

# SOHSAW

(*Lycopersicon esculentum*)

Krishi Vigyan Kendra, East Khasi Hills

U Sohsaw u dei uwei na ki jait jhur uba iarap ban kyrshan ia ka longing jong ki nongrep jhur jong kane ka thain jong ngi. U long ruh uwei naki jait jhur uba ngi shait rep bha. Ha u Sohsaw ngi shem ia ki Vitamin A, B bad K bad kiwei kiwei ki minerals. Ngi lah ban pyndonkam ia u sohsaw kum ban bam jhur, ban shet soup, shet achar, ketchup, puree, sauce bad kiwei kiwei.

## KI JAIT SYMBAI/VARIETY

Ha kane ka thaiñ jong ngi ki jait symbai kiba kham long bha ki long kumne harum.

- Hybrid: Avinash-2, Rocky, 017, Suraksha, Vaishali, Arka Meghalai, Arka Vishal.
- Ki jait symbai ba iahap ha ri thor: Pusa Ruby, Punjab chhuhara bad Manithaibi.
- Ki jait symbai ba lah ban iaishan ia ka jingiap kyñiur (Bacteria wilt): Arka Alok, Arka Abha, Megha Tomato-1, Megha Tomato-3, Suraksha.

## KA JINGDONKAM U SOHSAW HA KA KHYNDEW BAD KA JINGLONG KA SUIÑ BNENG

Ka khyndew kaba lam shyiap bad ba sboh ka iahap bha ban thung ia u Sohsaw. U Sohsaw u iahap bha ha ki jaka kiba ka jingshit kham duna ia ka 15-27°C. Ka jingjur slap khamtam ha ka por phuh syntiew bad por soh ka ktah ia ka jingsei soh bad jingmih.

## KA JINGDONKAM SYMBAI:

Open pollinated: 500 kram/ha

Hybrid: 400 kram/ha

## KA POR THUNG

Ha ki jaka ba kham kynjang lah ban thung ia u Sohsaw ha ki bnai february haduh June. Ha ki jaka ba long pdeng bad ri thor lah ban thung ia u Sohsaw ar sien ha ka shisnem kata ha ki bnai february haduh June bad ha ki bnai September haduh December.

## KA RUKOM SARA

Ia ki symbai lah ban bet ha ki nur sara kiba shimitar ka pynkiang bad ka lynter kat kum ka jingdon ka jaka bad jinglah ban sumar. Ia ka nur lah ban pynkhreh da kaba puh bad tih bad nangta sa pynlwet bad khleh lang ka eit masi kumba 4 kilo na ka bynta shimitar bad sa pyn level bha. Shuwa ban bet, ia ka nur lah ban jreiñ shuwa da ka *Trichoderma veridi* da ka ba khleh shi shamoit ha ka shi litar ka um ban pynduna ia ka jingiap biej bad jingiap kyñiur. Ia ki symbai lah ban bet ha ki laiñ ha ka jingjingai kaba shi inshi haduh ar inshi. Ia ki laiñ lah ban pruid da kaba pyndonkam da ki siej. Ynda lah dep bet ia ki symbai tap ia ki da ka khyndew ba lah khleh lang bad ka eit Masi. Ia ka nur sara lah ban tap da ka byrni lane u skum kba lane da ki 'la kait kumba 3-5 sngi ban pynsyaid bad shongsngem ban kham pynkloi ka jingspeh ki symbai.

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Ai um ia ka nur ba lah dep bet bad dep tap. Kan kham bha lada ai um mynstep bad janmied haduh ban da speh ki symbai. Ia ka jingtap lah ban weng noh marsyn speh ki symbai bad sa shna rynsan ban iada ia ki tynrai na ka jingshoh ka sngi, u slap, u phria bad kumta ter ter.

## **KA RUKOM RAH TYNRAI/KA RUKOM THUNG**

Lah ban rah sara 25-30 sngi hadien ba lah dep thung. Ia ki tynrai lah ban thung ha ka jingjngai kaba 24 inshi na u wei u laiñ bad 18 inshi na u wei u jingthung sha u wei pat na ka bynta u jait Sohsaw u ba pdeng met. Na ka bynta ki hybrid ngi lah ban thung ha ka jingjngai kaba 30 inshi na u wei u laiñ sha u wei pat bad 18 inshi na u wei u jingthung sha u wei pat. Khnang ban lait na ka jingpynjulor u tynrai ha u ‘ñiang khung bad ‘ñiang byrnai ngi lah ban ai da ka *Beauveria* shi shamoit ha ka shi litar ka um haman ki tynrai ha ka por thung, lane ngi lah ban ai da ka *Sevin dust* shi khmut shamoit lane 2.5-3 kram haman la ki tynrai ha ka por thung. Ngi lah ban thung ia ki tynrai ha ka por jan mied lane ha ka por ba pyngngad ka suiñ bneng. Ngi lah ban ai um ynda lah dep thung khamtam haba ka rang ka bneng.

