

Buh chi tha “CAU R1” hlawk zawka chin dan leh enkawl dan **(Package of practices)**

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Thuhmahruai : Buh chi tha CAU R1 (Tamphaphou an ti bawk) hi Buh thar hlawk chi **Leimaphou leh BR1** thlah pawlh atanga siam a ni a, thar hlawk tur leh natna leh rannung lar zual laka him zawk tura siam chhuah ani. June thla tir lama phun sawn chuan ni 130-135 hnuah aseng theih a, phunsawn tlai chuan a thar hma (photosensitive) a, a hlawk thei lo deuh. Buh tui tak, thar hlawk duh si kg 7000 lai hectare 1 a seng theih ani a, a Buhhum atang pawhin 70% lai buhfai a her chhuah theih a ni. Buhnah natna Blast leh Bacterial blight lakah him deuh tura ngaih a ni a, tin, Buh dang aiin a kung nget (Rice gall midge leh stem borer) lakah an him bik. Amaherawhchu, Buhnah kuang natna (sheath blight leh sheath rot) lakah a him lo deuh a ngaih a ni a, CAU R1 hi Manipur phairuamah pawh fur laiin hlawhtling taka chin a ni.

Climate mamawh dan : CAU R1 Buh hian Manipur tlangram, ruahtui tla ringa buh chin theihna hmun terrace leh tuilak (irrigation) chauh ring a buh chinna hmun phaizawl, tui paih kang zung zung theihna hmun te a ngeih hle. Tin, Manipur climate leh leilung ang awmna hmun India hmarchhak state dangah te pawh enchhin tawh a ni a, hlawhtling taka chin theih a ni. He buh hi Tlak lei ban lam (Clay to Clay loam) leh lei thatna hmun, lei thur zawng pawh pH 6.0 - 6.5 leh tuipei atanga 500m - 1300m a sangah te a tha duh bik. Mak tak maiin he Buh hi tuilianin Ni 7 chhung meuh a peng insiam laia a chim pawhin a chhiatpui lo a, Buh par lai a khaw kheng thut a lo awm pawhin a chhiat pui lo bik a ni.

Buh chi sawngbawl dan : CAU R1 buh hi Loneitute remchan dan leh an ram leilung dinhmun azirin SRI leh ICM Buh chin dan te, WRC buh chin dan pangai leh Buh chi chiah puam direct a tuh te in chin theih a ni. Buh chi tha hman hi pangai taka thar hlawk (4.5 - 5.0 MT/ha) turin a pawimawh hle a, CAU, ICAR leh State Dept. of Agriculture leh mi rintlak takte atang chauhin buh chi lo nei lawk ila, kan buh chi mamawh zat chu darkar 36 chhung tuiah (30°C) chiah a, hemi hnu hian a tui thlit hul a daihlmah minute 30 chhung dah hul leh tur ani a, buh chi chu Carbendazim (fungicide) 1 gram leh tui litre 1 pawlh leh insecticide Imidachlorpid 0.7ml leh tui 1 litre a pawlh chu kan fin ang a, chu chuan buh chi kg 1 zel chu ml 100 solution in kan pawlh tawh mai dawn a ni. Hei hi zan khat (28°C) Buara ah dahin kan up leh ang a, tichuan a tukah Buh chi a zung chhuak (chiah uingho) chu kan theh tawh mai dawn a ni.

Buh chi mamawh zat : CAU R1 Buh chi kg 45 hi hectare 1 chin nan a tawk. Buh chi hi uluk hle tur a ni a, a chi a that chuan a hlawk a, Buh pawh an hrisek tha duh bik.

Nursery buatsaih dan

Mizoram hmun hrang hrangah Buh kan chin hun a inang lo a, engpawhnise, kan Buh phun hma thla 1 ah nursery lo buatsaih lawk theih a tha ber a, Buh chi kan theh atanga ni 25 vela phun sawn thei turin ruahmanna lo siam tur a ni.

Nursery tur leilung buatsaih dan : Nursery tur leilung chu tha taka lo leh phut hmasak tur a ni a, hei hi tui chim tir che che in a vawikhat nan lehkawi phot tur a ni. Nursery leilung chu level tha taka siam tur a ni a, tui chim tawk chauha control theih nan bialtlang tha tak a siam that tur a ni. Nursery leilung hi wawi 2/3 thleng pawhin lehkawi theih a tha a, leilung chim tawk chauhin tui hi dah tur ani.

