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AR VULH LEH ENKAWL DAN

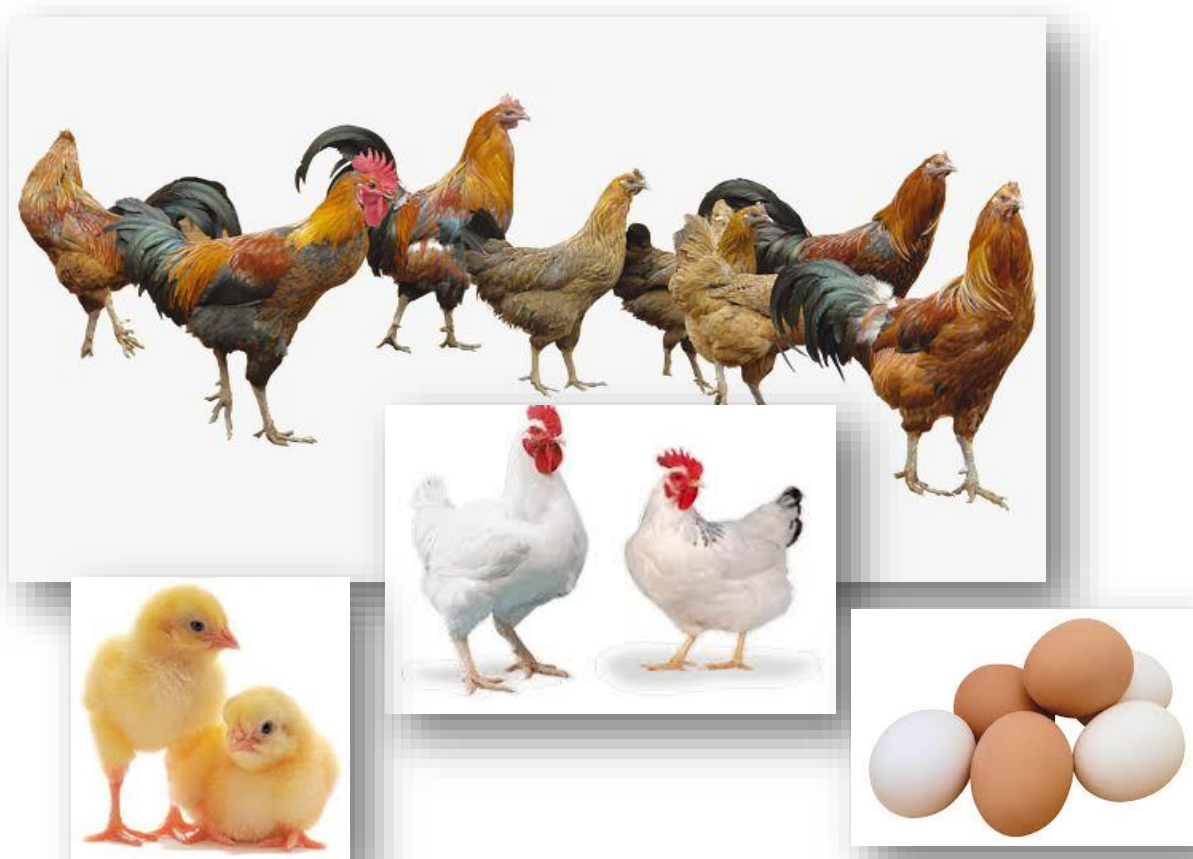
Training Manual

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AR VULH LEH ENKAWL DAN
(POULTRY PRODUCTION & MANAGEMENT)



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AR VULH LEH ENKAWL DAN

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Ar vulh hi khawvel hmun hrang hrangah pawh alar hle a. Mi harsa zawk leh hnathawh mumal neilo te tan te leh hmeichhe tan a enkawl a awlsam avang leh a hautak loh avangin pawh sum lakluhna pawimawh tak pakhat ani. Mizoramah pawh hian Ar vulh hi kan uar hle a. Hmanlai kan pi leh pute atang tawhin Ar kan vulh nasa ve hle a. Kan In leh a chhehvelah Zo Ar te vulhin buhkem, buhhum, leh kan chaw nawite pe in kan lo vulh ve reng thin ani. Chutihrualin kan Ar vulhte (Zo Ar) a chitha, tuitam thei leh thangchak tak annih loh avangin a hlawk lo hle a. Chuvangin kan arsa leh artui dehchhuah te hian kan ram mamawh a phuhruk phalo nasa hle ani. Hun lokal zelah Ar vulh pawh alo lar chho ve zel a. Mithiam zawkten Ar chitha zawkte rawn siam chhuakin Mizoramah pawh kan lo intihhmuh chhovin kan lo vulh uar chho ve zel a. Arsa leh artui dehchhuah kawngah pawh nasa takin hma kan sawn zel ani. Mizorama kan Ar vulh zat (2019 census) chu 13,45,914 a ni a. Arsa kan dehchhuah zat (2019-20) chu 2,232.1 metric tonnes a ni. Artui kan dehchhuah zat (2019-20) chu Zo Ar (Desi) ah nuaih 273.6, Ar chi tha (improved) ah nuaih 159.5 ani a, avaiin artui kan dehchhuah zat chu nuaih 433.1 a ni. Ar vulh hi thatna atam hle a, a biktakin chhungkaw harsa deuh tan pawh a vulh a hautak loh avang leh sum hmuhlet leh a awlsam avangin eizawnna tha tak ani. Tin, arsa leh artuih hian kan taksa tana chaw tha tak tak protein, vitamins leh minerals te atam bawh.

Ar Vulh Thatna Bikte:

- ✓ Ran dang aiin a vulh tan nan sum sen a tlem
- ✓ Rang taka sum sen hmuh let lehna a ni. Layer (a tui tam chi) chu thla 4-6 chhungin antui thei a, broiler chu kar 6-10 inkarah asa a hralh chhuah theih bawh. Broiler phei chu a vulh hun chhung arei loh avangin rang takin sum hmuh let lehna tha tak ani.
- ✓ A enkawl a harsa lova, school naupang leh hmeichhia te pawn thildang tihpahin an vulh vek thei
- ✓ Ar vulh atangin kumtluanin sum alakluh theih a. Ar sa, artui, a ek leh a hmul thlengin a hralh vek theih ani. A vulh nan hmun leh sumsen a ngai tam lo bawh.
- ✓ An chaw ei hi ran dangte aiin than nan an hmang chak zawk

- ✓ Mihring tan chaw tha leh tangkai tak a ni
- ✓ Ar ek ah hian nitrogen atam a, leitha atan an hmang bawk thin.
- ✓ Arsa leh artui ah te hian chaw tha chi hrang hrang (protein leh essential amino acids) a awm a. Sa zingah broiler sa ah hian a thau a tlem ber bakah cholesterol a tlem bawk.
- ✓ Uluk tak leh fai leh thianghlim taka enkawl annih chuan natna lakah nasa takin an ven theih ani.

Ar Chungchang a Hriattur Pawimawh:

- ✓ Ar taksa lum zawng : 106 (105-107) °F
- ✓ Artui keu hun chhung : Ni 21
- ✓ Ar nu tui theih hun : Thla 6-8 (thenkhat chu thla 4-5 ah pawh an tui thei)
- ✓ Arpa chi thlah theih hun : Thla 5-6 a upa
- ✓ Ar thang lai lum duh tawh : 21 °C (17-25 °C)

Broiler Vulh Nana Boruak Duh Dan Tawh:

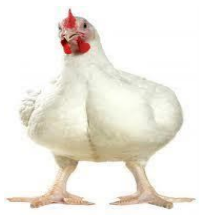
- ✓ Boruak lum zawng (temperature) : 22-30 ° C (70-85 ° F)
- ✓ Boruak hnawn zawng (Relative humidity) : 30-60 %
- ✓ Ammonia tam zawng : 25 ppm aia tlem
- ✓ Ar In chhuatphah hnawn zawng : 15 -25 %

AR CHI (BREED) CHI HRANG HRANG TE

Commercial Broiler Strains: Vencobb, Hybro, Hubbard, Cobb 500, Caribro etc.