## **KA RUKOM PYNBIANG SBOH**

Ngi lah ba ai da ki biofertilizer kum u Azotobacter , Azospirillum, sboh wieh, ki sboh eit Masi, ki sboh mariang, ki city compost bad kiwei ki wei.

Haba ngi pyndonkam da ki biofertilizer kum ka Azotobacter ba long powder ba song ha ka packet ba 200 kram pyndonkam kumba 14(khatsaw) tylli kine ki packet ban ai na ka bynta shi hektar ka jaka. Lada ngi pyndonkam pat da ka Azotobacter ba song ha ki bilor ba long um ngi lah ban synreit ha ka khyndew da kaba ai 2-3 ml ha man la u tynrai.

Ngi lah ban wieh ia ki thied jong ki sara ha ka biofertilizer kata da kaba khleh 1 kg ka Azobacter bad 200 kram ka Phosphorus solubilizing bacteria (PSB) ha ka um.

Lada ngi pyndonkam da ka sboh Sorkar kata ka Urea, SSP bad MOP ngi lah ban ai kumne harum.

Urea = 260 kg/ha

SSP = 500 kg/ha

MOP = 84 kg/ha

Kine ki rukom ai ki dei na ka bynta ki open pollinated kata ki symbai bym dei hybrid bad na ka bynta ki hybrid ki long kumne harum.

Urea = 390 kg/ha

SSP = 625 kg/ha

MOP = 100 kg/ha

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Dei ban ai shiteng ka Urea bad baroh ka SSP bad MOP ha ka por thung bad shiteng ka Urea kaba sah ngi lah ban ai hadien 30 sngi ba lah dep thung.

Na ka bynta ki hybrid ngi lah ban ai shipawa ka Urea bad shiteng ka SSP bad MOP ha ka por thung. Ka Urea kaba sah ngi lah ban bynta biang ha ka ar bynta. Ia kane ka Urea ba lah phiah ngi lah ban ai bad baroh ka SSP bad MOP ka ba sah 30 sngi hadien ba lah dep thung. Ia ka Urea ba dang sah ngi lah ban ai hadien 50 sngi ba lah dep thung.

## KA RUKOM SIEH DIENG

Ka rukom sieh dieng khnang ban ai jingkyrshan ia u jingthung ka long kaba donkam, khnang ban ioh kheit ia ki soh kiba bha, lah ban ai jingkyrshan ia u jingthung da kaba sieh da ki kdait lane ki siej/dieng lane da kaba pynpur ia u jingthung ha ki wire/tyllai.

## KI LAD JINGIADA NA KI KHNIANG BAD JINGPANG HA U SOHSAW

### U khniang sam thliew (*Helicoverpa*)

- Ki ksaiñ ki sam thliew da kaba rung tang shiteng ka met hapoh u sohsaw bad bam shapoh.



### KI LAD JINGIADA

- Lum ia ki ksaiñ bad pyniap ia ki.
- Thung lang u syntiew myngngor ha ryngkat bad u sohsaw.
- Da kaba thung lang bad kiwei ki jait jhur kum u tyrso, phulkubi, kubi
- Wah da ki Trichocard (*Trichogramma brasiliensis*) lane pyndonkam da ki pheromones trap (Helilure).
- Synreit da ka dawai phngit jingim *Beauveria bassiana* (Biopower-L) kumba 16 shamoit ha ka shi pump ka um.

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Ki syntiew myngngor (Mari gold)



Thung khleh bad kiwei ki jhur



Ki pheromone trap lane Heli lure



## KI KHNIANG SAW KYNJA THAPBAWA (RED SPIDER MITE)

- Kine ki khñiang ki sop ia ki sla, ki jyntang jong u jingthung bad pynjulor ia ki jingthung



## KI LAD JINGIADA

- Thung lang bad ki syntiew marigold ha pynthor.
- Kynshait da ka um ha ki sla khnang ban pynhap ia ki khniang sha madan
- Synreit da ka dawai sulphex/solbar kumba 8-9 shamoit ha ka shi pump ka um (16 litar).

