

Chuktuah huan siam dan kaihruaina



“Ei tur tha hnianghnar taka nei tura lei chi hmang lova chuktuah huan thlai chin dan”



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A chhunga thu awmte

A chhunga thu awmte	1
Kamkeuna	2
India leh Mizoram dinhmun	3
Ei tur tha chungchang	3
Ei in zat leh nihphung	4
Mihring tana chaw tha chungchang	6
Mihring tana eitur tha.....	6
Kan mamawh tawk chaw tha	6
Ei tur then hrang hrangte.....	6
Chuktuah huan chungchang	9
Thil tul hmasate:	9
Chuktuah huan hmun thlan dan	10
A hmunhma ruahmanna dan	10
Thlai chin tur thlan dan	11
Thlai chin hun ruahman dan.....	13
A hmunhma buatsaih dan.....	14
Thlai chi buatsaih dan	14
Thlai kui tiahna tur lei buatsaih dan	15
Thlai chi thlak leh phun sawn	15
Thlai tawih lei tha (compost) siam dan	18
Thlai hrik leh zuva enkawl dan (Integrated Pest Management)	18
Thlai chi vawn him leh dah that dan	19
Hmanraw mamawhte	20



Kamkeuna

Hriselna lama khawvel ram hrang hrangte inzawmkhawmna pawl lian ber World Health Organization (WHO) chuan hriselna awmzia chu dammawh hritlan leh bawrhsawm loh ringawt ni lovin taksa leh rilru him dam bakah thenawm khawveng nena inlaichinna tha leh ngelng het neih hi a ni a ti a. Chuvangin, mi hrisel tha chuan hmasawn turin a rilru leh taksa a hmang tangkai leh zual thei a ni. Chutih laiin natna te, ei-in mumal lo te, hliampui te, rilru hahna te, mahni invawn fai loh vang te leh nunphung tladah te hian bawrhsawmna min thlen fo thin. Hun lo inher zelah kan nunphung a lo danglam ve zel a, hriselna atana pawimawh nunphung tha leh khawsakphung belchiandawl kan hnualsuat hret hret niin a lang. Ei leh in hian hriselna kawngah kori a tu hle a; chuvangin, hriselna tha nei tur chuan kan taksa mamawh tawk chaw tha kan ei ngei tur a ni. Kan mamawh tawk chaw tha chuan taksa tana thil tul hrang hrangte a pai a, chung chuan kan taksa tichhelin kan tha pawh a tifei thin a; amaherawhchu, a eng emaw ber pakhat chauh pawh kan tlakchham chuan kan hriselnain a tuar thei a ni.

Ram hrang hrang zingah kum 2015 khan India ram hi hriselna lamah 38-na a ni a, hei hian hmasawn zel tura tan lak a ngaihzia a tilang chiang hle awm e. Hriselna atana thlai hring pawimawhzia hi sawi uar luat a awm awm lo ve. Thlai hring hi chaw tha a nih mai bakah ei mi tak a nih avangin kan ei nasa hle a. India hi khawvela thlai hring thar chhuak tam ber pahnihna niin thei thar chhuak tam ber pathumna a ni a; amaherawhchu, a man a to avang hian mipui nawlpui chuan thei leh thlai hi kan mamawh tawk kan ei lo fo awm e. Chuvangin, man to taka thei leh thlai te lei ngai lova kan mamawh tawk min phuhruk tura chuktuah huan siam mai hi thil tha tak a ni. Mi hrisel pangngai ni turin puitlingin nitin a tlem berah thei gram 100 leh thlai gram 300 ei a ngaih laiin mi nawlpui chuan thlai gram 280 vel chauh kan ei thei a. Chutih laiin, zunthlum te, thau lutuk te, ngâwt te leh lu ng lam natna lakah te min veng tur chuan puitlingin nitin gram 500-700 tal kan ei a tul a ni.

Chuktuah huan hian thei leh thlai kan mamawh tawk a phuhruk thei a ni tih zirchianna tam takin a finfiah tawh a. Chutih laiin, chuktuah huan atang hian thlai leh thei tam tak thar chhuak mah ila a thar chhuaktute hriselna atan rahtha a chhuah ngei em tih erawh hi chu sawichian mai a har hle awm e. Kum tin naupang maktaduai sawm zet thihna thlenga a zatve lai mai hi chaw tha tlakchham kaihhnawih vang a ni (Black et al 2003). Puar leh tlai taka chaw tha ei pha lote hian thisen kan tlachham fova, chung zingah chuan sikul naupang te, raipuar te leh nuvalai te a nghawng na leh zual a. Khawvela mihring hmun li-a thena hmun khat vel lai mai hi thisen tlakchham avanga bawrhsawm leh dawldang an ni a, ram hmasawn vak lo zingah a tam leh zual niin a lang. Hmeichhia pahnih zela pakhat hian thisen an tlachham a, nu nau chunga thi panga zela pakhat hi thisen tlakchham vang bawk a ni tih ram pum hriselna zirchiannaah chuan tarlan a ni (Kaur K 2014). Thangthar chhuan lo la awm zel tur tana nun kawng belhfakawm siam tur chuan ei leh in tha leh hriselna hi thil pawimawh berte zing ami a ni a. Chuvangin, chuktuah huan changtlung leh hlawhtling tak siam hian a chunga harsatna kan sawi tam takte khi a tibo thei awm e. Tin, mi rethei tan chuan sa leh sa atanga siam eitur man to tak tak aiin thei leh thlai te hi chaw tha hrang hrang zing a kan banphak awlsam ber a ni bawk a ni (Bloem et al 1998, Talukder et al 2000, Reddy 1995).



Chuktuah huan siam hi hmakhawsang atanga mihringte'n kan lo chin than tawh a ni a, in bul leh a chhehvela thei leh thlai chin hi tihphungah kan lo neih reng tawh thin a ni. Ei leh bar mamawh phuhrukna'na chuktuah huan siam leh enkawl hi chhungkuua mi tinte kan tangkai theuh theihna leh hlawhtling taka kan tiho theih thil tha tak a ni (Soleri and David, 1987). Kan ramah hian chuktuah huan siam hi kan mamawh avanga kan chin than tak zel niin a lang; tun thleng hian ei tur mamawh phuhrukna'n te, sum leh pai lak luhna'n te, hriselna leh chhungkaw ei leh bara hnianghnarna'n a la pawimawh zel a ni. Chuvangin, mirethei tan pawh awlsam leh senso tlem tê leh thiamna bik ngai lova tihhlawhtlin theih a ni a. Chuktuah huan zim tê siam ringawt pawh hi mirethei tan chuan a hlawkin chhungkaw khawsak kawngah lukhawng nei tham a ni ve a. A bik takin, ei tur tha mamawh zual bik tute – nu leh naupang – tan an mamawh zualpui phuhru turin chuktuah huan hi a pawimawh leh zual bik hle a ni. Chuktuah huan atanga thlai thar te hi hrall then chang awm mah se eng emaw zat chu chhungkuain kan ei ve tho va; chuvangin, chuktuah huan hi ei tur tha kan hmuhna awlsam tak bakah sum leh pai lak luhna hnar pakhat a ni ve thei bawk a; chu chu ei tur tha lei belhna'n pawh a la hman leh theih cheu thin (Marsh 1998).