Vencobb



Hybro



Hubbard



Cobb 500



Caribro

Commercial Layer Strains: BV 300, BV 380, Hyline brown, Lohmann, Indbro brown layer etc.



BV 300



BV 380



Hyline brown



Lohmann



Indbro brown layer

Dual purpose (Improved) breed: Gramapriya, Giriraja, Vanaraja, Srinidhi, Rainbow rooster etc



Giriraja



Vanaraja



Srinidhi



Gramapriya



Rainbow rooster

Ar Chitha (Dual Purpose/Improved Breed) Vulh Chi Thenkhat Te:

1. Giriraja:

- ✓ Karnataka Veterinary, Animal & Fishery Science University, Bangalore in a siamchhuah.
- ✓ Sik leh sa chi hrang hrang an tuar thei
- ✓ Rih zawng: Kar 20 ah 1.5 – 2.0 Kg
Apa puitling: 4.5-5 Kg
Anu puitling : 3.5 – 4 Kg
- ✓ Tui theih hun: Ni 168-170 vel
- ✓ An tui theih hun chhunga tui theih zat (Kar 72) : 130-150
- ✓ Artui rawng leh rih zawng: A uk, 55 g @ Kar 40
- ✓ Dam khawchhuah theihna (kar 6 thleng) : 94 %

2. Vanaraja:

- ✓ ICAR-Directorate of Poultry Research, Hyderabad in a siamchhuah ani.
- ✓ Natna an do chak
- ✓ Rih zawng: Kar 6 ah: 650 - 750 g, Thla 6-6.5 ah: 2 – 2.5 Kg
- ✓ Kum 1 chhunga tui tam theih zawng: 100- 110
- ✓ Tui theih hmasakber hun : Ni 175 – 180
- ✓ Artui rawng leh rih zawng: A uk, 52-58g @ Kar 40
- ✓ Dam khawchhuah theihna (kar 6 thleng) : 98 %

3. Srinidhi:

- ✓ ICAR-Directorate of Poultry Research, Hyderabad in a siam chhuah ani.
- ✓ Natna an do chak bakah ke sei tak annei a, an tlanche zung zung thei
- ✓ Rih zawng: Kar 6 ah: 450 - 550 g, kar 40 ah: 2.2 – 2.3 Kg
- ✓ Kum 1 chhunga tui tam theih zawng: 140-150
- ✓ Tui theih hmasakber hun : Ni 165 – 170
- ✓ Eitur an duh tui lo bakah an thatpui awlsam
- ✓ Artui rawng leh rih zawng: A uk, 52-55 g @ Kar 40
- ✓ Dam khawchhuah theihna (kar 6 thleng) : 95 %

4. Gramapriya:

- ✓ ICAR-Directorate of Poultry Research, Hyderabad in a siamchhuah ani.
- ✓ Natna an do chak bakah predator lakah an tlanche zung zung thei
- ✓ A var chi leh a colour chi an awm

- ✓ A var chi an tui tam thei zawk
- ✓ A rawng nei chi erawh an chaktha in natna an do chak zawk
- ✓ An rih zawng: Kar 6 ah 400 – 500 g, Thla 6-6.5 ah : 1.6 – 1.8 Kg
- ✓ Kum 1.5 chhunga tui theih zat : 200-230
- ✓ Tui theih hmasakber hun : Ni 160 – 165
- ✓ Artui rawng leh rih zawng: A uk, 57-58g @ Kar 40
- ✓ Dam khawchhuah theihna (kar 6 thleng) : 99 %

5. Rainbow rooster:

- ✓ Indbro research & breeding farm private limited, Hyderabad in a siamchhuah ani.
- ✓ Tui tam thei leh thang chak
- ✓ Rih zawng: Kar 8 ah: 1.1 Kg, Anu tui tawp hunah: 3.0 Kg
- ✓ Tui theih hmasak hun : Ni 160
- ✓ Tui theih zat (kar 72): 160-180
- ✓ Artui rih zawng : 58-60g
- ✓ A sa hi a fei lutuk lova, a tui bakah a thau a tlem a, a hrisel ani.
- ✓ An thangchak bakah natna an do chak
- ✓ Anu leh Apa ahrana vulh a, kar 20-na ah Apa chu Anu bulah sawn tur

6. Kadaknath: Mizoramah tunhnai hian kadaknath Ar pawh hi alo lar chho ve ta zel a. Arsa hrisel leh taksa tana chaw tha paitam anih avangin mipuiin an hlut tan hle. A chanchin tlangpui lo tarlang ila:-

- ✓ India rama ar chi lar tak pakhat ani a. Madhya pradesh atanga rawn chawr chhuak a ni.
- ✓ Ar sa rawng hi a dum vek anih avangin a dangdaiin a lar phah hle.
- ✓ A sa atui mai bakah a sa ah hian taksa tana tha vitamins B₁, B₂, B₆, B₁₂, E, C, niacin, protein, fat, phosphorus, calcium, iron leh nicotinic acids te an awm bawk.
- ✓ A sa hian chuap lam natna damdawi atan an hmang thin mai bakah Hb ati sang thei bawk.
- ✓ A tui hi heng natna luna, kaltha lo, nau neihzawh harsatna lam leh asthma enkawl nan te an hmang thin bawk.
- ✓ Sik leh sa chi hrang hrang an tuar thei hle a, tin natna an do chak hle bawk.
- ✓ An chaw a hautak lova, chaw ningnawi mai mai hmang pawhin an vulh thei ani.
- ✓ Ar dang nena khaikinin protein an pai tam zawk a, tin thau leh thau chhia (Cholesterol) an pai tlem zawk ve thung.
- ✓ Thla 6-7 velah 1.5 kg vela rit anni thei
- ✓ Apa puitling rih zawng hi 2.3-2.5 kg vel ani a, anu puitling rih zawng hi 1.6-1.8 kg

- ✓ Kar 23-24 in kar velah antui tan thei. Artui hi a rawng a uk a, 40-45g vela rit ani.
- ✓ Thal 1 ah 11-12 vel an tui thei a, kum khatah 120 vel atam an tui thei bawk.
- ✓ Kadaknath hi in bul leh a vela (backyard poultry farming) vulh atan atha hle

AR IN SAK (HOUSING)

Ar In Hmun Thlan:

- ✓ Ar In sakna hmun chu thli beng lohna lamah awmse duhthusam ani. Hei hian Ar In dang atanga natna darh tur a veng thei.
- ✓ Hmun rualrem leh sang, nikang tha leh tui tlin theihlohna. Ar In chu hmun sang laia sak anih chuan Ar In chhunga boruak inlumlet atha thei zawk ani.
- ✓ Midang te tana hnawksak leh rimchhe lo
- ✓ Chenna In nen inhnaih lutuk lo
- ✓ A ek thenfai zung zung theihna
- ✓ Tui leh electric tha
- ✓ Nakina farm tih zau/len duh pawh a tihlen zel theih turin ram zau lam
- ✓ Awlsam taka tlawhpawh theih (kawngpui tha)

Ar In Chi Hrang Hrang Te:

1. **Arte dahna/In (Brooder/ chick house):** Arte ni 1 atanga kar 8 inkar a upa an dah thin.
2. **Ar thanglai In (Grower house) :** Ar tui chi (layer) kar 9-18 inkara upa an dah thin.
3. **Arte - a thanglai In (Brooder cum grower house) :** Arte ni 1 atanga kar 18 inkara upa dahna. A bikin Ar tui tam chi (layer) dah nan an hmang thin.
4. **Ar tui tam chi In (Layer house) :** Ar kar 18 atanga an tui chhung, a tlangpuiin kar 72 thleng a upa dahna.
5. **Broiler In :** Broiler ni 1 atanga kar 6-8 thleng a upa dahna.
6. **Ar chi thlahtu In (Breeder house) :** Hetah hian ar pa leh ar nu, a chi thlahtu tur bik dah nan an hmang.