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## U NIANGTDA

- Ki ksaiñ ki bam ia ki kliar jong ki sla



## KI LAD JINGIADA

- Thung lang ia u sohsaw bad u syntiew myngngor.
- Synreit da ka dawai Bacillus thuringiensis (Bt) lane Dipel kumba 12-13 shamoit ha ka shi pump ka um.
- Synreit da ka multineem/nimbicidine kumba 8 shamoit ha ka shi pump ka um.

## NIANGKHUNG

- Kine ki khñiang ki mih tang ha ka por mynmiet ha kaba ki dkhat lut ia ki sla bad ki bam ia ki soh ruh.



*Spodoptera littoralis* larva.

## KI LAD JINGIADA

- Synreit da ka dawai neemack/multineem kumba 5ml haman la ka shi litar ka um.
- Synreit da ka dawai Bacillus thuringiensis (Bt) lane Dipel kumba 12-13 shamoit ha ka shi pump ka um.
- Buh da ki light trap lane pheromone trap (Pheroclin SL lure) kumba 15 tylli ha ka shi hektar ka jaka.
- Pyndonkam da ki dawai phngit jingim *Beauveria bassiana* (Bio power, Helicon-L) kumba 16 shamoit ha ka shi litar ka um.

## KI KHNIANG KYNJA THAPBALIEH RIT/ WHITEFLY

- Kine ki ksaiñ ki boi hapdeng ki sla bad ki kjit iaka um na ki sla bad pynmih ruh ia ki kynja um ba bit pnek-pnek kum ka umngap bad hadien ki sla ki blad rong noh bad kdor.



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## KI LAD JINGIADA

- Buh da ki yellow sticky trap lane ka trap rong stem kumba 10 tylli ha ka jaka kaba heh kumba shi hektar.
- Synreit da ka dawai Beauveria *bassiana* (Helicon-L/Biopower) kumba 16 shamoit ha ka shi pump ka um.
- Wah da ki yellow sticky trap lane ki shrimp kiba ngi pyndonkam da ki kot ne tin rong stem bad sa tah da ki kynja ba dambit nalor jong ki.



Ka yellow sticky trap

## KI JAIT JINGPANG KIBA DON HA U SOHSAW, KI RUKOM PYNJULOR BAD KI LAD JINGIADA

### IAP IONG

#### Ki Dak-Ki Shin

- Ka jingkylla rong ki sla na ka rong jyrmgam sha ka rong ktieh lane iong
- Ka jingtyrkong ki sla bad ka jingmih u pui pui kum ki powder shapoh ki sla



#### Ki lad jingiada

- Ia ki tnat dei ban khet noh naduh najan khyndew bad wat ieh ha lyngkha.
- Thung da ki jait symbai TRB-1,TRB-2

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- Pyndonkam da ka dawai kynbat kum ka MATW-2(Kata khleh lang shi shamoit u shyrmít, shiteng shamoit u hing ha ka shiphew litar ka um) lane Tricure (Azadirachtin 0.03% E.C) kata 5ml haman la ka shi litar ka um.
- Pyndonkam da *Trichoderma viride* (Viricon L) lane *Pseudomonas fluorescens*.

## IAP JLOP (BACTERIAL WILT)

### Ki Dak-Ki Shin

- Ki sla ba shah pynjulor ki jlop, rit bad kylla rong stem
- Ka jingkyllon ne jlop kynsan u jingthung khlem da paw ki dak ki shin jong ka jingpang.



### Ki lad jingiada

- Dei ban kylliang ki jingthung manla u snem bad thung da ki jingthung kum u kba, riewhadew ne u kew.
- Thung ia ki jhur kum u kubi, u phul haki jaka ba lah shah julor.
- Khleh lang 1.5g u hing bad 5g u shyrmít ha ka 10 L ka um bad sa synreit lane shuwa ban thung dei ban wieh ia ki tynrai ha ka dawai biofor pf ne biozene.

## KI JINGMIH KUM KI KYNJA RONG BTHUH (GREY MOULD)

### Ki dak-ki shin

- Ka jingmih jong ki kynja pui pui rong bthuh ha ka bynta ba pyut jong u sohsaw.