India leh Mizoram dinhmun

Ei tur tha chungchang

Mi tinin hlawk zawk leh tangkai zawka hna eng emaw ber kan thawh theihna tura thil pawimawh ber pakhat chu hriselna a ni a, chumi atan chuan ei tur tha hi a ingahna bul a ni. World Bank tehna atang chuan India ram mipui nawlpuite hi khawvel ram dang mite aiin an rethei deuh vek mai a, a chhan chu kum khata mi pakhat thawhchhuah chawhrual hi USA pawisa cheng 996-39451 chauh a nih vang a ni. Tin, ram hrang hrang 209 zingah India hi mi tinin hlawk zawk leh tangkai zawka hna eng emaw ber kan thawh theihna tura mipui hnena inkaihhruaina pek that kawngah 160-na a ni pha tawk a ni. India mipui zinga thinglang mi zaa sawmhnih pariat leh khawpuia cheng zaa sawmhnih parukte hi mi rethei chhumchhia nitina mahni taksa mamawh ei tur tha hmu pha lo an ni a (thinglangah mi pakhat tan nitin kcal 2400 leh khawpuiah kcal 2100). Rei tak chhung chaw tha tlakchham hian than a tithuin tha a tizuai a, bawrhsawmna thlenin nun a titawi hial thei a ni; chu chuan deh chhuah leh thar chhuah tikamin ram hmasawnna hial a tiderthawng thei a ni.

Nu naupai lai te'n khawpkhama ei tur chaw tha an neih loh thin vangin nausen an sawngnawiin an than a thu a, nausen zaa sawmhnih pahnih lai hi nau sawngnawi an ni a, chutih laiin ram changkangah chuan zaa sawm chauh an ni thung. Ei tur tha hmu loh avanga harsatna tam tak hi nausen leh tleirawl te pawhin an tuar nasa hle a ni. Rampum dinhmun zirchianna atanga a lan danin naupang kum nga hnuai lam zinga zaa sawmli pariat zet chuan ei tur tha hnianghnar takin an hmu ve lo va, chuvang chuan zaa sawmli pathum te chu an than a thu a, zaa sawmhnih te an sawngnawi bawk. Kan rama nausen te hi an upat chhoh zel rualin eitur tha an tlakchhamna a nasa telh telh fo mai a, chuvang chuan nausen thla ruka upa zingah zaa sawmhnih pasarih hi an chawrche laiin naute thla sawmhnih pali-a upa zingah chuan zaa sawmli panga lai an chawrche a ni tih a zirchiangtuten an hmuchhuak a ni. Hei hi nuin nau hnute pek dan dik lova an lo pek thin vang niin a lang. Thanglai nih hun chhung zawnga eitur tha khawpkham hmu ve lote hi an puitlin hnuah pawh



an pumrua a te bik hle thin a, engtik lai pawha chaw khawpkham hmuh loh vangin mipa zinga zaa sawmthum pathum leh hmeichhia zaa sawmthum paruk te hi taksa inphut tawk lo leh ria lutuk an ni. Ei tur tha kan mamawh zinga vitamin A tlakchham hian hriselna a tiderthawngin thihna hial pawh a thlen thei a, naupang tualchai rual zingah zaa pakhat vel chu vitamin A tlakchham avanga mit khawhmuh chak lo an ni mek a ni.

Kum 2015-16 a ram pum hriselna zirchiangtuten an hmuh danin hmeichhia leh naupang zinga a zatve lai mai hi thisen tlakchham vanga bawrhsawm an ni a. Chutih laiin, hetiang lama Mizo hmeichhia leh naupangte dinhmun erawh chu a tha lawrlak thung a, amaherawhchu Mizo naupang zaa sawmpakua leh hmeichhia zaa sawmhnih pali te chu he harsatna hian a tlakbuak ve tho a ni. Hei hian a entir chu Mizo hmeichhe nawlpuite hi chawrche lo leh sa inphut tawk tak an ni tihna a kawk thei awm e.

District	Naupang zinga thisen tlachham zat (<11.0)g/dl) (Za zelah)	Hmeichhe zinga thisen tlachham zat (<12.0 g/dl) (Za zelah)	Hmeichhe cher lutuk zat (BMI <18.5)(Total thin) (Za zelah)	Hmeichhe thau lutuk zat ≥ 25 (Overweight or obese) (Za zelah)
Aizawl	10.5	18.4	7	26.8
Champhai	7.9	12.8	6.7	17.4
Kolasib	41.1	38.5	8.9	24.9
Lawngtlai	33.8	35.8	10.4	10.2
Lunglei	26.8	37.1	9.8	20.3
Mamit	19	27.9	10.3	12.7
Saiha	20.7	27.7	11.1	9.4
Serchhip	28.8	24.9	9.8	19
Mizoram	19.1	24.7	8.3	21.1
India	58.6	53.1	22.9	20.6

Ei in zat leh nihphung

Nunphung hrisel tha tak nei thei tur chuan mi pakhatin nitin buh leh vaimim lam chi gram 300, bê lam chi gram 60, thlai hnah hring gram 100, thlai zung leh bulbawk lam chi gram 100 leh thlai hring dang leh thei lam chi gram 200 tal an ei thin tur a ni tih National Institute of Nutrition, Hyderabad-in a sawi. Chutih laiin, zirchianna atanga a lan dan chuan thingtlanga mi pakhat hian chawrualin nitin bê lam chi gram 40, thlai hring gram 80 leh thlai hring gram 100 aia tlem chauh an ei thin a, thei lam chi phei chu eng tham mah an ei ngai meuh lo a ni. Hetiang taka mihring pangngai mamawh zat an ei phak loh avang hian thingtlang mite hriselna dinhmun hi ngaihtuah ngam a ni awm love.