Ar In Sak Dantur Ruangam:

Kan In bul vela Ar In te tak te te sak nan chuan a ruangam han ruahman vak angai hranpa lem lova. Amaherawh chu Ar farm anga a lian tham sak dawn erawh chuan hriattur pawimawh tak tak a awm thung. Hengte hi zawm thei ila:-

1) Ar In chu pawn lam mi emaw motor emaw ten awlsam taka an tlawhpawh theihna hmun ual au takah sak loh tur. Farm chhungah awlsam taka an luh mai mai theih loh nan a hungna tha tak siam a pawimawh.

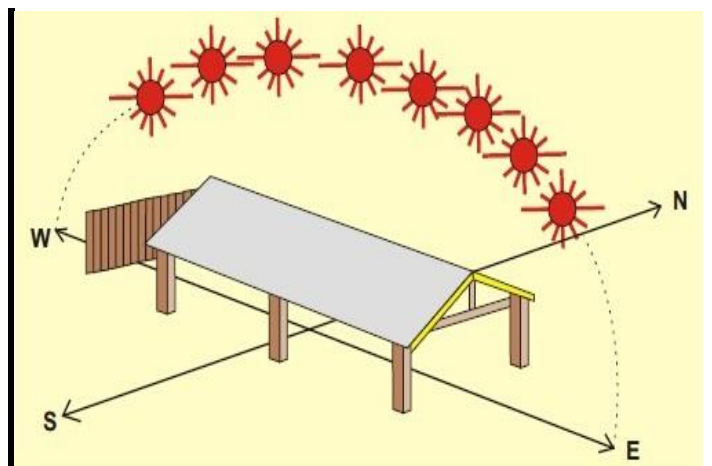
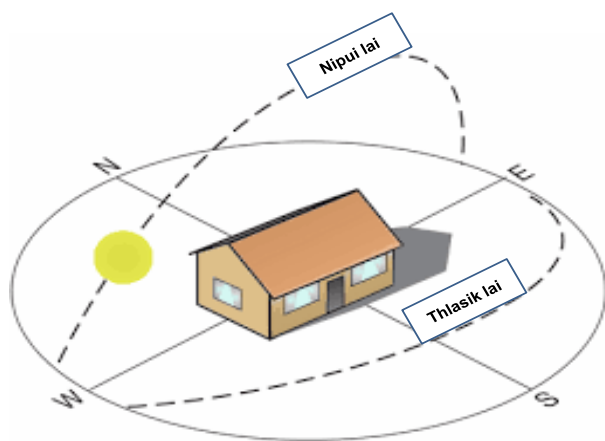
2) Ar In chu boruak thianghlimin a paltlang theih turin a hmasa berah Ar note In (brooder shed), a dawtah a thanglai In (grower shed), a tawp berah a tuilai/puitling In sak a, rem tur ani. Hetianga tih hian Ar puitling atanga Ar note a natna an kaichhawn tur a veng ani.

3) Ar note leh a thanglai In chu ft. 50-100 tala inkar hlatah sak tur ani a, a thanglai leh a tuilai/a puitling In chu a tlemberah 100 metres a hlatah sak tur ani.

4) Artui dahthatna, office leh a chaw dahna In te chu farm luhtirh lamah dah hram hram tur ani a, hei hian Ar In bul hnaia mihring che vel a ti tlem.

5) Bawlhhlawh paihna leh Ar damlo dah hranna te chu Ar In atanga hla deuh hlek, a sir kil lamah siam thin tur ani.

Ar In Hawizawng: A hma - hnungin (a vang) chhak-thlang lam hawi, a dung in chhim leh hmar ep ni thei se. A chhan chu chhimthlang leh hmarchhak hawina lamte hi kan ramah chuan fur ruah haw na lam an ni. Tichuan, hun tamzawh a thli thawt zawng pawh chhimthlang atangin hmar lamah ani a. Chuvangin in chhunga thli a thawt luh lohna turin In sak hawi zawng chu khawchhak-khawthlang hawi zawng ani tur ani. Thli chhem pumpelh lehzual nan 6 ° a awnhret pawhin la tih her a pawilovang. Khawchhak-khawthlang hawizawng hian ni sa tlang taka ar in chhung lut tur a titlem thei bawh a ni. Tin, Ar in chhunga ruahtui lut tur a veng thei bawh a ni.

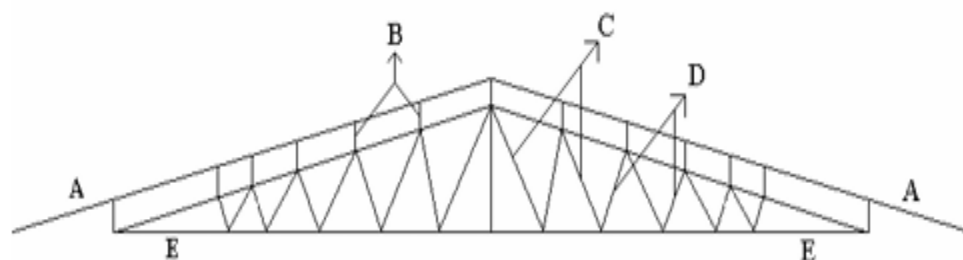


Ar In Len Zawng (A vang): Broiler 1 tan ft. 1 bial, Layer 1 tan ft. 2 bial an mamawh a. A tlangpuiin ft. 22-25 inkar vel anih hian Ar In chhung a tha taka boruak a chet vel theih nan a tawk viau. 9 m (30 ft) aiin a lian tur a ni lo. Ammonia (NH_3), boruak chi khat ar eka bacteria hnathawh atanga rawn insiam chhuak chu ar in chhungah inup khawlin mihring leh Ar tana that lohna thlen thei a ni. Ar in hawizawng a chungah tarlan ang hian thli thaw a titem ngei reng a, chuvangin ammonia in up khawm tih tlem nan a vang zawng hian 9 m (30 ft) a pel tur a ni lo.

Ar In Sei Zawng (A Dung): Ar In sei zawng chu Ar tam dan azir, an upat zawng, hmun an mamawh zau zawng leh ram zau dan a zirin a danglam. Ar In hi a sei lutuk chuan tuidawn siam a tibuai thei a, chuvangin a seizawng hi a vanglam let 4-6 aia tam a ni ngai meuh lo.

Ar In San Zawng: Ar In sir lam bang sanzawng chu hnathawktu nuamsa taka a kal vel theih tura sanga siam tur a ni. Dan naranin, ar in bang chu 2.1-2.4 m (7-8 ft) a sang a ni tur a ni. A laiah 10-12 ft.