Nursery bed siam dan : Buh chi hrisek leh thang tha tak kan neih theih nan Nursery leilung hi 5 cm velin kan tipawng sang tur a ni a, a bed vang lam hi 1m -1.5 m vel nise, nursery bed sei lam erawh chu ram leilung remchan dan ang zela tih mai tur a ni. Nursery bed inkar ah hian 30 -40 cm vel tuiluanna kawr, a kual chhuaka siam vek tur a ni a, hei hian Nursery thlawhfai leh enkawl na chi hrang hrang a ti awlsam dawn ani. Nursery bed level tha taka siam hi Buh chi hrisek tak leh thangrual tha tak neih nana thil pawimawh tak ani.

Buh chi theh dan : Buh chi uluk taka sawngbawl tawh, kan chiah uingho sa chu Nursery bed level tha taka siam sa ah fimkhur takin theh tur a ni a, pan rual tha taka theh tur a ni. Buh chi gram 100 hi metre 1 bialah rual takin theh zo thei ila a tawk viau.

Nursery bed fertilizer pek dan : Nursery bed leitha pek hi kan ngai pawimawh tawk lo hle mai a, Buh chi hrisek tak nei tura tih ngei ngei tur a ni. Nursery leilung hi a that tawk loh chuan heng Fertilizers – Urea 10 g, S.S.P 15 g leh M.O.P 4 g te hi metre 1 bial zel atan kan pe tur a ni. lei that tawk lohna hmunah chuan Urea 5 g metre 1 bial zel atan an pek belh leh thin bawh.

Nursery tui pek dan : Buh chi kan theh chu 1 - 1.5 cm vela sang a an lo to thlengin Nursery bed chu hnawng chip chep chauhin tui kan dah tur a ni a, Bed hual vela kawr siamah khan tui dah khat ila a tha tawk hle. Buh chi te chu an lo thang lian zel a, hemi hnu lamah hi chuan tui chim chin pawh 2-3 cm laia sangin dah tawh tur a ni.

Nursery Buh venhim : Nursery Buh chi venhim hi a pawimawh hle mai a, Buhnah natna Blast kan hmuh chuan a rang lamin Carbendazim gram 1 emaw Ediphenphos ml 1 emaw tui litre 1 ah pawlhin kan kap vat tur a ni. Dan naranin Buh eichhetu rannung te laka venhim nan Buh chi kui atanga Ni 7 na ah Chlorpyrifos ml 2.5 emaw Carbaryl ml 2.5 emaw tui litre 1 ah pawlhin kah a tha. Buh zung eichhetu Root Knot Nematode laka ven nan Carbofuran (Furadan 3G) metre 1 bialah gram 3 ang vel buh chi theh atanga Ni 5/7 velah theh a tha bawk.

Nursery Hlo thlawh : Nursery ah hian buh chi to danglam bik leh hlo awm ve apiang paih zung zung tur a ni a, hei hian Buh chi a tih hrisel bakah Buh chi a ti hliir tha bik a ni.

Buh chi pawh hun : Buh phun sawn hun tha ber chu Buh chi tiak ten Hnah 4/5 an neih hun hi a ni a, Fur lai chuan kui atanga Ni 21 atanga Ni 25 vel a mamawh thin. Buh chi chu fimkhur takin pawh tur a ni a, a zung lam hliam lo thei ang ber a pawh tur a ni.

Buh chi phun sawn hma a sawngbawl dan : Buh chi pawh hma kar 1 velah kan hmuh theih remchang apiang metre 1 bial atana hisapin heng Carbofuran gram 3 emaw Phorate gram 1 emaw Diazinon gram 1 te hi Nursery bed ah khan pawlh tur ani a, Buh chi pawh hnu ah pawh a zung te silfai in Chlorpyrifos ml 1 tui litre 1 a pawlh leh Urea 1% (tui litre 1 ah Urea 10 g) inpawlh ah darkar 3 chung chiah ila, hei hian eichhetu tam tak lakah a veng him thei dawn a ni.

