

3. **Mixed Fertilizer:** Fertilizer chawhpawlh entirnan – N-P-K 15-15-15 grade ang te

4. **Complete Fertilizer:** NPK a pathuma keng tel

5. **Micronutrient Fertilizer:** Fe, Zn, Mn, Co, Mo te an keng tel

Damdawi awmdan chi hrang te:

- A mum chi (granulated): awlsam taka pektheih tura siam a ni, a khu loa, leiah a pek mai theih
- A tui chi (liquid fertilizers): tuiril ani a, tuisik nen pawlhdal leh thin a ni.
- Mixed: a tui emaw, a mum chi emaw a powder chi te chawhpawlh hi a ni.
- Wettable Powder (WP): maida ang chi a phut, tuia chawhsawm theih.

Damdawi NPK keng reng reng te leh micronutrients keng reng reng hian pek dan tur dose an nei theuh a. Chumai bakah kan thlai a zirin kan damdawi pek zat tur a dang vek baw. Kan leilung a zirin damdawi mamawh dan pawh a dang lehzel thei a ni. Kan leilunga chawṭha (nutrients) awmsa azir khan fertilizer dose atamin a tlem thei a, phai ram leh tlang rama fertilizer kan mamawh zat a inanglo ṭhin baw a ni. Hetiang anih avang hian Fertilizer kan hman hluar ber leh eng thlai pawhin an mamawh vek mai NPK, thlai hrang hrang kan chin uar deuh tana pek tur zat a hnuaiah hian tarlan a ni. Hectare hisapa dose siam ani tlangpuia, Ṭin khat hmun hisapin kan siam danglama. Bi khata pek theih zat thlengin kan zia baw a ni. Bi khata pek tur kan chhut hian feet khat dan zela thlai chîn ang in kan chhut a. A aia zîm leh zau deuhah pawh dose kan siam zûlzuin mahnia lo siamrem mai nise a ṭha ang.

Thlai	Tin khat hmun atan (kg)			Thlai bi khat atan (gram)		
	Urea	DAP	MOP	Urea	DAP	MO P
Tlangram Buh	86.8	52	39.8	1.35	0.8	0.6
Phai Buh	79.2	52.8	38.4	1.23	0.08	0.6
Vaimim	140	66	48	2.2	1.02	0.07
Zikhlum	105	52	38	1.65	0.82	0.6
Tomato	130	70	38	2.03	1.1	0.6
Hmarcha	149.6	105.6	76.8	2.3	1.6	1.2
Changkha	35.2	26.4	19.2	0.55	0.41	0.3
Fanghma	105.6	66	48	1.65	1.03	0.75
Baw bawn	105.6	88	64	1.65	1.37	1
Sawh thing	17.6	52.8	12.8	0.27	0.82	0.2
Aieng	79.2	44	38.4	1.23	0.68	0.6
Theihai	4000	2000	4000	1kg	0.5kg	1kg
Thingfang hma	2000	2000	2000	500	500	500
Serthlum	1800	1440	1200	450	360	300
Nimbu	1200	1200	1200	300	300	300
Lakhuith thei	48	48	48	12	12	12
Kawlthei	1040	1280	1040	260	320	260
Dragon fruit	600	600	1200	150	150	300

RECOMMENDED DOSE OF FERTILIZER

*Fertilizer chungchang
leh*

*Dose dik taka fertilizer pek
chungchang*

Buatsaihtu:

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He khawvelah hian thlai chawṭha (nutrient) thlai mamawh em em, a tel lova thlai ṭhan ṭhat theihlohna chi 17 a awm a. Heng nutrients te hi thlai ten an mamawh zat a zirin hmun hniha then hran ani leh a. Chungte chu:

1. **Macronutrients** – Thlai in tam zawka an mamawh an ni. An tel lovin an nung khawchhuak theilo. Chungte chu- Carbon, Hydrogen, Oxygen, Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sulphur te an ni.
2. **Micronutrients**- Heng nutrients te hi thlai ten an mamawh zat a tlem a, amaherawhchu a tel lovin an nung khawchhuak thei silo a ni. Chungte chu- Iron, Manganese, Zinc, Copper, Boron, Molybdenum, Chlorine, Nickel te an ni a.