Ar In Chung: Ar in chung chu a sir lam ve veah a awih chhuk tur a ni a. A bang 0.9-1.2 m (3-4 ft) a hla kalpelin a chung chu a sir ve veah a filawr tur a ni. Awih chhuka siam hian ar in chung ah chuan ruahtui a inpaih bo tha a ni. A awih chhuk zawng hi 5° leh 45° (in chung atan di hman anih chuan) a siam tur a ni. Ar in chungah hian a tlangpuiin asbestos cement concrete (ACC) chih a ni thin a, in chung chu thir emaw thinga siam truss (khanchhuk leh inchhun kilh zawmna) ah kilhbeh leh tlat an ni. In chung thil te chu thir khampei “Purlins” an tihah vuah beh leh vek an ni.



A In chung B Purlins C Struts D Ties E Inchhun

A Bul Thut (Foundation): Ar In a tui a luh mai mai loh nan a bul thut (foundation) tha a pawimawh hle a. Concrete ni thei se, lei hnuaiah ft. 1-1.5 a thuk, chutiang bawkin a chungah lei atanga ft. 1-1.5 a sangah.

A Chhuat: Chhuat hi fai tak, phui tha tak, tihfai awlsam, tlo tur, ro hma, nal lo, hnawng hip thei lo leh senso tlem theia siam tur a ni. Chhuat concrete a siam hi a tlo va, a thianghlim a, a phui tha a, sazu kaw hreuh tur a veng a, senso a hautak lutuk lo bawk a ni. Nimahsela, chhuat hi cement mortar

(cement leh balu chauh) maia siam pawhin a tha ve tho a, senso a tlem thei bawh a ni. A chhuat chu bang lam hawiin 40-60 cm dan zelah 1 cm in a awn tur a ni a, tui pipe 5 cm (2 inches) a lian chu 3 m (10 ft) dan zelah dahin chu chuan ar in tih ruah a nih hunah tihfai a ti awlsam hle dawn a ni. A chhuat hi a bang pawn lamah ft 1.5 vel va chhuak thei se.

Kawngkhar: Ar In chhuat a phuai phah chi ah chuan a kawngkhar hi pawn lama in hawng zawngin dah atha. A kawngkhar len zawng hi 6 ft. x 2.5 ft vel. Kawngkhar hmalam zawngah chuan, ke chiahna 60 cm x 45 cm (2 ft x 1 ½ ft), 5 cm (2 inches) a thuk khwar siam tur a ni a. Hei hi invawn thianghlim nana buatsaih a ni.



A Bang San Zawng: Ar In bang san zawng hi a phui chin hi 1-1.5 ft. vel, brick emaw rangva emaw a remchang a piang a hman theih a. Hei hian fur lai leh thlasik khaw vawt lutuk lakah Ar a ven mai bakah Ar In chhungah boruak che vel a ti awlsam. Hemi chin chunglam hi phelsep kawkalh, thir hrui (wire mesh) emaw net emaw pawh a hman theih.

A Chung Thlawk : 3.5 ft. aia tlem lo ani tur ani. Hei hian fur laia Ar In chhunga ruah lut tur a veng.

Eng (Lighting) : Lei atanga 6 ft.(1.8 m) vel a sangah, 10 ft. danah khai tur.

AR VULH DAN CHI HRANG HRANG TE

1. **Pawna Tlattir (Free Range):** Ram zau takah Ar ho chu anmahni a chaw in zawn chawp turin pawnah an chhuah tawp thin. Insak dan mumal a awm lo va, natna ven kawngah tihdan phung bik pawh a awm thei lo a ni. Tual ar (desi) tam tak chu kan ramah hetiang hian vulh an ni. Ar vulh zat pawh a tam berah 10-15 te an ni. Ram zauzawng hectare 1 ah Ar 250 vel a vulh theih a. Ar In pawh a awlsam thei ang berin zana an riahna turin an siamsak thin.

A thatna te:

- 1) A vulh nan sum sen a tlem/ a hautak lo
- 2) Ar In pawh a awlsam thei ang bera sak anih avangin a sak nan sum sen a tlem
- 3) Ar te chhuah tawp a anmahnia chaw leh tui in zawn chawp annih avangin an chaw man ah sum sen a tlem bawk
- 4) Lei an ti tha
- 5) Ni eng hnuaia an awm avangin, an mamawh vitamin D an hmu ve mai a ni.

A that lohna te:

- 1) Ar te anmahnia tlattir tawp annih avangin uluk tak leh mithiamten a Ar enkawl dan tur tha tak an duan ang thlapin an enkawl ve theih loh
- 2) Ar tuina mumal taka siamsak anih loh chuan hmun hrang hrangah an tui darh thin avangin artui bo atam duh
- 3) Ar anmahnia tlattir tawp annih avangin Ar ei ching ui, mu leh ransa seh avanga hloh atam duh.
- 4) Natna zawng zawng lakah an him lova, sava te nen natna inkaichhawn a, tih darh a awlsam
- 5) Rukbo mai theih an ni.
- 6) Hrik, taksa chhunga awm chi (endoparasites) leh taksa pawna awm chi (ectoparasites) an nei tam duh hle.
- 7) Chaw tha an ei ngai meuh lo. Hemi avangte khian artui pawh an tharchhuak tlem reng a ni; kum khat chhungin 50-60 chauh an tui thei a ni. An buk a zang hle bawk.



2. **Khung Leh Tlattir Kawp (Semi-Intensive System):** Ar te chu zanah an Inah khungin chhunah pawnah hung kualin an tlatna tur an siamsak a, tah hian an chaw eitur te pawh an zawng bawh thin. Tin, an tui inna tur leh chaw eina tur chu Ar In chhungah an siamsak bawh. Hetiangah hian ram zau zawng hectare 1 zelah Ar puitling 750 vel a vulh theih.

A thatna te:

- 1) Ar chhuah a tlattir tawp aiin ram awl tangkai zawkin a hman theih
- 2) Khaw lum lutuk leh vawt lutuk lakah Ar te venhim an awlsam zawk
- 3) Ar te uluk zawk leh tha zawkin an enkawl theih
- 4) Chhun laiah pawh, hung chhunga awm an nih avangin ruk ruk lakah an him deuh.
- 5) Hung chhunga awm an nih avangin hri leh tina theitu lakah an him deuh bawh.
- 6) Nisa hnuaia an awm avangin, an mamawh vitamin D an dawng thei a ni.

A that lohna te:

- 1) Ar tlatna tur ram hung nan pawisa tam tham tak sen a ngai
- 2) Mumal takin Ar ek leh Ar In leh avel tihfai angai.
- 3) Ram mamawh a zau.
- 4) Tina theitu lakah an him pumpuhlum lo. Hung chhunga an awm avang ringawtin ruk ruk lakah an him tak tak lo.
- 5) Vaccine pek mumal loh chuan, hri lakah an him chuang lo. Hrik/rulhut pawh an nei duh
- 6) An tui tlem hle a, 50-60 kumkhat chhungin an tui thei. An buk a rit lo hle bawh a ni.



3. **Chhung Khung (Intensive System):** In pawn lamah tlatna siam a ni lo va, chumi awmzia chu In chhungah chauh awmtir an ni a, chutah chuan chaw leh tui leh mamawh dangte pek an ni. Ar chu In chhungah an awm reng avangin chaw leh tuiah vitamin D telh angai thin a ni. A chhung khung a vulh chi ah hian chi thumin a vulh dan a awm leh a:-

i) **Deep Litter System:** Deep litter system ah chuan Ar te chu pawnah chhuahtir lovin Ar In chhungah chhung khung an ni. Ar In cement chhuat chungah hnawng hip hul thei tur favai hram, phuai, thingzaina nawi, buhpawl emaw inches 3-5 a chhahin an phah a, Ar tan khawsak ati nuamin ar ek vel pawh alo hip hul zung zung thin. A chhuat phah hi a khat tawkin chawh leh thin tur a ni. India ramah chuan hetiang hian broiler te hi vulh an ni deuh ber a ni.