Buh chinna Hmun thlan leh Buatsaih dan

CAU R1 Buh hlawk zawka thar thei tur chuan Ram zawl, level tha leh lei thatna hmun thlan a pawimawh a, Buh chinna leilung that leh chhiat hian nasa takin Buh thar a ti hlawkhei a ni. A hmasa berah leilet chu ft. 1 vela thukin April/May thla velah lei leh tur a ni a, a hnuah pawn lang zawka leh nawn leh tur a ni. Vawi 2/3 leh nawn theih chuan a tangkai hle. Bial tlang leh tui put theihna awm a piang thawm that hi a pawimawh hle a, level tha taka lei leh laia siam rem bawk tur a ni. Vawihnih tal lehkawi theih hi buh phun nana duhthusam a ni a, tui mamawh zat awm reng tura vil ngun tur a ni. Khaw hrang hrangah Buh phun hun adang angin leileh hun pawh a inang lo thei a, mahni Ram mil theuh a insiamrem mai tur a ni.

Buh phun Dan : Lehkawi hnukung ber rual hian tui chim chin a rual theih nan Buh phunna tur leilung chu level tha taka siam tur ani a, leveller te an hmang bawk thin. Buh chi tiak, tha taka sawngbawl tawh chu Line ngil tha taka siamah chuan phun tur a ni a, Line hi Hruai hmangin emaw Line Marker hmangin emaw siam tur a ni a, Buh bi inhlath zawng cm 15 leh Buh tlar inhlath zawng cm 20 (20 cm X 15 cm) ni se, Bi khatah Buh zai 2/3 phun tur a ni. A line a Buh phun hian Buh bi a tih tam pah avangin Buh a hlawk bik a, enkawl a ti awlsam bawk a, enkawl na sen so pawh a tlem pah a ni.

Leitha pek dan (INM) : Leitha pek hi kan la ngai pawimawh tawk lo hle a, Lei tha chi khat chauh hmang lova enkawl hi duhthusam a ni a, heng thlai leh ran ek tawih dur te hi pe tel thin ila, lei a da har bik a, kawng hrang hrangin leilung bakah Buh ten an that pui thin hle a ni. Leilet hectare 1 atan Bawngkek leh thlai tawih dur (FYM/Compost) ton 5 atanga ton 10 pawlh te, Bio-fertilizer lamah chuan *Azospirillum* gram 2000 pawlh te, PSB kg 25 bawngkek leh lei kg 25 nen a chawhpawlh te hi Leilet a pawlh theih chuan Buh thar a hlawk phah thin hle a ni.

Fertilizer pek hi a tangkai hle mai a, tunlai khawvel intodelh nana hmanraw tangkai tak a ni. Ram leilung that dan hian fertilizer pek zat tur a hril a, atlangpuiin mithiamte chuan 60:40:40 kg NPK hi Hectare 1 atan a tha tawk an ti a, a awmzia chu Urea – kg 97, DAP – kg 87 leh MOP – kg 67 pek tur tihna a ni. Leilet lehkawi hnuhnung ber ah Urea – kg 31.5, DAP – kg 87 leh MOP – kg 42 (30:40:25 kg NPK tihna) hectare 1 atan pawlh tur a ni. Buh phun atanga Ni 15 atanga Ni 20 velah Urea hman bang zatve kg 33 chu hectare 1 atan theh leh tur a ni a, hemi rual hian Buh natna leh rannung laka venna tur damdawi kah nghal a tha. Fertilizer la bang Urea kg 32.5 leh MOP kg 25 te chu buh phun atanga Ni 45 atanga Ni 50 ah atawp ber atan pek leh tur a ni. Leilung thatna hmun Leilet ah te chuan Buh hnah lan dan atangin Urea pek dan tawk thiam a ngai ve thin bawk.

Leilet a Tui control dan : Buh phun zawh Ni 2/3 atanga Buh tak a lo insiam (phun atanga Ni 90 vel) thleng cm 2 atanga cm 3 vel a sangin tui chim tir reng thei ila Hlo a awl phah a ni.

Hlo thlawh Fai dan (IWM): Hlo te hian leitha leh boruak te an chuh pui ve avangin Buh ten an tuar a, Hlo tih rem dan chi hrang hrang hman angai a, chi khat chauh hman a tawk lo a ni. Buh phun sawn atanga Ni 3 chung, Hlo chi tiah hma in Butachlor tui litre 1 ah ml 10 pawlh hisap a kah tur a ni a, hei hian nasa takin hlo atih tlem phah. 2,4-D hi Hlo hnahbial ho thah nan a tang kai hle a, Hectare 1 atan kg chanve hman a tawk. Heng mai bakah hian Buh peng insiam vanglai leh Buh rai tan laiin kutin Hlo pawt fai thei bawk ila awlsam takin a thlawh fai vek theih.