Kum 2015-2016 a National Family Health Survey-in Mizoram mipuite ei leh in thin a tarlan dan chu hetiang hi a ni:

Chaw chi hrang hrangte	Ni tin	Kar tin	A chang changin	Ei ngai loh	A vaiin
HMEICHHIA					
Bawngchnute leh bawngchnute dâk	9.7	14.4	50.8	25.1	100
Bê leh bean	15.6	40	43.6	0.8	100
Thlai hnah	76.2	17.2	6.6	0	100
Thei	12.3	35.2	51.6	0.9	100
Artui	10.9	46.6	40.8	1.6	100
Sangha	1.5	24.8	69.4	4.2	100
Arsa leh sa dang	2.3	52.2	44.3	1.2	100
Sangha, arsa leh sa dang	3.3	57.3	38.9	0.5	100
Kân ro lam chi	86.7	8.2	4.9	0.2	100
Hiar mem mem in chi	2.2	6.2	60.2	31.4	100
MIPA					
Bawngchnute leh bawngchnute dâk	7.6	13.2	58.5	20.7	100
Bê leh bean	15.4	42.8	40.9	1	100
Thlai hnah hel ei chi	73.4	20.9	5.6	0.1	100
Thei	11.2	25.5	62.3	1	100
Artui	8.6	57	33.4	1	100
Sangha	3.4	32.8	60.4	3.4	100
Arsa leh sa dang	4	77.9	17	1	100
Sangha, arsa leh sa dang	6.1	77.9	15.5	0.5	100
Kân ro lam chi	89.5	8.1	2.3	0.2	100
Hiar mem mem in chi	2	10.3	59	28.6	100



Mihring tana chaw tha chungchang

Mihring tana eitur tha

Mihring tana ei tur tha chungchang zirchianna hian kan nunna leh hriselna tur te, hmasawnna leh nun khawnawm zawkna tur te, ei tur tha kan hmuh theihna tur leh hman tangkai leh zual theih dan tur a kawk a ni. He zirchianna hian mimal, vantlang mipui, ram pum leh khawvel huapa ei tur tha kan mamawh tawk neih theih dan tur chungchang leh kan tlakchham avanga harsatna awm te tih bo dan tur a huam a. Ei tur tha hi mihring tan kan dam khawchhuahna tura hriselna leh hmasawnna lungphum a ni a. Ei tur tha hi kawng hrang hranga kan hmasawnna atan leh dam khawchhuahna atan pian tirk atanga thih ni tleng a kan thil mamawh a niin mimal leh ram hmasawnna inghahna pawimawh tak a ni ve bawk a ni.

Kan thil ei atanga taksa tana thil tha kan hmuhte hi than lenna atan te, hmasawnna atan te, taksa nihphung pangngai vawng him tur atan te leh kan chet velna leh hriselna atan a pawimawh em em a, chuvangin dam khawchhuahna'n leh kan mamawh thil thawk chhuak zel thei turin ei tur tha hi kan ngaipawimawh hle tur a ni. Kan ei leh in reng reng hian kan taksa mamawh tawk ang zel chaw tha a pai tur a ni a. Kan kum upat lam te, pumraw len lam te, pianphung leh kan chetvel dan a zir zelin chaw tha kan mamawh zat erawh a danglam fo thin, eitam lutuk emaw ei tlem lutuk emaw hian harsatna min thlen thei ve ve a; taksain a mamawh lai taka ei tlem lutuk emaw mamawh loh laia ei vak emaw hian kan hriselna a nghawng pawi viau thin. Kan dam chhung hian a tawk têa ei leh in hi a lo tul tak zet mai. Chuvangin, ei tur chi hrang hrang inchawpawlh tawk uluk taka ngaihtuah chungin kan taksa tana tha tur kan eiin kan in thin tur a ni.

Kan mamawh tawk chaw tha

Mamawh tawk ei tur tha tih hian mihringin kan mamawh tawk chakna chi hrang hranga pai tur a ni a, hei hi ei tur chi hrang hlawm li atangin hmuh theih a ni tlangpui. Kan kum upat lam te, pumraw len lam te, pianphung leh kan chet vel dan a zir zelin chaw tha kan mamawh zat erawh a danglam fo thin. Kan ei leh in chuan carbohydrate te (50-60%), protein te (10-15%), hriak lam chi te (20-30%) a pai tur a ni a; chubakah fibre te, antioxidant te, phytochemicals te a pai bawk tur a ni. Vitamin C leh E te, beta carotiene te, riboflavin te, selenium te, polyphenol leh flavone te hian kawng hrang hrangin taksa a venghim thei a; tin, aieng te, sawhting te, purunvar te, lawngpar te hi taksa tan thil tangkai tak a ni bawk.

Ei tur then hrang hrangte

A hnuai a tarlan hi ei leh in tur then dan tlangpui a ni a:

- Buh, bê leh vaimim lam chi.
- Thlai hring leh thei.
- Bawngnute leh bawngnute atanga thil siam chhuah, artui, sa leh sangha.
- Thau leh hriak nei chi hrang hrangte.



Kan kum mil tawk ang zel a kan than len theihna'n kan ei leh in hian chakna tam tawk a pai ngei tur a ni a; chuvangin kan kum mil tawk zelin kan ei leh in pawh kan siam rem tur a ni. A chang chuan kan chaw ei pangngai ringawt hian kan taksa mamawh a phuhruk kim vek lo fo thin a, chuvangin tlakchham bik kan nei a nih chuan kan tlakchham pai tam bik ei tur thil eng emaw kan ei ngei tur a ni. Chutiang ang thil pai tam bik entirna chu chi te, chini te leh khawizu te hi a ni.

Major Nutrients		
	Chaw tha langsar tham deuh te	Chaw tha dang a pai te
Chakna (Energy) pai tam chi eitur	Carbohydrates leh Fats (Thau lam chi)	
	Buh leh vaimin lam chi her sawm, buhtun	Protein, Fibre (A hruihram lam chi), Minerals, Calcium, Iron leh Vitamin B-complex
	Thlai atanga hriak her, ghee, butter	Vitamin, Fatty acids
	Badam leh be lam chi, Hriak pai tam chi thlai (nihawi, oil palm, coconut etc.)	Protein, vitamin, mineral
	Fu leh chini	Nil
Taksa thanna lam chi eitur	Proteins	
	Be lam chi, badam leh hriak pai tam chi thlai	Vitamin B-complex, fats leh fibre
	Bawngnute leh bawngnute atang siam eitur	Calcium, Vitamin A, Vitamin B2 leh Vitamin B12
	Sa leh sangha	Vitamin B-complex, iron, iodine leh fats
Taksa ralveng khawl tichaktu eitur	Vitamin leh Mineral	
	Thlai hnah	Antioxidant, fibre leh carotenoids
	Thlai rah leh thei	Fibre, thlum lam chi leh antioxidant
	Artui leh sa lam chi eitur	Protein leh fats



Mizote thlai chin thin, chaw tha an pai dan dinhmun leh ei loh avanga harsatna awm thei te;

