rukom ai um, ka ĩarap ha ka jingmih bha u kba. Kumba 5 centirnetar ka um dei ban pyngbiang ha ki lyngkha haduh ka por ba u kba u lah sdang ban ih. Ha ka por ba u kba u lah sdang ban speh dei ban pynrnat noh ĩa ka um (3-5 sngi). Shuwa ban ot ĩa u kba dei ban pynrnat noh ĩa ka um khnang ba ka rukom ih u kba kan long ryntih.

7. Ka jingpyndonkam ĩa ka sboh phngit jingim (Biofertilizer).

Dei ban pyndonkam ĩa ka sboh jingim, ki kynja sohpailen (*Azolla*) kumba 10ton shi hecetar ban mih kham bha u kba. ĩa une u sboh sohpailen dei ban khleh bad ka khyndew shuwa ban thung lane lah ban thung lem bad u kba da kaba ai kumba 2ton shi hecetar bad 20 kilo u phosphorus shi hecetar hadien 7-10 sngi ba lah dep rah tynrai ha pynthor ba dap um bha. Ka jingkhleh ĩa u kynja phngiat kum u *Azotobacter* ne u *Azospirillum* kumba shi kilo ha ka shi hecetar ka ĩarap ban pynbun ka nitrogen bad ki lah pynmih kumba 30 kilo ka nitrogen ha ka shi hecetar.

8. Ka jingĩada na ki ĩiut (Weed management).

Ka jingdon ki ĩiut ka pynduna ĩa ka jingmih u kba da kaba kjit lut ĩa ki jingbam kiba donkam na ka bynta u kba bad u bam jaka. U ĩiut u long uba kloĩ ban heh ban san bad u pynduna ĩa ka jingmih u kba. Da kaba pynneh ĩa ka um ha lyngkha ka long kawei na ki

lad ban iada na ka jingmih u niut. La kumno kumno ar sien dei ban pynkhuid ia ki niut da u conoweeder ha ka 20 bad 45 sngi hadien ba lah dep rah tynrai. Hadien 30 bad 55 sngi ba lah dep rah tynrai donkam ban thiew ia u niut da ka kti. Donkam ban pynrngat ia ka um ha ka por ba thiew niut bad ha ka por ba ai dawai. Ka jingpyndonkam ruh ia ka sboh ba pyut bha, ka jingpyndonkam ia ki symbai/tynrai ki bym khleh lang bad ki niut ka iarap ban iada ne pynduna ia ki jingmih ki nuit.

9. Ki lad jingia da naki jingpang (Disease Management).

U kba u dei u jingthung uba juh kem bunjait ki jingpang bad ka long kaba shitom ban iada na kine ki jingpang lada ngim pyndonkan da ki dawai khemikal. Ka jingpyndonkam ia ki symbai kiba shim na u kba uba khlem jingpang, uba khlain ka jingialeh na ki jingpang, uba biang ki jingbam tei met (nutrition), ka jingpyntyllun bad jingpynkylla ia ki jingthung jingtep ha ki aiom ba biang bad kiwei kiwei, ki pynduna ia ki jingpang. Khyndiat na ki lad jingia da ki bym pyndonkam dawai khemikal kiba ngi lah ban shim ki long kumne harum:

Jingpang	Ki lad jingia da
Rice Blast (ka tram)	Kaba pynlang um ha ki pyntha, jingpynduna ka nitrogen, jingpdem um khluid ia u symbai, jingpyndonkam ia u jait kba uba khlain ka jingialeh na ki jingpang.
Sheath blight (ka jingmong na u jyntang kba)	Ka jingpynduna ka nitrogen, ka jingpyndonkam ia u jait kba uba jrong ka rynnieng, kaba pynkhlain ia jing treikam jong ki jingim kiba don hapoh khyndew bad ka jing pynkylla sboh ia ki jingthung kiba sah.
False smut (ka jingdon ki kynja skum bol ha ki symboh kba)	Kaba pynkhlain ia ka jingtrei kam jong ki jingim kiba don hapoh khyndew
Cercospora leaf spot (ki jingthoh bria rong ktieh kiba khim ha u sla kba)	Jingpyndonkam ia u jait kba uba khlain ka jingialeh na ki jingpang
Brown spot (ka jingthoh bria rong ktieh kiba heh ha u sla kba)	Jingpynbiang ia ki jingbam (nutrition) kba (nitrogen, potassium, manganese, silicon, iron, calcium), jingia da ia u kba na ka jing tyrkhong um, jing pdem um khluit ia u symbai