### Ki lad jingiada

- Ki sohsaw kiba thung ha ka jaka kaba sngem ki shah ktah bha.
- Dei ban weng lut ia ki sla ne ki syntiew ba lah pyut bad ia u sohsaw ba lah pyut dei ban weng noh mar mar.
- Synreit da ka bordeaux mixture da kaba khleh ka shun-100g, tutia-100g bad 10 litar ka um.

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KI JINGJULOR JONG U SOHSAW NA KA DAW JONG KA JINGKYLLA KA MARIANG BAD KA JINGDUNA JONG KI SBOH DAWAI KHYNDEW

## Ka jingpang blossom end rot



## Ki daw

- jingthoh kaba long sngem um ha trai u sohsaw bad hadien ka heh bad kylla rong iong
- Ka jingduna ka sboh calcium
- Ka jingbym thikna ha ka rukom ai um
- Dei ban ai da ka shun lane gypsum

## Ka jingpait jong u sohsaw

### Ki daw

- Ka jingpait jong u sohsaw ba lah ih.
- Kane ka dei na ka daw jong ka jingbym ai thikna la ne ai um ha ka por ba tyrkhong ka khyndew.



## Ka jingshah thang ha ka sngi

### Ki daw

- ka jingmih jong ki dak rong lieh ne stem sha ka liang jong ki soh kiba dei sngi bha bad kane ka pynlong ki soh ban thoh kum ka kot sada, stang bad kylla rong dpei lieh bad ki kynja jingpang powder iong ki sop bad pynpyut ia u soh.



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## KA RUKOM LONG HA KA DUR JONG KA MIAW (Catface)

### Ki daw

- Kane ka jinglong jong u sohsaw kum ka dur jong ka miaw bad ka paw ha trai jong u soh.
- Kane ka jia na ka daw ka jingkhriat palat ha ka por phuh syntiew bad ka jing ai bun ia ka sboh dawai urea.



### Ka jingjyrngam u soh saw



### Ki daw

- Ka jingkhriat palat.
- Ka jingeh ne dam bit palat ka khydew lane ka jingbun um palat ha ki thied.
- Ka jingduna jong ka sboh dawai shyiap (Potash).

## KA JINGDUNA JONG KA SBOH KHYNDEW ZINC

### Ki dak-ki shin

- ka jingstem jong ki thied sla, kdor ki sla bad thoh rong saw lam sarang ki sla
- Dei ban ai da ka shun ba la khleh lang bad ka zinc sulphate



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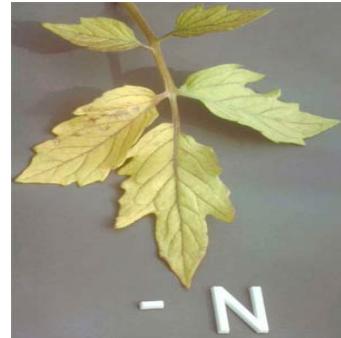
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## KA JINGDUNA KA SBOH DAWAI NITROGEN

### Ki dak-ki shin

- Ka jingblad rong jong u sla jyrngam bad hadien u sla ba lah iaw u kylla rong stem
- Dei ban ai da ka urea



## KA RUKOM KHEIT

Ia ki soh ngi lah ban kheit kat kum ka jingdonkam ka jong ngi. Don hynriew tylli ki rukom (stages) ban kheit ia u sohsaw kat kum ka jingdonkam.

1. Ba dang lung (Immature): Shuwa ba ki shyieng kin dap bad shuwa ba ka um ba long kum ka jelly kan sop ia u shyieng kan dap .
2. Ba dang Jyrngam: Haba u soh u lah sdang ban kylla rong na ka rong jyrngam sha kaba lam stem na trai u soh bad ki shyieng ki la sdang sop um ba long kum ka jelly.
3. Ba la sdang kylla (Turning): Haba  $\frac{1}{4}$  bynta jong u soh na trai la sdang ban pyni ia ka rong pink (breaker stage).
4. Ba la long rong pink (rong sohsaw): Haba  $\frac{3}{4}$  bynta jong u soh la sdang pyni ia ka rong sohsaw.
5. Ba lah ih tangba dang eh: Haba u sohsaw u lah ih bad lah sdang dap rong baroh uwei u soh tangba dang eh.
6. Ba la ih: Haba u soh u la saw bha bad jem.

## JINGMIH

Ka jingmih jong u sohsaw ha ki por ba biang ka snem ki long kumne harum.

Open pollinated: 250 q/ha.

Hybrid: 500 q/ha.

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La pynkhreh bad pynwandur sha ka ktien Khasi da i

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