Aiawh rawng	Thei leh thlai	Thatna	Tlakchham vanga harsatna awm thei te
Hring		<ul style="list-style-type: none"> Iron, Vitamin A, Vitamin C, Chlorophyll Fibres Calcium Beta-carotenes 	<ul style="list-style-type: none"> Nau pian tha lo Khaw hmuh fiah lo Vun natna Scurvy (Vitamin C tlakchham vanga natna chi khat)
Sen		<ul style="list-style-type: none"> Vitamin C Lycopene 	<ul style="list-style-type: none"> Thil hriatrengna hloh Cancer Zun kawng tha lo
Eng		<ul style="list-style-type: none"> Vitamin A Vitamin C Beta-carotene 	<ul style="list-style-type: none"> Mit lam harsatna Vun natna Taksa ralveng khawl chak lo
Nawinawk		<ul style="list-style-type: none"> Vitamin C Fibre Flavonoids 	<ul style="list-style-type: none"> Tar hma Hriatrengna tha lo Cancer
Vâr		<ul style="list-style-type: none"> Potassium Beta glucans Lignans 	<ul style="list-style-type: none"> Cholesterol sang BP hniam

Chuktuah huan chungchang

Chuktuah huan hi thingtlang kilkhawr tak taka khawsate pawhin hnianghnar taka chaw tha an hmuh theihna tura remchang tak a ni a, chaw tha tlakchham avanga harsatna tam tak kan tawh mek - naupang chawrc he chhan leh hmeichhe thisen tlachham chhante sutkianna hmanraw tha tak a ni thei dawn a ni. Chuktuah huante hian kumtluanin chaw tha kan eitur mamawte min phuhruk thei a, a hnuaiah hian chuktuah huan siam avanga thlai tharlam tak tak leh hrisel tak tak man man zawka kan neih theih dan leh kan hlawkna hrang hrangte tarlan a ni.

Thil tul hmasate:



Hmunhma thlan thiam
leh ruahmanna dik

Lei chi tel lova leilung
sawngbawl leh tih tui

Tualchher hmanrua leh
thiamna hman tangkai

Chawhchawrawia thlai
chin

NPM

- Hmunhma thlan thiam leh ruahmanna dik:** In leh a velte laih chhawrdawha thlai chinna buatsaih.
- Lei chi tel lova leilung sawngbawl leh tih tui:** Lei tih tui te, leitha siamchawp hman te, lei hnawnna vawng him tura lei khuh te.
- Tualchher hmanrua leh thiamna hman tangkai:** Tualchhunga hmuh leh siamchawp mai theih; thlai tawih lei tha (FYM), bawng zun leh ek hman leh mahni thar chhuah ngei thlai chi hman zui.
- Chawhchawrawia thlai chin:** Chhum lo chat lova chaw tha hrang hrangte hnianghnar taka kan neih theihna tura chawhchawrawia thlai hrang hrang; a rah chi te, hnah ei chi te, bulbawk nei chi te, ramhmul damdawi te leh a zam chite chin pawlh.
- NPM:** Sava fukna remchang siam te, thlai ei chhetu rannung manna (yellow stick) dah te, rannung lo hnawtkiang thei thlai (repellant crop) chin te, thlai chin pawlh te, bawng zun leh thli te hman tangkai.

Chuktuah huan hmun thlan dan

- Chuktuah huan siamna'n chuan kawmchar hmun remchang hman mai hi a awlsam ber a.
- Hmun thengthaw tha, awihtlan deuh leh ni êng dawng tha ni thei se duhthusam a ni.
- Hun awl neih chang a chhungkaw mi tu pawhin thlai te tha taka an enkawl theihna tur hmun remchang leh tui chhia te luangral mai mai lova thlai chinna hmuna a luan luh theihna tur hmun thlan thiam a pawimawh hle.
- Chuktuah huan zauh zawng tur chu hmunhma kan neih zauh dan leh a chhawr tangkai tur zat a zirah a innghat.
- Chuktuah huan hi tlangram hmunah chuan laih thlur (terrace) ni thei se a tha ber a ni.

A hmunhma ruahmannan dan

- Chuktuah huan chu ni kang tha tak, chenna in hnaih leh thlai tui pek mai remchanna hmun ni thei se.
- Thla li chhunga chhungkaw mi 4-5 tana hnianghnar taka chawhmeh thar theihna tur atan hian huan feet 400 bial vela zau hi mamawh tawk a ni.
- Thlai chinna atana kan hmun buatsaih chu kil li nei, feet sawmhnhiih bial ni thei se.
- Thlai chinna hmun inkarah chuan feet khat vela zauvin kalkawng zuah tur a ni a, chutichuan kan huan chu kawngin mumal takin a then hrang thlap dawn a ni.
- Kan remchan dan angin kan huan chu thlai chinna turin hmun 12 emaw, a ai tam/ tlemin emaw chhak leh thlang hawi zawngin kan then hrang thliah thliah tur a ni.
- Huan hung ngaihpawimawh bawk tur a ni.



Pal a zam turin bean/changkha			Thing behlawi	thingfanghma	Thing behlawi	thingfanghma
3 ft x 10 ft Bawrhsaibe	3 ft x 10 ft Methi/Sorel bean	3 ft x 10 ft Bawkbawn	3 ft x 10 ft Hnah hiar (Mint)	3 ft x 10 ft Tomato	3 ft x 10 ft Be hlawi	Thing behlawi
1 ft hlat lam						Lemon
3 ft x 10 ft Dhania	3 ft x 10 ft Antam	3 ft x 10 ft Purun sen	3 ft x 10 ft Antam hnahn ei (Lettuce)	3 ft x 10 ft Buluih/ hnahn	3 ft x 10 ft Hmarcha	Thing behlawi
Ramri pal a zam turin bean/changkha						Thingfanghma

Hnawm tawih khur

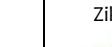
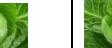
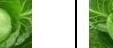
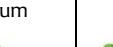
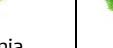
Tuizem/tuikhur

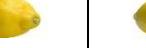
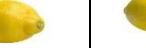
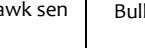
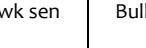
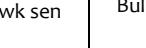
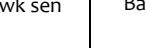
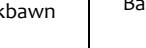
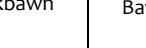
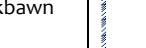
Thlai chin tur thlan dan

Chuktuah huan siam dawn chuan kan thlai chin tur uluk takin kan thlan a ngai a, a hnuai a tar lante hi rilruah kan dah tlat tur a ni:

- Tualchhung mite thlai ei tlanglawn chin a pawimawh.
- A chunga thlai rawng hrang hrang leh an chaw tha pek theih tar lan mil khian hun bi hrang hrang atan thlai hnah leh thlai hring chi 10 atanga 12 chin tur thlan tur a ni.
- Hmar thlang lama huan ri-ah thei lampang chi phun tur thlan nise (Thingfanghma, thing behlawi, sér)
- Ri hungna remchang ni pahfawmin thlai zam chi; behlawi, maian, changkha leh adt. chin bawk tur a ni.
- Thlai chin tur atan chuan kan leilung leh sik leh sa mil, enkawl nuam leh fei kan thlang thin tur a ni.
- Thlai chin tur thlan dawn hian natna leh hrik tlanglawn tuar thei, rah tha bawk si kan thlang hram hram tur a ni.