- I. Ka jingpynbang ia ka potassium bad silicon ka pynkhlañ ia u kba ban ialeh na ki jingpang bapher bapher.
- II. Ka jingpyndonkam da u neem (*Azadirachta sp.*) ha ka khyndew ka pynduna ia ki khñiang kiba rah jingpang (virus) kiba pynjulor ia u kba.
- III. Katkum ki kaiphod, lah batai ba ka jingpyndonkam ia ki dawai kiba lah shim na u neem ka iarap ban pynduna ia ka julor na ka jingpang tram ha ki sla kba (Leaf blast).
- IV. Jingpyndonkam ia ki dawai kiba lah shna na u sla Tulsi (pynthnam l litar ka um bad ber 25gram u sla tulsi) bad na u sla Bael (*Aegle mormelos*) (khleh 2.5 gram u sla Bael ha 100ml ka um) ki long kiba trei kam bha ban iada ia u kba na ki jingpang.
- V. Jingsynreit da ka um sboh masi (khleh 2 kilo ka sboh eit masi ha 1 liter ka um) ka lah ban pynduna ka jingpang iap tyrkhong (Bacterial blight).
- VI. Jingsynreit da ka um pi masi ka iarap ban pynduna jingthoh iong bad jingthoh lieh ha u kba bad ka iada na ki khñiang kiba pynjot ia u kba. Ka jingpyndonkam ia ka um pi masi ka ai ruh ia ki jingbam kiba donkam ia u kba.
- VII. Lah lap ba ka jingpynkloi ia ka por thung kba ka trei kam bha ban wanrah ia ka jingia da na ki jingpang kiba lah pur na ki pyntha kiba don hajan.

10. Ki lad jingia da na ki khñiang (Insect Pest Management).

Kat kum ka jinglum jingtip, lah lap ba ki jaka rep kba ki ju don haduh kumba 21 jait ki khñiang kiba wan pynjulor ia u kba. Na kine ki jait khñiang, u khñiang uba ksam ia u kba (**rice stem borer**), u khñiang uba pynkhun/pynkdor ia u sla, u ñiang kli sla (**leaf folders**) bad u khñiang uba bam ia u symboh kba, u ñiang kseng/ñiangkasein/ñiangryngksi (**gundhi bug**) ki dei ki khñiang kiba kongsan eh na ka liang ka rep kba, ryngkat bad kine, u khñiang uba kjut bad khrud ia ki soh, ki syntiew bad ki sla kiba ju khot **Thrips**, u khñiang uba ot ki shkor kba (**ear cutting caterpillar**), u khñiang uba bam sla bad uba pynkdor sla (**rice skipper**), khnai lum bad kiwei kiwei, ki wanrah katto katne ka jingpynjot bad ka jingpynjulor ha u kba. Ia ki khñiang kba lah ban pynduna bad pynduh ia ki da kaba shim ia ki lad bapher bapher khnang ban ioh ia ka jingia da kaba pura.

- I. Ka jingthung ia u kba haka por kaba biang.
- II. Kaba thung ia u jait kba uba khlañ ban shah ia ki jingkylla bad u uba pynmih bun ka jingseisoh.
- III. Ka rukom rep kaba khuid bad ka jing ai ia ki sboh dawai ha ka jingthew kaba biang.
- IV. Ka jingkhilai noh ia ki kliar ha shuwa ban rah tynrai ka iarap ban pynduna ia ka

jingroi jong u khñiang uba ksam kba (**rice stem borers**) bad ia u khñiang uba ksam ia u sla bad uba pynduh ia ki thied jong u kba (**rice hispa**).