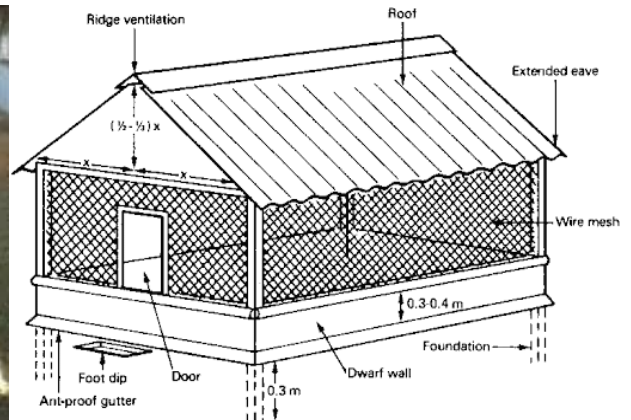
A thatna te:

- 1) Nipui khawlum laiin a vawng dai a, thlasik laiin a vawng lum thung a ni. Chuvangin, kumtluanin ar chu an khawsa nuam tihna a ni.
- 2) Duh duhin an che kual thei a, nuam an tih phah a ni.
- 4) Broiler tan awmbawr velah vung leh hmel hem te an awm ve meuh lo.
- 5) Dan naranin, ammonia inchhek khawm leh tho avanga harsatna te tha taka sawngbawl deep-litter ah chuan a awm meuh lo.
- 6) Artui keh chhia a tlem.
- 7) Natna pakhat caged layer fatigue a awm thei meuh lo.
- 8) Eng pek a darh tha.
- 9) Ram leinan a sum sen a tlem.
- 10) Ar tana tul leh mamawh te hriat sak a awl.
- 11) Ar te uluk zawk leh tha zawkin an enkawl theih.
- 12) Ar chhuatphah hmanhnu hi leitha atan a hman theih
- 13) Cage system nena khaikhinin rannung leh tho a tlem zawk.

A that lohna te:

- 1) Ar In chhuatphah atangin natna (bacteria leh parasite) a kai theih
- 2) Ar In chhuatphah khu vel atangin chuap lam natna an vei thei
- 3) Ar In chhuatphah atana hman tur lei angaih avangin hi pawisa sen so na pakhat ani.
- 4) Boruak luh leh chhuahna (ventilation) tha tak leh felfai taka ruahman anih loh chuan boruak a hrisel lo thei
- 5) Bawm (cage) a dah aiin, hmun zauzawng inangah ar a dah tam theih loh zawk.

- 6) Cage system aiin In sak a duh lian zawk. Chuvangin, In sakna atana senso a tam zawk. 7) Ar chaw pekna atanga baw chhuak a tam avangin chaw riral a tam phah.
- 8) An chet kual vel theih reng avangin, chakna (energy) an hloh a, chaw an heh phah a ni. 9) Litter-borne diseases a bikin coccidiosis (natna litter vang chauh a awm thei) rawn chhuak mai thei reng a ni.
- 10) An chet kual reng theih avangin natna a darh chak phah hle a ni.
- 11) Cannibalism (inchuk leh in ei) a awm palh hlah chuan, cage system aiin a nasa duh hle. Chutiang bawkin, hmul inchuksak leh nungchang tha lo dang a tam thei hle a ni.
- 12) Artui fai lo leh bal a tam duh.
- 13) Artui bawm siam a ngai a, artui lak khawm zin a ngai bik. Artui lak khawm thuai a nih loh chuan artui ei an ching duh hle.
- 14) Arpa hoten insual an ching duh hle.



ii) Cage System: Khawvela ar tui tam chi (layer) vulh 75 % hi cage system a vulh an ni. Ar leng tawk turin thir hrui (wire-mesh) a bawm siam ani a. Ar chu bawm pindan hrang hrang neiah khung beh tlat an an ni. Hetah hian chaw leh tui pekna pawh siamsak nghal ani. Tin, artui lai tan pawh awmhmun tui mai theihin siamsak ani. Cage 1 ah ar 1 dah emaw, 3-4 emaw, 10 chuang dah dun te pawh a theih. Tin, a chhawng in, Chhawng 1, 2 leh chhawng 3 thleng pawh in a siam theih bawk. Hmunawl mamawh zat chu hetiangin:-

- ✓ Layers : 0.5- 0.75 sq. ft.
- ✓ Broilers : 1.1 sq. ft.
- ✓ Size: 14" x 16" x 17" (a vang, a dung, san zawng)
- ✓ Slope: 1.5 inch

A thatna te:

- 1) Hmun a mamawh zau lo.
- 2) Artui tam zawk neih theihna ani. Artui hloh a tlem
- 3) Ar chaw riral/ hloh a tlem
- 4) Ar in chaw an ei tam a, an thang chak bawh
- 5) Lei atanga natna kai theih leh rulhlut pai a ti tlem
- 6) Ar damlo leh thangtha lo te hriat zung zung a awlsam
- 7) Artui a thianghlim bik (Ek kai lei luai a awm lo)
- 8) Ar chin thalo thenkhat inchuk leh artui ei a awm lo
- 9) Ar In chhuat phah a hranpa in ngaihtuah angai lo
- 10) Kah rai (Artificial Insemination) a hman theih

A that lohna te:

- 1) A vulh nan a tirah sumsen a hautak
- 2) Ar ek thenfai a buaithlak mai bakah rannung leh tho a tam duh
- 3) Artui a thisen awm zeuh a awm duh bik
- 4) Ar ke bai/ ke chak lo a awm duh
- 5) Broiler bikah Kg 1.5 aia rit annih hnu in an awm durh a awm duh.
- 6) Nipui khawlum laiin, hrehawm anti thei hle. Boruak ah hnawng a nasat pheih chuan, nuam an tilo em em a ni.



iii) Slatted Floor/Wire Mesh System (Chhuatphah Awng Chunga Vulh): A chhuat awnga siama, a chhuat atan thir hrui/plastic/thing/mau (slats) ahman theih a, a hnuaia a ek tha taka a tlak thlak theih nan lei atanga 2-3 ft. tal asanga sak tur ani. A lo tikhawng turin mau, thingzai kalkhang a hman tur a ni a, a hlai/len lam 2 inches, inches 1 a inhlata dah tur ani. Slats te chu

an chaktha tawk tur a ni a, ar leh mihring rihna a dawl zo tur a ni. Square metre 1 bialah Ar 6-8 a dah theih. Ar puitling chin dahtur ani.

A thatna te:

- 1) Ar In dang nena khaikhin in Ar pakhat dah nan hmun angai tlem zawk
- 2) Ar chhuatphah angai ve lo
- 3) Ar ek a hranpa a buaipui vak angai lo
- 4) Tha sen a tlem
- 5) Caged layer fatigue natna a awm lo.
- 6) Artui lai inah eng a insem darh tha bik.

A that lohna te:

- 1) A tirah sum sen a hautak ve hle
- 2) Ar chaw bua/hloh a tam duh
- 3) Tho leh rannung atam duh
- 4) Slats chu thir hrui hman a nih chuan awmbawra hliam tawrhna/durh (breast blister) a tam duh bik.