Thlai a an hnathawh a zirin a chung a kan nutrients sawi te khi ṭhen hran an ni leh a. Chungte chu:

- **Structural nutrients:** Carbon, Hydrogen leh Oxygen te hi a huam a. Thlai ri ruang a siam a, ṭlu hnuang lova an din khawng theihna te leh thlai chakna petu an ni.
- **Primary nutrients:** Nitrogen, Phosphorus leh Potassium, NPK kan tih te hi an ni. Thlaiin an mamawh hnem hle a. an zinga pakhat lêk pawh a kiamin thlaiin an tuar a. An ṭhan ṭhatloh bakah natna an ngah duh hle.
- **Secondary nutrients:** Calcium, Magnesium leh Sulphur te an ni. Heng Nutrients te hi thlaiin chaw an lakluhna kawnga puitu an ni.
- **Beneficial elements:** Vanadium, Silicon, Cobalt leh Sodium te an ni a, thlai ti

ṭhangtu an ni a, thlai zawng zawngin an mamawh vek lem loa, amaherawhchu thlai ṭhenkhatin an ṭhatpui thung.

A chung a kan tarlan tak te khi pakhat te pawh kan thlai ten an ṭlachham anihchuan harsatna an tawṭ ṭhin a. Kan thlai anlo hrisello anga, kan thar tlem phah rawk thei dawn a ni. Chung harsatna lâr zual te chu han en ila:

- Hnah upa an eng a, chumi hnu ah hnah no alo eng dal – (Nitrogen ṭlakchhamna)
- Thlai zung a ṭhalo, an ṭhan a ṭhu bawṭ (Phosphorus ṭlakchhamna)
- Hnah rawng leh a kuang rawng a danglama nainawṭ rawng alo ni a, a chhah ṭulh bawṭ (Phosphorus ṭlakchhamna)
- Hnah ṭlangkual a eng a, a thi hma (Potassium ṭlakchhamna)
- A zik no ṭawih leh thi, rose ang hian a bawṭ laih duh (rosette symptom) Calcium ṭlakchham vanga awm a ni.
- Hnah hring dal
- Hnah uk ṭhit ṭhet (Manganese ṭlakchhamna)
- Hnah var emaw eng dal ri ai a hnah zumlai ah a lang Chiang- vaimim hnah ah a hmuhtheih (Zinc ṭlakchhamna)
- Thlai tar hma, par chhuak ṭlai leh vui ṭhalo (Copper ṭlakchhamna)
- Hnah kir leh râm, hnah kara a var emaw eng dal a rawng chhuah. A zikno a thi a, a buk deuh laih bawṭ ṭhin (Boron ṭlakchhamna)

A ṭlangpuiin thlai chawṭha (nutrients) ṭlachham leilunga thlai kan chîn chuan thlai zung a ṭhalo a, a thang theiloa, a hnah a chhiain a hrisel loa, hnah dumdial leh ṭial ṭhik ṭhek te a tam a, a par aṭhalo a, a rah theilo bawṭ ṭhin.

Hetianga ṭlakchhamna lak atanga kan thlai te kan chhanchhuah theihna tur chuan Nutrients thlai mamawh em em 17 te khi kan pek an ngai a, duhthusam ah chuan bawṭgek leiṭha te, ar ek dûr te, vermicompost te hi hman a ṭha a . Amaherawhchu Fertilizer te pawh hi hman a ṭulna a awm ve bawṭ ṭhin a, thlai hnena chawṭha pe ngah thei an nihna laiah hian thlai ṭlakchhamte kan pek na atan a ṭha em em a ni. Nimahse, kan hriat reng tur chu hetiang damdawi (Chemical Fertilizer) te kan hman dawn hunah hian a dose diktak in kan hmang ngei ngei tur a ni a. Ram lian tam tak te buaina ber chu damdawi duh zat zatin anlo pe a, an thlai leh leilung mamawh aia a let tam tak an lo pek ṭhin avangin an leilung alo dâ a, damdawi kum hmasaa an pek aia tam zawṭ kha pek alo chawṭ zel tawṭ ṭhin a, insenso a tam phah em em a ni. Tin, damdawi tellovin thlai an thar thei tawṭlo hrim hrim bawṭka, an leilung tih hrisel leh a hautak em em tawṭ bik bawṭ.

Damdawi (Chemical Fertilizer) chi hrang te:

1 Straight Fertilizer

- Nitrogenous Fertilizer: Nitrogen keng hnem damdawi te- Urea te, Ammonium Sulphate te, Ammonium Chloride te, Calcium Ammonium Nitrate
- Phosphatic Fertilizer: Phosphorus keng hnem te SSP (Single Super Phosphate), TSP leh Rock phosphate
- Potassic Fertilizer: Potassium keng hnem damdawi te- MOP (Muriate of Potash) Potassium Sulphate

- 2 **Complex fertilizer**: Nutrient pahni h emaw a aia tam kengtu entiran- DAP (Di Ammonium Phosphate)