- V. Ka jinglekhuid leh suba ha ka jaka rep ka iarap ban iada na ka jingroi ki khñiang.
- VI. Ka jingkhmih bad ka jingpeit kaba man ka por ia ki lad pynduna khñiang ha ki jaka rep kum ka jingpyndonkam da ki trap kiba khring lane kiba pyndambit ia ki khñiang ka iarap ban pynduna ia ki khñiang, Ka jingpyndonkam ia kine ki trap kumba 20 – 25/ hectar (20- 25/ha) ka iarap shibun ban iada na u khñiang uba bam ia u symboh kba (**gundhi bug**).
- VII. Ka jing pynjhieh bad pynrkhiang ia ka lyngkha kba haka por kaba dei ka iarap ban pynduna ia ka jingroi jong u khñiang uba pynjot ia ki tynrai jong u kba (**brown plant hopper**).
- VIII. Kawei na ki lad jingia da ka dei ka jingpyndonkam ia ki kot sada (**Tricho cards**) kaba don ia u khñiang *Trichogramma*, ka iarap ban pynduna ia ka jingroi jong kiwei pat ki khñiang kum u ñiang pynkhun pynkdor sla (**leaf roller worms**) bad u ñiang ksam kba (**stem borer worms**).
- IX. Ka jingsynreit ia ka dawai kaba lah shna na u sla neern kaba khot *Azadirachtin* 0.15% EC@ 3ml/L (khleh 3ml ka dawai *Azadirachtin* ha 1 liter ka um) lane ka Nimbecidine 0.03% EC@2ml/L (khleh 2ml u Nimbecidine ha 1 liter ka um) ka iarap ban iada na ka jingroi u khñiang uba kjit bad khrud ia ki soh, ki syntiew bad ki sla (**Thrips**), u ñiang ksam kba (**stem borer**), u khñiang uba pynjot na tynrai u kba (**brown plant hopper**) bad u ñiang pynkhun pynkdor sla (**leaf roller worms**).
- X. Ka jingpyndonkam ia u kynja tit [entomo-pathogenic fungi, *Bauveria bassiana* 1.15% WP (1×10^8 CFU/g)] kum ka dawai pyniap khñiang ha ka jingthew ka ba 4g u dawai ha 1 liter ka um (4g/L) lane da u kynja bacteria (entomo-pathogenic bacteria, *Bacillus thuringiensis var kurstakit* ha ka jingthew kaba 2g u dawai ha 1 liter ka um (2g/L) ka iarap ban pynduna ia ka jingroi jong u ñiang pynkdor sla (**leaf roller worms**) bad u khñiang uba ksam ia u sla kba bad u pynduh na ki thied jong u sla kba uba pynlieh ia u kba (**rice hispa**).
- XI. Ka jingsynreit da ka um kaba lah khleh da ka dawai kaba don u kynja tit [entomo-pathogen fungi, *Metarhizium anisopliae* 1.15% WP (1×10^8 CFU/g)] ha ka jingthew kumba 5g ka dawai ha 1 liter ka um (5g/L) ka dei kawei na ki lad jingia da na u khñiang uba bam ia u tynrai kba, u ñiang rynsied (**brown plant hopper**).

11. Ka por ot/shoh kba.

Ha ki jaka them (low altitude areas) bad ki jaka kiba kham hapdeng (mid altitude areas) ka jing ih jong u kba ka shim por kumba 30 sngi ia ki jait kba kiba ih kloï bad 40 sngi ia ki jait kba kiba ih kham slem hadien ka jing puh syntiew. Ha ki jaka kiba kham shajrong lum (high altitude areas), ka por ih jong u kba ka ju kham shim por bad ka ju kot sha ka 50 sngi hadien ka jing puh syntiew. Ka por ban ot ia u kba ka long hadien ba u lah sdang ban stem khnang ban lait na ka jingduh nong ki jingrep. Ka jingot ia u kba dei ban pyndep hadien ba 80% ki symboh kba ki la ih bha.

12. Ka jingmih.

İa u symbai kba uba lah sumar bha, ka jingmih ka long kumba 3.0 - 3.5ton ha ka shi hectar ha ki jaka lum.



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