A hnuiah hian tualchhung thlai thar hun hrang hrang tar lan a ni:

	Nipui (February-May)				Fur (June-September)				Thlasik (October-January)			
	February	March	April	May	June	July	August	September	October	November	December	January
Hring	 Bâl  Behlawi  Antam hel ei  Bawrhsaibe  Vaimim	 Bâl  Behlawi  Antam hel ei  Bawrhsaibe  Vaimim	 Bâl  Behlawi  Antam hel ei  Bawrhsaibe  Vaimim	 Bâl  Behlawi  Antam hel ei  Bawrhsaibe  Vaimim	 Zikhlum  Fanghma  Vaimim	 Zikhlum  Fanghma  Vaimim	 Zikhlum  Fanghma  Vaimim	 Zikhlum  Dhania  Antam par ei	 Zikhlum  Dhania  Antam par ei	 Zikhlum  Dhania  Antam par ei	 Zikhlum  Dhania  Antam par ei	 Zikhlum  Dhania  Antam par ei

Sen												
Eng												
Serthlum rawng												
Pawl												
Nawinawk												
Vâr												

Thlai chin hun ruahman dan

Thlai chin kual- Huan siam hlawhtlinna

Hmunhma ngai renga a indawt te tea thlai chi hrang hrang kan chin thin hi *thlai chin kual* tiin kan sawi thin a ni. Huana thlai natna leh ei chhetu hrik lo awm tawhte tihremna atan te leh thlaiin leia leitha an mamawh hrang hrangte a lo insiam thar leh theihna tur atana tih thin a ni. Thlai hian lei atangin lei tha an la lutin an hnutchhiah bawk thin a, hei hian engtikawng zawng takin emaw lei a titha ve leh thung thin; hei vang hian thlai chin kual fo thin hian lei fê avanga kan huan thar chhuah lo kiam hret hret tur nasa takin a titui thar leh thei a ni. Thlai chin kual thin hian kan huan lei a tithain thlai tana chaw tha inbuktawk takin a awmtir a; tin, thlai natna leh ei chhetu hrikte pawh a tikiam ve thei bawk a ni.

Thlai chin kual dan ruahman

1. Kan thlai mamawhte a zirin thlai chin terte mumal takin kan then hrang tur a ni a, a tlangpuuin hetiang hian then li-ah then thin a ni; **thlai hnah ei chi** (lenhling ei chi te, antam hel ei chi te, parbawr hel ei chi te, zikhllum lam chi te), **thlai rah ei chi** (tomato te, bawkbawn te, thinghmarcha te, fanghma lam chi te), **a bul ei chi** (sazupui bahra (carrot) te, buluih te, purun lam chi te) leh **be lam chi** (bean te, chana te, hnime hring lei tha leh lei khuhtu atana hman nghal theih alfalfa leh clover te).
2. Thlai chi inang leh inkungkaih hnai deuhte chu felfai tak a thliar hrangin chhinchhiah thlap tur a ni a. Thlai chi in angte chu hmun ngaiah chin nawn chin nawn thin loh tur a ni.
3. Huana thlai kan chinna lai hmun hlimthla lem mumal taka ziakin huan chu then hrangin inang tlang taka then vek tur a ni.
4. Tichuan thlai chin tur leh a chinna hmun tur remruat fel leh thlap tur a ni.
5. Thlai chinte chhinchhiah mai bakah kan hmalak dan kawng hrang hrangte kan chhinchhiah bawk tur a ni.
6. Kum thara hmalak dan tur ruahmannaa kan thil chhinchhiahte chu tangkai takin kan hmang leh thei dawn a ni.

Engtia rei nge thlai chu kan chin kual thin ang?

- Thlai chin kual hi kan tih rei zawh poh leh a tha a ni mai.
- Kum li chhung tal tih thin a tha a, kan thei ngang lo a nih pawhin kum hnih tal tih theih hram a tha hle.

Thlai chin kual dan ruahman chhin:

	Huan 1-na	Huan 2-na	Huan 3-na	Huan 4-na
Kum 1-na	Bê lam chi	Hnephnawl (thlai hnah ei chi)	Thei lam chi	Bul nei lam chi
Kum 2-na	Hnephnawl (thlai hnah ei chi)	Thei lam chi	Bul nei lam chi	Bê lam chi
Kum 3-na	Thei lam chi	Bul nei lam chi	Bê lam chi	Hnephnawl (thlai hnah ei chi)
Kum 4-na	Bul nei lam chi	Bê lam chi	Hnephnawl (thlai hnah ei chi)	Thei lam chi



A hmunhma buatsaih dan

- Feet khat leh feet khat leh a chanvea thukin lei chu kan let hmasa phawt ang a.
- Lei chu dûr tha taka siamin hnim leh lung awmte pawh uluk takin kan thianfai tur a ni.
- Kan thlai chinna tur hmun chu a lei a fe tawh a nih chuan lei chunglang hâng tha dang kan pawlh mai tur a ni.
- Thlai chinna tur hmun feet thum leh feet sarih a zauvah chuan lei dûr tawih tha (FYM) kg nga atanga kg sawm kan pawlh tur a ni.
- Tui a tlin lohna'n thlai chinna tur hmun chu kan lai zawl tha tur a ni.
- Kan thlai chi sawngbawlsa tawhte chu a thlai chi a zirin inchis chanve emaw, a aia thukin emaw, a tlarin kan tuh tur a ni.
- Kan thlai chi tuhte chu lei hâng thain emaw FYM-in emaw kan chhilh leh ang.
- Kan thlai phun tur thenkhat - hmarcha, zikhlum, tomato leh adt. chu ni sawmpanga atanga ni sawmhnih pakhat tala upa an ni ngei tur a ni.
- Thlai thenkhat - hmarcha te, zikhlum te leh tomato te hi chu tuh nghal mai lova kui tiah phawt thin a tha.
- Thlai tiak upa tawh lutuk chu hman loh hram hram tum tur a ni.