AR CHAW PEK DAN TUR

Ar vulhtu tan chuan a pawimawh ber pakhat leh sum senna tam ber pakhat chu Ar chaw hi ani a. Ar farm siamah hian a chaw leh a chaw pekna kaihhnawih man hi senso pumpui atanga 60-75% vel ani. Chaw tha leh hlawk ni tur chuan nutrients chi hrang hrang atam dan tur tawk pai chaw, tlawm bawk si a ni tur a ni bawk. Ar vulh hlawk lehzuat tur chuan ar chaw siamsa (concentrate feeds) pek mai bakah kan bul vel ami eitur/thlai hring ar chaw a hman theih chi te kan hriat a, pek tel a pawimawh hle. Mizoram ah chuan ar chaw siamsa hi ato deuh avangin mi tamtakin kan Ar mamawh tawk kn pe thei lo mai bakah duh angin kan ar vulh te pawh a hlawk loh phah fo. Chuvangin hlawk taka Ar vulh tur chuan Ar chaw chungchang hi kan hriat ve a pawimawh hle ani.

Ar Chaw Siamsa (Concentrate Feeds) :

Ranvulh reng renga a hautak lai ber mai chu a chawa kan in senso na hi a ni. A pek dan tur leh a pek zat tur te uluk tak leh felfai taka kan bithliah chuan kan senso a tlem phah thei a ni. Chaw tha “Balanced Feed” kan pek hian a than a titha a, an nihtur ang ni pha thei a ni.

Ar Chaw-A Chaw Tha Awm Te:

Ar chaw siamtuten thil chi hrang hrang a tawk chauh turin an chawhpawlh thin a, heng Ar chaw chawhpawlh ah hian heng a hnuaia mite hi an telh ber:-

Vaimim: Vaimim hi thahrui chakna (energy) petu atan pek ber ani a. Vitamin A apai hnem a, artui chhungmu ti engtu Xanthophyll a pai tha bawk. Ar chaw ah 70 % thleng a telh theih.

Wheat vai: Vaimim aiin a tlawm tlangpui a, thahrui petu tha tak ani ve bawk. Vaimim erawh a tluk lo. Crude fibre (tawm) atam deuh avangin 10 % aia tam telh loh tur ani.

Favai dip: Hei pawh hi ar chaw zinga chakna petu tha tak ani ve a, telh ve ngei ani thin. Ar te chaw ah 20 % aia tam telh loh tur ani a, a laihawl leh a tuilai/alien chaw ah 30 % thleng a telh theih. Crude fibre (tawm) pawh wheat vai aiin a pai tlem zawk bakah chakna a pai tam zawk bawk ani.

Groundnut cake : Thlai protein pai thahnem anih avangin protein supplement atan ar chaw a pawlh ani. Ar taksa leh artui siamtu ber niin ar hriselna atan a pawimawh em em ani. Arte chaw ah 35 % aia tam leh a laihawl/a lian chaw ah 25 % aia tam pawlh loh tur.

Fish meal/meat meal: Protein apai tam a, amaherawh chu aman ato deuh. Ar chaw ah 10 % aia tamlo a pawlh theih. Mineral apai tha hle bawk.

Bekang Chaw: Bekang chaw/den keh hi arte chaw ah atam berah 35 % aia tamlo leh a laihawl/alien chaw ah 25 % aia tamlo an pawlh thin a. Protein apai hnem hle a. GNC/Till oil cake ten

en atawk chauhva siamremin pawlh thin ani. Pakhat a awmloh chuan a engemaw berin athlak tawp theih bawk.

Molasses: Hmawngsawi hi Ar energy petu tha tak ani bawk a. Ar chaw ah 5 % aia tam lovin a pawlh theih. Pellets siam nan a tangkai hle.

Till oil cake/sesame seed meal: Protein 40 % a pai a, leucine, arginine and methionine apai hnem bawk. Ar te chaw ah 10 % leh a laiawl/alian/tulai chaw ah 15 % a pawlh theih.

Archaw Siam Nana Chaw Item Hrang Hrang Telh Ngam Chin Te:

Chaw telh tur (Ingredients)	Broiler chaw (%)	Layer chaw (%)	Remarks/An that lohna
Bajra(Pearl millet)	20-30	30-40	Polyphenolic substances,an paia hei hi her sawm a ni lo tlangpui
Barley	10-15	10-20	Fibre a sang, beta-glucan a pai bawk, heng fibre te hian ril bang a tipawp thin.
Thisen ro hersawm (Blood meal)	2-5	2-4	Tihthianghlim that a nih loh chuan natna hrik a pai thei.
Antam chi chaw (Canola/ Mustard)	3-5	5-8	Erucic, goitrogens, tannins
Pangbal chaw (Cassava/Tapioca meal)	5-10	10-20	Cyanogen siamtu hydrocyanic (HCN) leh prussic acid a pai
Coconut/Copra meal	3-5	5-8	Fibre a pai tam
La chi chaw (cottonseed meal)	5-10	2-5	Gossypol a pai a 0.04 % aia a hniam chuan a him/a hlauhawm loh
Hriak (fat or oil)	3-5	1-2	Aman a san avangin hman vak ani lo.
Ar hmul hersawm (Feather meal)	3-5	2-4	Paitawih a har bakah lysine leh methionine a pai tlem
Sangha hersawm (Fish meal)	8-10	5-8	Chi, lung changnawi (silica), urea a pai bakah a rim ana lutuk
Groundnut Cake (Badam cake)	20-30	15-20	Hmuar a awm hma (Aflatoxin problem).
Guar meal	4-6	5-8	Groundnut cake (GNC) problem
Jower /Sorghum(Faisa)	20-30	30-40	Gum, mucilages, trypsin inhibitor a pai.
Linseed meal	3-5	3-5	Hriak a pai tlem. 2% tannin a pai, a her that theih loh

Vaimim (Maize)	50-70	40-50	Linamarin, Linatin, mucilage a pai.
Vaimim chaw (maize gluten meal)	10-15	10-20	Arginine leh lysine a pai tlem, mahse methionine a pai tha thung.
Meat meal (Sa her sawm)	5-10	2-5	Tihthianghlim hle a ngai, a chang chuan 5 % aia sang hman chi loh
Kurtai (molasses)	2-3	3-5	Potassium a pai tam avangin kawthalo a thlen thei.
Oats	5-10	10-15	Beta-glucan a pai, fibre a sang a, hei hian ril bang a chhun pawp thei
Buhfai (Rice)	10-20	20-30	Protein a pai tlem bakah a quality a chhia.
Favai hraw (Rice bran)	10-20	20-30	Fibre a sang
Favai sin (Rice polish)	15-20	20-25	oil a pai tam avangin dah reiin a rimchhe hma.
Bekang chaw (Soyabean meal)	20-30	15-20	Methionine a tlachham
Sunflower meal	5-10	10-15	Fibre a sang, chlorogenicacid a pai.
Wheat	20-30	30-40	Arobynoxylans a paia, hei hi wheat tharlamah a tam avangin pumpelh hram a tha,a chip har
Wheat bran (Wheat vai)	5-10	10-20	Fibre a sang a, a man a to bakah energy a pai tlem.