Natna lar zual laka venhim dan (IDM for CAU R1)

1. Rice Blast (Buh hnah natna) : hei hi Buh hnah natna lar leh kan buai pui nasat ber a ni a, Buh hnahah te chhut-han ang deuh in a lo dum thet thet a, lo val zau zelin buh hnah a ti ro vek thei a, Manipur state bakah Mizoram ah pawh he natna hi hmun tam takah a nasa hle. Buh ten chaw an siamna hmanrua ber a hrisel loh chuan a thar hlawk thei lo a, a nasatna ah chuan Buh hnah a tih ro avangin a pawl thei hle a ni. Blast natna laka him tur chuan Buh chi hrisel tak hman a ngai a, a line a Buh phun te, Fertilizer dose dik tak hman te leh leilet ah tui mamawh tawk khung reng a tul bawk. Damdawi a Buh chi chiah hi ngaih pawimawh hle tur a ni a, Tricyclazole emaw Carbendazim te a hman theih. Blast control tur hian Nursery atanga Buh puitlin hnu thlengin natna lo lan apiangin a tul hun a damdawi a kap thei tura inrin a tha.

2. Bacterial Leaf Blight (BLB) : he natna hi hmun thenkhat ah chuan an buai pui viau a, blast natna ang deuh tho a ni a, buhhnah ti ro in buh ten an chhiat phah hle a, he natna thlentu chu bacteria a ni a, a lo awm tawhna hmunah chuan buh rai tan laiin Urea hman loh tur a ni a, MOP kg 25 hectare 1 atan theh a tha. A nasatna hmunah chuan mg 250 tetracycline capsule 160 chu tui litre 200 ah pawlhin hectare 1 atan kah a tha bawk. Buh chi tetracycline (0.01%) a chiah a tha a, Buh peng insiam lai leh a rai laia Tetracycline a kah te, Buh phun atanga Ni 30 ah Streptocycline (0.015%) leh Copper Oxychloride (0.2%) pawlh a kah a, chumi hnu Ni 15 ah kah nawn lehin an that phah hle.

3. Rice Sheath Rot leh Sheath Blight : Rice Sheath Rot hi Buh hnah kuang, a kung tuamtu tawih natna a ni a, a natna a darh zel chuan hnah natna sen buang lam a ni a, a hnah kuang a tuam chhuak thuai thin. Buh vui tuamtu tak a tawih thin avangin a nasatna ah chuan Buh vui chhuak thei lovin a siam thin. Buh vui chhuak thei lo chu a tawih thin a, Buh seng tlak lohin a chhe vek thei a ni.

Rice Sheath Blight hi Fur lai a natna inlar chi a ni a, hei pawh hi Buh hnah kuang, a kung tuamtu natna tho a ni a, Boruak hnawng lutuk ah an tai darh chak a, a na lai chu a buang var lam ang durh insiamin a buang thim lamin a kual khung a, a nasat chuan a hnah pumin a thih phah thin. Boruak hnawng leh lum avangin a punlun vak thei.

A enkawl dan : Hetiang natna hluarna hmunah chuan a thawl lama Buh phun a tha a, natna a darh chak loh phah. MOP kg 25 hectare 1 atan theh ila sheath blight a nasa lo bik. *Penicillium citrinum* te leh *Trichoderma harzianum* te hman tel theih chuan heng natna hi a control thei bawk. Mancozeb leh Benomyl hi a hman tlak hle bawk. Carbendazim tui litre 1 ah gram 1 pawlh hisap in Buh kap ila Sheath Blight a control thei.

4. False Smut (Buh Rah) : Buh rah kan tih hi natna chi khat a ni a, Buh vui tak insiam laiin an lo lang a, Buhhum pakhat ah bu khuarin Buhrah kan tih hi a lo insiam thin. Atirah chuan serthlum rawng lam a ni a, a hnuah a hring eng emaw hring duk in a lo inlet leh thin. Buh rah hi a lo keh a, natna a lo in tai darh ta thin a ni. Buh rah natna laka him tur chuan Buh chi hrisel leh Damdawi a chiah ngei hman tur a ni a, a hma lama Buh chin a tha a, Nitrogen tlem lam zel a hman a tha bawk. Carbendazim leh Bordeaux Mixture a kah pawh hi a tha tho bawk.