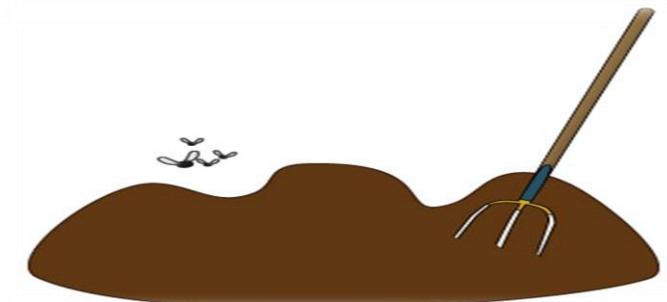
Thlai chi buatsaih dan

- Thlai chi chu uluk taka tihfaia, a nget leh hmuar kai leh keh te chu thliar hrana pah tur a ni.
- A thlai chi a zirin thlai chi zankhua a chiah ngai te pawh a awm thin bawk.
- Thlai chi/ thlai tiak emaw chu kan tuh/ phunsawn hmain uluk taka sawngbawl phawt thin tur a ni.
- Bawng zun no khat leh tui no sawm chawhpawlhah kan thlai chi/thlai tiakte chu minute nga atanga minute sawm chhung vel kan chiah tur a ni.
- Bawngnute thûr no khat leh tui no sawm chawhpawlhah pawh thlai chi/ thlai tiakte chu minute nga atanga minute sawm chhung vel kan chiah thei bawk a ni.
- Chutianga thlai chi kan sawngbawl tawhsa chu daihlim hnuiah hun eng emaw chen kan dah hul anga, thlai chi chu tuh theih in kan peih ta tihna a ni ang.
- Thlai tiakte hi kan sawngbawl zawh veleh phun sawn nghal hi a tha ber.
- Thlai chi tuh leh phunsawn hi chawhnu lama tih hram hram a tha a ni.
- Thlaiin a mamawh ang zelin tui pek chhunzawm tur a ni.
- Lei hnawnna vawng him tur te, hnim to tur dip tur te, thlai tawih lei tha leh lei khuh him turin thlai kuangbangte chu kan hmang thin tur a ni.



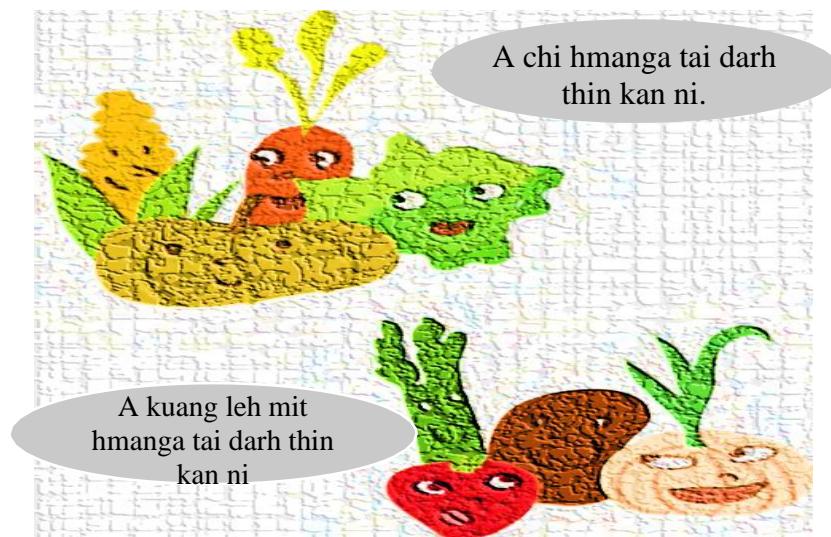
Thlai kui tiahna tur lei buatsaih dan

- Lei chunglang hâng tha leh thlai tawih leitha (FYM) inzah chiaha chawhpawlhsa hman hi duhthusam a ni.
- Tin, tlak lei, thlai tawih lei tha (FYM) leh tiauvut/ balu inzah chiaha chawhpawlh pawh a hman theih tho a ni.
- Kan lei chawhpawlhsa kg sawm zelah chuan trichoderma kg khat pawlhin kan hmang nghan thei tawh a ni.
- Thlai kuina tur thleng emaw, ip emawah chuan kan lei buatsaihsa chu kan thun anga, tui kan leih hnawng bawk tur a ni.
- Thlai kui tiahna inah (net house) kan thleng/ ip thun khahsa chu kan dah ang.
- Kui tiahna thleng/ ip-ah chuan kan thlai chi sawngbawlsa te chu thuk lo te tein kan tuh ang a, pan têin leiin kan chhilh leh bawk ang.
- Lei a hnawn that reng theihna turin a khat tawkin tui pek thin tur a ni.
- A thlai a zirin kui atanga ni sawmpanga leh ni sawmhnih pakhat chhungin kan thlai tiakte chu kan phun sown tur a ni a, thingfanghma erawh chu ni sawmhnih panga atanga ni sawmthum chhungin kan phun sown thung tur a ni.
- Thlai tiakte hi kan phun sown hma ni thum atanga ni sarih chhung chu phun sown tuar thei turin kan buatsaih (hardening) tur a ni.
- Thlai chi hrang hrangte a inchhawka chin hram hram thin tur a ni.