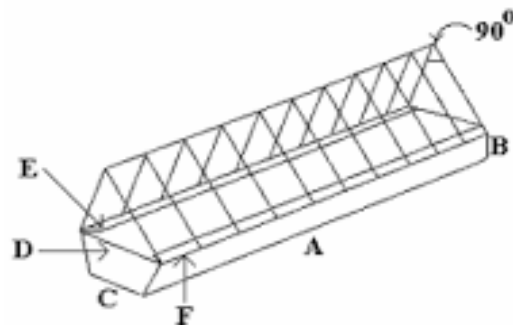
Ar Tui Leh Chaw Pekna

Ar Chaw Pekna (Feeder):

- ✓ A bial chi (Round feeder) : 1/Ar 40 – 50 zel

Chaw pekna sei chi (Linear feeder) : 4 - 5 cm/Ar 1





Linear chick feeder lenzawng (Ar note tan):

A = 60-75 cms, B = 2.5 cms, C = 7.5 cms, D = 10 cms, E = 8-10 mm, F = 2.5 cms

Linear broiler feeder lenzawng (Broiler tan):

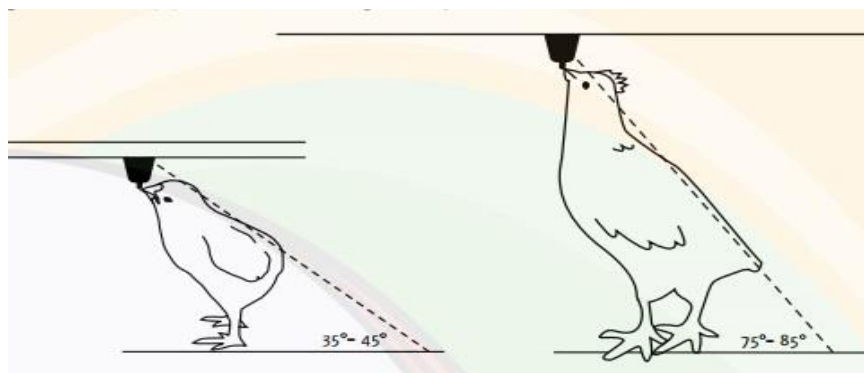
A = 90 - 150 cms, B = 7.5 - 10 cms, C = 15 cms, D = 25 cms, E = 20-25 mm, F = 5 cms

Ar Tui Pekna (Drinker):

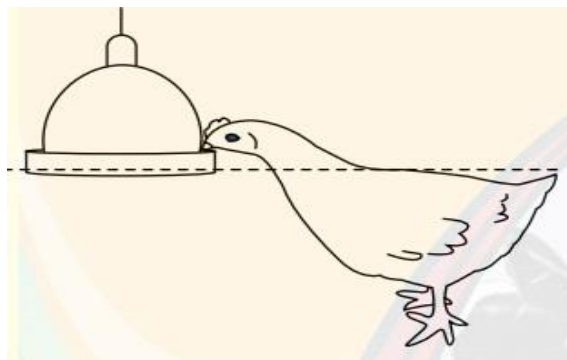
- ✓ A bial chi (Round drinker) : 1/Ar 60 zel
- ✓ Nipple drinker : 1/Ar 10 zel
- ✓ A thleng (Trough) : 2 cm/Ar 1



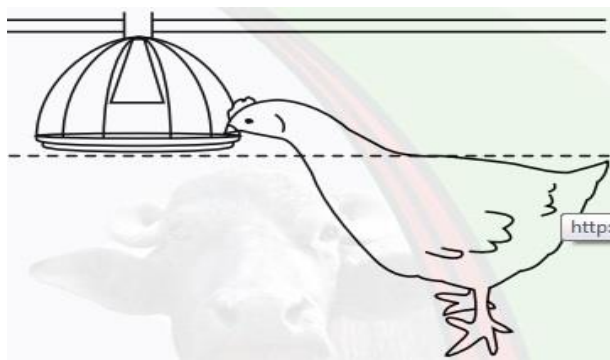
Ar Tui Inna Leh Chaw Eina Dah Dan Tur (A Khai Chi):



Tui Inna dawt chhuah chi (Nipple Drinker)



Tui Inna bial chi (Bell Drinker)



Chaw pek na (Feeder)

Ar Chaw Siamchawp Dan:

Ar vulhtu thenkhatte mahnia vaimim, bekang thar teuh thin te kan lo awm thei a. Hetiangah hian bazara ar chaw siamsa lei ngai lovin a hautak lo zawkin mahniin kan ar vulhte eitur a siam chawp ve theih a. KVK Lawngtlai chuan kum 2020 vel atanga khan ar chaw tlawm zawk kan neih theih nan ar chaw siam chawp dan hi an lo buaipui tawh a. Computer software chikhat Makefeed Poultry 3.0 hmangin ar chaw chi hrang hrang a siam theih a. A technology hi ICAR-Central avian research institute (CARI), Bareilly, 2008 ina an siam chhuah ani. A hnuaiah hian broiler ate chaw leh alian chaw, makefeed poultry 3.0 software hmanga siam chawp hi lo tarlang ila:-

Ar chaw pawlh tur	Ate (starter) chaw CP : 23% ME: 2900 Mcal	A lian (Finisher) chaw CP : 21% ME: 2950 MCal
Vaimim (Maize) Kg	62.0	56.50
Bekang Chaw(Soyabean meal) Kg	35.50	29.0
Favai dip(Rice polish) Kg	-	12.0
Damdawi pawlh tur (Mineral Mixture) Kg	2.2	2.2
Chi (Salt) Kg	0.3	0.3
Total (Kg)	100	100



Ar chaw siam chawp dawnin vaimim tha taka phoro sa te mal vek angaih avangin a awlsam zawk nan heng vaimim fang malna (maize sheller) te hi dawrah emaw online in chahtur chi hrang hrang a awm a. A malna khawl lian chi te leh tlawm te te te pawh leitur a awm a. Mahni pawhin awlsam tein a siam chawp theih bawh.



Vaimim fang malna (Maize sheller)

BROILER VULH LEH ENKAWL DAN TLANGPUI

Broiler kan tih hi Ar asa ei atana vulh chi an ni a, an thang chak hle. A tlangpuiin kar 8-12 inkara upa annih in asa atan an hralh chhuak thin. Broiler hi ar chitha pahnih white cornish ar pa leh plymouth rock ar nu inthlah pawlh tir atanga lo piang an ni. An awm alian a, an tihrawl a nem bawk a, an vun a eng deuh bakah an hmul hi a var ani bawk.

Broiler In Sak Chungchang (Housing System):

Ar In sak dan kimchang chu a hmalamah kn sawi tawh a. Broiler ho chu Ar In chhuat phah nei chi (deep litter system), a awlsam thei ang bera saka, a chhuat awng deuh pheuh pheuh a mau, thing zai emaw thir hrui (slatted floor) hman te emaw cage a khung chi in a vulh theih vek a. Amaherawh chu cage a dah leh a chhuat awng a sak chi aiin a chhuah a phah chi phuai/favai hraw/thingzai nawi emaw phah (deep litter system) hi an hmanlar ber pawl leh tha ber pawl ani. A chhan chu deep litter system lovah hi chuan Broiler chu an taksa a rih avangin awm durh, ke zeng leh chak lo te an vei duh bakah cage system hi a tirah a In sak nan a hautak avangin mipui nawlpuiin an hman thei lo thin.

A Vulh Dan (Rearing System):

Broiler hi a vulh dan chi hnih a awm a, all-in all-out system leh multiple batch system. **All in all out system** ah chuan broiler in rual khat engemaw zat, farm emaw mi pakhat in vawi khata a vulh zawh tawh ang kha vawi khatah leiin an vulh rual a. Hralh chhuah leh hunah pawh a ruallin vawi khatah an hralh chhuak nghal vek thin. Hemi anga vulh hi a felfaiin a hrisel zawk bakah natna inkaichhawn tur tam tak lakah a veng a, ar thi a tlem bakah an thang chak zawk bawk. Amaherawhchu vawi khatah ar tam lutuk vulh erawh a sum hrawm anat avangin a harsa deuh thin.

Multiple batch system ah chuan vawi khatah ar tam tak a vulh theih a, ar upat dan in ang lo, kar 1-4 a upa te emaw kha In pakhatah a in rual khat zel dahin an vulh rual a. Hetiang hian ar vulh tute kha kartinin emaw kar hnih, kar thum, thla khat danah emaw ar hralh chhuah tur annei thin ani. Hemi multiple batch system anga kalpui theih law law anih chuan vawi khatah ar batch 5-6 vel neih a, kar tin emaw nitin in emaw Ar hralh chhuah theih kha atha hle ani.