Rannung chimawm laka venhim dan (IPM for CAU R1)

1. Buh phunsawn hma a tih theih te : Buh tichhetu Rannung laka venhim nan Buh phunsawn hma in tih theih tam tak a awm a, chungte chu – Thal laia leileh te, Bial tlang siam that leh sam fai te, leilet a rannung tawmna hnim leh bawlhhlawh thenfai te, buh chin zawh ah

thlasik thlai dang zikhlum, Alu leh tel antam (crop rotation) chin te leh a theih chuan June Ni 15 atanga Ni 25 inkarah Buh phun nise a tha. Buh chi Damdawi a chiah hi ngaih pawimawh a tha khawp mai a, hei hian nasa takin thlai a veng thei. Chlorpyrifos (20 EC) ml 50 atanga ml 100, tui litre 10 ah pawlhin darkar 3 chhung chiah theih chuan rannung lakah an him bik a, tin, Carbofuran (3G) kg 3 vel hi sq.m 1000 hisapin Buh kui atanga Ni 15 atanga Ni 20 ah Nursery ah theh a tangkai hle bawk.

2. Buh phunsawn hnu lama tih theih te : Rannung lak a kan Buh a him zawk nan tih dan tam tak a awm a, heng te hi kan zawm that chuan nasa takin kan chhan thei a ni. Buh phun laiin Buh chi tiak hnah hmawr lam tan tur a ni a, rannung tui lo awm thei lakah a him phah a ni. A hun takah uluk taka Hlo thlawh thin tur a ni. Urea thlai mamawh tawk vawikhatah pe vek lovin vawi 3 pekin pek thin tur a ni a, Buh phun lai, Buh peng insiam vang lai leh Buh tulzum tan lai ten pek tur a ni. Rannung tui tichhetu *Trichogramma chilonis* Buh phun atanga ni 30 ah chhuah tur a ni a, hectare 1 atan a tui 50,000 kartin, chawlhkar 6 chhung dah theih chuan rannung chimawm deuh deuh inthlah pung thei lovin an siam thin. Buh kung nget hluarna ah chuan Pheromone traps hman a tha a, hectare 1 atan hmun 20 ah dah tur a ni. Rannung tangkai Maimawm, Uifawm leh Daidep te humhalh tur a ni a, hmun dang atanga dah luh belh hial a tha. Zan lamah electric eng hmang (Light trap) a rannung suat a tangkai hle a, Bulb hnuaiah tui hung ila, rannung an tla teuh a, elctric bulb pakhat wtt 200 chi hectare 1 atan dah tur a ni. Rannung hrang hrang lo lan dan ang zelin Damdawi a kah thin tur. Buh tak insiam tan laiin Thlangdar laka a him theih nan Chakai uih emaw Uchang uih emaw Hnapkhawn thi emaw plastic hmang a Kak siam (Funnel trap) chhungah dah ila, Thlangdar an tlem phah hle. Buh tak insiam tan atang hian tui chim san zawng cm 5 atanga cm 10 a sangin chim tir thei ila, Buh seng hma kar 1 ah sah leh mai tur a ni. Buh kan sengin leiseh chinah buh at thei ila, hei hian Buh kung nget a suat phah thei a ni.

Buh vuak leh a seng :

Buh seng hun dik tak hi leilet siam thin tan chuan hriat a har lo va, Buh kung hring dap thin kha rangkachak rawng ah inlet in ahnu ah rangkachak rawng eng (Golden yellow) takah a chang a, a hnah te a ro tan mai thin a, Buh tuiril insiam kha a lo sakhat a, atlangpuiin Buh vui zatve a par atanga Ni 27 atanga Ni 30 velah a seng a lo hun thin. Buh hi Favah in emaw khawl hmangin emaw an seng thin a, Buh seng sa hi hmun khatah cement chhuat emaw lei vuak mukna hmun zawlah an dah khawm a, Ni 3 atanga Ni 4 vel an pho ro hnuah kutin emaw khawl hmangin emaw an vaw thin. Buh vuak sa hi tha takin an zap fai leh thin a, Ni sa ah an pho ro hnuin chhekin ah an dah ta thin a ni. Buh dahthatna hi kan ngai pawimawh tawk lo hle mai a, chhekin ah dah tawpin kan ngaihsak zui tawk lo thin a, sazu leh chawngzawng ten nasa takin min suasam sak a, kan thawhrah tam tak kan chan belh leh thin a ni. Chuvangin Chhekin tha tak ah emaw Seed Bin ah emaw kan Buh te dah tha thei ila, kumtluan a hah taka kan thawhrah te hi

Zuva leh, Sik leh Sa, boruak hnawng lakah te a him tha ang a, Buh kan seng khawm sa te hi a lo him zawk dawn a ni.

XX

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