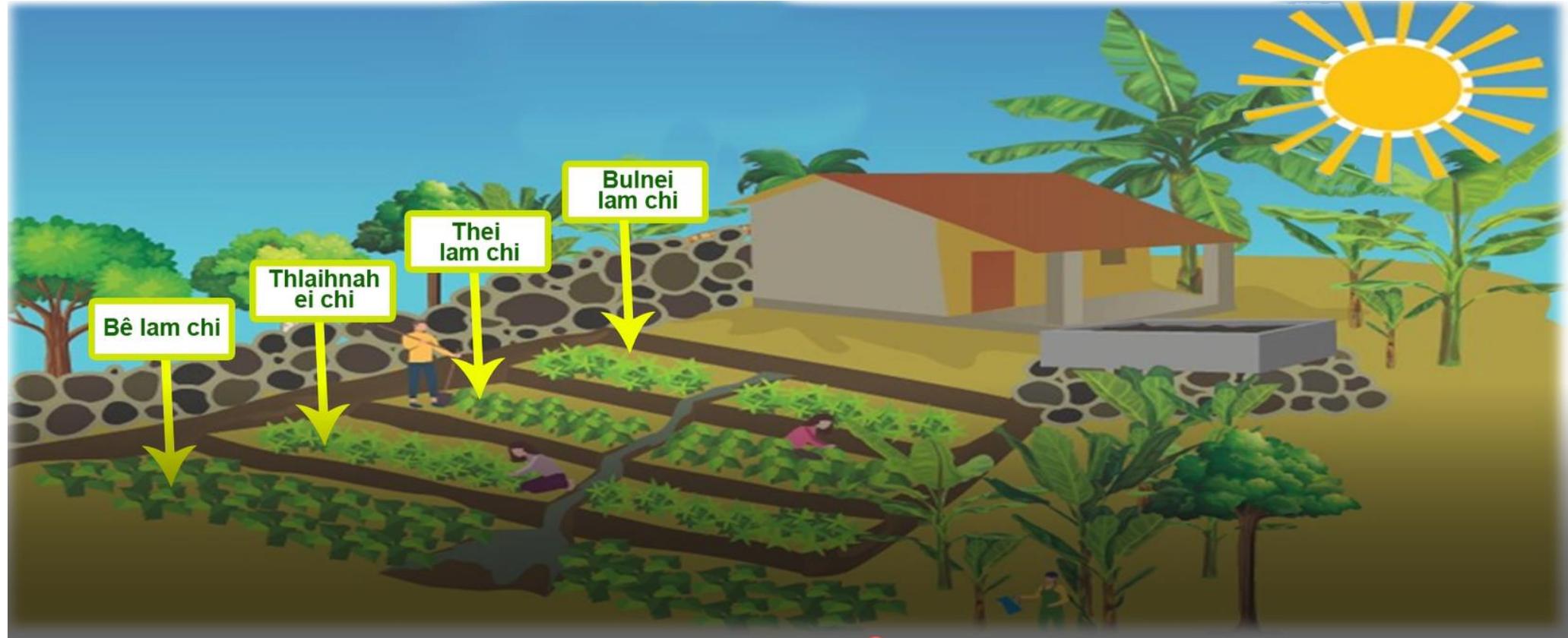


Thlai chi thlak leh phun sown

Kum tluana hnianghnar tako thlai thar chhuah leh hlawk tako thlai chin hi chuktuan huanin a tum ber pakhat a ni a; he a thil tum ber tihlawhtling tur erawh chuan kalphung fel fai tak zawm erawh a ngai thung. Heng thlai thenkhat bawrhsaiabe te, bepui te leh behlawi te hi chu feet khat kar dana tuh thin tur a ni. Thlai chi thenkhat te erawh chu tiauvut/ balu nena chawhpawlhin theh tur a ni. Zo purun te, hnah hiar te (mint) leh dhania te chu lei hai pawnah phun thin tur a ni.



Phun sawn ngai chi thlai thenkhat heng- Tomato te, bawkbawn te leh hmarcha te hi chu phun hun hma thla khatah lo kui lawk thin tur a ni a, fanghmirten thlai chi kui hi an lo khawih lohna'n neem hnah dip theh bawk tur a ni. Kui atanga ni sawmthumah tomato tiak hi a phun sawn theih a, bawkbawn te, hmarcha te leh purun sen lian te erawh chu kui atanga ni sawmli leh ni sawmli panga chhungin a phun sawn theih thung. Tomato, bawkbawn leh hmarcha te chu lei hai vum pang pakhatah feet khat emaw feet khat leh a chanve inkar danin phun sawn tur a ni a, purun sen liante erawh chu feet chanve vel kar danah lei hai vum pang tawn tawnah phun sawn theih a ni. Thlai tiak phunte chu phun sawn tirh lam chuan ni hnih kar danah tui pek thin tur a ni a, a lo upat hnu deuhvah chuan ni li kar dana tui pek thin tur a ni.



- Thlai dang a zar hliah lohna'n leh thlai zinga lei tha intam chhuah a awm lohna'n thlai kum hlunho chu huan mawng lamah kan phun thin tur a ni.
- Huan chhunga kalkawng hrulah heng thlai thar hma ho - dhania, bal, antam hnah ei te hi kan ching kual thin tur a ni.



Chuktuah huana thlai chin tur hrang hrangte a hnuiah hian tarlan a ni:

Sik leh sa mila thlai kalendar			
Aiawh rawng hrang hrang	Nipui (February-May)	Fur (June-September)	Thlasik (October-January)
Hring	Bal	Zikhluum	Antam pâr ei
	Antam hnâh ei	Fanghma	Zikhluum
	Bean	Vaimim	Bean
	Bawrhsaiabe	Dhania	Dhania
	Vaimim	Hnâh hiar	Hmarcha, Hnâh hiar (Mint)
Sen	Dawnfawh	Buluih	Tomato
	Hmarcha sen		Buluih
Serthlum rawng/ Eng	Mai	Mai	Sazupui bahra (Carrot)
	Thingfanghma	Thingfanghma	Thingfanghma
	Sêr	Sêr	Sêr
	Antam	Antam	Iskut
		Kawlbrah	Pâ
		Iskut	
Nawinawk/ Pawl	Bawkbawn	Bulbawk sen	Bawkbawn
Vâr	Buluih	Purun var	Purun var
	Maipawl	Buluih	Buluih

Thlai kumhlun tana hmunbik ruahman dan

1. Balhla, thingfanghma leh theihai
2. A chunga thlai chin dan kan tar lanah khian thlai thenkhat chu khaihlak awm miah lovin kum tluanin kan ching a, a then erawh chu thlai dangte nena chin kawp an ni thung.



Thlai tawih lei tha (compost) siam dan

Bawlhawha kan chhiar thil tawih thei hrang hrang atang hian thlai tawih lei tha (FYM) kan tih hi rawn insiam a ni.

- A bawlhol te: buhpawl, hnime leh phul, chawhmeh nawi thlai hring, hnah, ran ek (ui leh zawte ek tel lovin), vut, saruh leh sangha ruh, sava hmuk, puan them (cotton), savun them emaw lehkha them, lei.
- Ei tur hminsa, thingtang lian lutuk, thelret (plastic), thir, thleng keh them, darthalang, thirzai, maimaw puan (silk/nylon), puan fei chi, lungalhthei vap, phul/phaitual hnime chi (seed) leh hnime thi har lutuk chi te hman ve loh tur a ni.
- Tawih thei thil an nih ang anga a lo tawih ral a, a nihphung tawih lei tha (compost) kan tih hi a lo insiam thin a ni.
- Thlai thanna atan leh lei ti thatu atan a pawimawh em em a ni.



siamtu pangngai zawka a lo chan leh hian thlai

Thlai hrik leh zuva enkawl dan (Integrated Pest Management)

Kan thlai chinte leh kan thil roh em em min tihchhiatsak thintu nungchate hi zuva tiin kan sawi thin a. Zuva kan tih hian nihphung hrang hrang a nei thei a, kan thlai chinte ei chhiaa thar chhuah tikiam thintu rannungte hi thlai hrik emaw, zuva emaw tiin kan sawi thin a ni. Zuva leh thlai hrik avanga thlai thar thahniam thin ven/tihziaawm hi loneitu tan chuan thil pawimawh tak a ni a. Zuva leh thlai hrik tihziaawm leh nuai bo dan hrang hrang lak khawm hi Integrated Pest Management (IPM) tiin an sawi thin a, tihdan hrang hrang lak khawmte chu awmze nei takin an thawk ho thei a. Zuva leh thlai hrik enkawl dan hrang hrang hmang tangkai thei tur chuan he lama hriatna leh thiamna neih ve a ngai a. Thlai ei chhetu rannung chungchang kan hriat chian zagh poh leh ei chhetu avanga thlai hlam tla, tâm, nete leh hloh kan titlemin pawikhawih thei khawpa tam an awm hmain kan thunun thei dawn a ni. Thlai hrik leh zuva ven leh enkawl dan tlangpui chu heng hi a ni:

- Thlai hrik leh zuva thununna'n hian damdawi lam chi hman loh hram hram tur a ni.
- Hmanraw man tlawm, hmuh awlsam leh hman thiam awlsamte kan hmang hram hram tur a ni.

Tihphung tha

Huana thlai a awm loh lai pawhin thlai ei chhetu leh an theh darh thin natnate hi huan chhunga hnime hnawkahte inhlangfakin an dam khawchhuak fo thin a; chuvangin, thlai chin loh lai pawhin huan hi zuah hnime loh hram hram tur a ni. Kan thlai phunte hi thlai tiak hlim leh a sen laia ei chhetu hrik leh an natna theh darh lak atanga an fihlim theihna'n thlai tiak hrisel tak kan hmang hram hram tur a ni. Thlai inkungkaih hnai deuhte hian ei chhetu rannung leh natna thuhmun an neih theih avangin inhnaiah deuhva chin loh tur a ni.

Thang

Tomato rah ei chhetu te, khapdiau pangang te (army worm), sanghar tho (fruit fly), bê nget (legume pod borer) leh bawrhsaibe rah leh kung nget te, lungphur lian (diamond-back moth) te leh thlai ei chhetu rannung dang tam tak manna atan pheromone trap hi hman thin a ni. Lehkha eng ban (Yellow sticky trap) hi thlai hrik chi hrang hrang (whiteflies, leaf hopper, winge aphid, leaf miners) manna atan leh huana thlai hrik awm thinte hriat theihna atana hman thin a ni bawk. Lehkha pawl ban (Blue sticky trap) hi thrips vil leh thununna'n a tangkai hle.



Thlai chi vawn him leh dah that dan

Chuktuah huan atanga thlai chi tha vawn him leh dah that dan kawngmang panga te:

- 1) **Thlai chi chu khawm/ seng zagh veleh then fai nghal vat tur** - Thlai chi chu kan seng/ khawm zagh veleh uluk takin kan thian fai nghal tur a ni a. Lei nawi leh bawlhhawh tihfai nghal tur a ni. Thlai chi hrufaina'n lehkhachhe nêm chi emaw, puan them emaw hman tur a ni. Thlai chi thenkhat erawh chu a chi tuamtu kawr leh pilte thenfai a ngai thin.
- 2) **Dah that hmaa thlai chi pho ro** - Thlai chi chu kan then fai zawah kan pho ro tur a ni a; a nihphung ang theuhva thliar hran a, ziaklopuanah emaw savun rawng dum lam chi ni lovah rual taka chap darh tur a ni. Lehkha chhutna rawng hi thlai chi hnawng chhungah a hnam luh theih avangin chanchinbu lehkhapuan chu hman loh tur a ni. Thlai chi hi ni sâah pho ro hmasak tur a ni.
- 3) **Rei tak chhung thlai chi dah tur dah khang** - Thlai chi chu a ro ngei a ni tih kan chian hnuah hun rei zawk dah that turin bawm chhungah khung tawh mai tur a ni. Amaherawhchu, hun rei leh zual (kum 2 thleng vel) dah that kan duh a



nih erawh chuan thlai chi chu kan dah khang a ngai a ni. Thlai chi hi boruak hip ve thin a nih avangin kan dah khal dawn a nih chuan kan dahna bawma boruak awm te kha tichhuak vekin pawzih ipah khungin nghet takin kan chhin phui tlat tur a ni. Thlai chi tam tham tak dah that kan rilruk a nih chuan thlai chi dah thatna bawm atanga boruak hip chhuak vek thei khawl kan ngaihtuah te pawh a tul awm e. Thlai ip kawmah chuan thlai chi hming leh dah that ni chiang taka chhinchhiah thlap tur a ni. Chutianga char phuia chhinchhiah fel a nih hnu chuan a dahna vûr bâwm kawngkhar hawn a nih pawha thlai chi chu boruak ngai rengah a awm tir theinan thlai chi chu vûr bâwm chhungril lamah dah a tha bik a ni.

4) Hun rei lo te chhung atana thlai chi dah that- Sik leh sa danglam nasat lohna hmunah chuan hun rei tak thlai chi dah that hi thil tul a ni meuh lova. A chhan chu eng pawh lo ni se, hun rei lo te chhung atana thlai chi i dah tha duh a nih chuan hautak lo va thlai chi dah that dan ngaihtuah a tul dawn tihna a ni. Boruak lum leh vâwt danglam nasa lutuk laka veng thei leh boruak lut thei lo tur bûr phui tak i mamawh ang. Lehkha nemah bawngchnute dip fian hnih vel funin bûrah chuan kan chhin hnan ang a, (bawngchnute dip chuan thlai chi chu a tawk tur a ni lo), i thlai chi bâwm chu fiah takin i chhinchhiah leh theuh tur a ni.

5) Thlai chi dah thatna atanga phun tura thlai chi lak chhuah: Kan thlai chi dah that chu kan dah thatna atanga kan la chhuak dawn a nih chuan hawng mai lovin thlai chi dahna chu pawn lam lum dan nena inang a nih thleng kan nghak phawt tur a ni. Thlai chi thlak/tuh tura kan inpeih ngei hma loh chuan kan thlai chi dah thatte chu kan la chhuak tur a ni lo. Chuvangin, thlai chi thlak hun tur uluk taka lo ruahman lawk ngei ngei tur a ni.

Chuktuah huan siamna atana mimal leh khawtlangin kan thlai chi mamawhte chu a chunga thlai chi dah that dan kan tar lan te khian a phuhru mai thei anga; amaherawhchu, tam tham deuhva thlai chi dah that dawn chuan hei aia hautak zawk leh thiamna sang zawk pawh a ngai dawn a ni.

Hmanraw mamawhte

- Kan tui mamawh kan neih theihna'na lo ruahman lawk (Tui dah khawlna siam).
- Thlai tawih lei tha (FYM) /compost.
- Thlai chi leh thlai tiak tha leh rin tlak.
- Suahdur leh thirtiang.
- Hruizen leh sei lam tehna hmanrua.
- Thil chhinchhiahna tur chinai emaw, vut emaw.
- Pal hungna hmanrua.
- Hmanrua tê nau hrang hrangte (Chempui, suahdur, thirkut, bawngtuthlawh, mau bung, adt.).
- Thirzai emaw hrui eng chi pawh.