Hmun Awl Mamawh Zat (Space Requirement):

Broiler te hian an taksa len dan a zirin a vulh nana hmun awl mamawh zat an nei a. Tin, chaw pekna leh tui pekna ar 1 in a mamawh len zawng pawh sik leh sa azir te leh an hrisel dan azir te in adanglam thei bawh. A hnuaiah hian a tlangpui thu ar 1 in a hmun zau zawng, chaw leh tui pekna a mamawh zau zawng kan rawn tarlang dawn ani.

Upat lam (Ni)	Hmun awl mamawh zat	Chaw pekna zau lam	Tui pekna zau lam
1- 18	450 cm ² / 0.5 sq. ft.	3 cms	1.5 cm
19 - hralh thleng	1,000 cm ² / 1.1 sq. ft.	6-7 cm	3 cm

Ar Chaw Pek Dan Tur:

- ✓ Ni 1- Kar 2 : Ate ber chaw (Pre-starter)
- ✓ Kar 3-4 : Ate chaw (Starter mash)
- ✓ Kar 5-6 atanga hralh thleng : A lian chaw (Finisher mash)



Broiler Chaw Pek Zat Tur Tlangpui:

Nikhata broiler pakhat chaw pek zat tur tlangpui a hnuaiah hian lo tarlang ila:-

Upat zawng (Kâr)	Ni khata chaw mamawh zat (gram)	Kar khata chaw eiral zat (gram))	Belh khawm (gram) Cumulative
1	17	119	-
2	41	287	406
3	65	455	861
4	91	637	1498
5	115	805	2303
6	144	1008	3311
7	171	1197	4508
8	188	1346	5824
Adapted from: North and Bell, 1990			

Broiler Tui Inzat Tlangpui (21.1°C A Khaw Lumah):

Upat zawng (Kâr)	Ni khata Ar 1 in tui in zat (ml)	Belh khawm (ml) Cumulative
1	30	30
2	61	91
3	95	186
4	133	319
5	174	493
6	216	709
7	254	963
8	288	1251
Adapted from: North and Bell, 1990		

Eng (lighting) mamawh dan:

Broiler note chuan nileng leh zan khua in (darkar) 24 chhung eng chhitsak an mamawh a. An lo len deuh hnu in nikhatah darkar 23 chhung eng chhitsak tur. Zana darkar khat tal tih thim sak hian enge maw thil a electric awm that loh huna anmahni an buai lohna tur a lo hmel hriattir nan atha ani.

Hri Danna Pek (Vaccination):

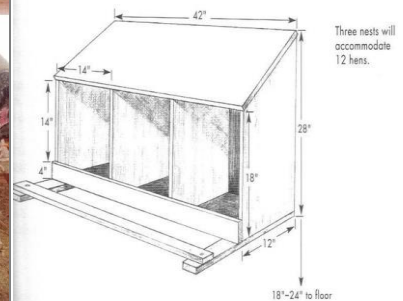
Broiler te hi kar 6-8 chhung emaw chauh vulh an ni thin a, chuvangin natna pahnih Ar pul hri (Ranikhet disease) leh Infectious bursal disease te laka hri venna pek anni deuh ber thin.

Ar Upat zawng (Kar)	Vaccination details		
	Natna hming	Vaccine hming	Pekna tur
5 - 7	Ranikhet disease (Ar pul hri)	Lasota of F ₁	Mit/hnarah/tuah/spray
14 - 16	IBD	Georgia strain	Mit/hnarah/tuah/spray
28			

AR TUI TAM CHI (LAYER) VULH LEH ENKAWL DAN TLANGPUI

- ✓ Ar In leh avel fai taka enkawl tur.
- ✓ Deep litter system ah Ar 1 tan feet 2 bial atawk a, an chaw eina tan inches 5 vel a tawk.
- ✓ Cage system ah chuan Ar 1 tan feet 0.46 bial emaw Ar 4 tan bawm inches 18" x 15" a lian a tawk.
- ✓ A chaw pekna seichi ah Ar 30 tan ft. 6 a sei atawk a, a bial chi ah inches 18 a lianah Ar 100 tan 4-5 atawk.
- ✓ A tui pekna bial chi (inches 18 a lian) ah Ar 100 tan atui pekna 2 a tawk.
- ✓ Ar chaw pekna leh tui pekna hi Ar hnungzang zawl vela sangah khai tur ani.
- ✓ Artui lai 5 tan atui bawm 1 zel dahsak tur ani.
- ✓ Artui bawmah puan/ buhpawl te dah sak thin tur a ni.
- ✓ Artui lai tan nikhatah darkar 16 tal eng (light) chhitsak tur ani. Feet 10 danah bulb chhit tur ani a, lei atanga feet 7-8 vela sangah khai tur ani.
- ✓ An chaw te an mamawh ang zel in pek thlap thlap tur. Antui laia an chaw mamawh hi Ar 1 tan nikhatah 100-110 gram vel ani.
- ✓ Thlasik laiin a tlangpuiin chaw an eitam a, nipui lai erawhin an eitlem deuh thung. Chuvangin an chaw eitur pawh siamrem ve zel atha.
- ✓ Rulhut hlo hi kar 6-8 inkar danah pek tur.
- ✓ Artui hi deep litter systemah chuan nikhatah vawi 5 tal lak thin tur ani a, cage system ah erawh vawi 2 a tawk.
- ✓ Arpui tui tam thei tawh lo te leh tar tawhte chu tihral hmak hmak zel tur.
- ✓ Arpui hi a tlangpuiin kar 20 vela upa aniha tui tanin kar 72-75 a upa anih thleng an tui thin a. Hemi hnu ah hi chuan an tui a tlakhniam nasat tawh avangin tihral a, a thlaktu tur athar lak leh atha zawk.
- ✓ Kar 18 emaw artui an thlauh tan chiahin Layer feed (A tui lai chaw) pek tan tur
- ✓ Layer te hi chaw duh tawk tawk a chuk tir tur a ni lo. Chaw pek tam lutuk chuan an thau a, an tui tha thei thin lo.
- ✓ An hmui chunglam hmun thuma then hmun khat tan sak tur.
- ✓ Calcium pek that an ngai a, hei hian artui keh leh a hêng nem a ti veng.
- ✓ Artui ei thin Ar te chu lakhran daih tur a ni.
- ✓ Ar hmui tan hi ni 1- kar 6 inkarah tan tur ani a, a tul chuan kar 16 ah tan nawn leh theih.

- ✓ An hmui chunglam hmun thuma then hmun khat tan sak tur.
- ✓ A tuina bawm tur te lo siamlawk tur. Ar tui lai 4-5 zel tan Ar tuibawm pakhat intawmtir tur
- ✓ Size: Arpui leng tawk tur emaw 14" x 12" x 18" ruahman a, ar tui bawm hi a fai tha reng tur
- ✓ Artui bawmah puan/ buhpawl te dah sak thin tur a ni.



Ar Chaw Pek Dan Tur:

- ✓ Ni 1 – kar 8 : Ate chaw (Chick ration)
- ✓ Kar 8-20: A laihawl chaw (Grower ration)
- ✓ Kar 20 atanga hralh thleng: A lian/tuilai chaw (Layer/finisher ration)
- ✓ Ar chaw hlui leh hmuar lei loh tur
- ✓ Ar chaw quality tha chauh lei tur
- ✓ A chaw thlak dawnin thlak thut lovin, ni 4 chhung vel chu a te chaw leh a lian chaw pawlh tur a ni a, chumi hnuah a hlangin pek tan tawh tur.



Ar Note Leh Thanglai Chaw Eizat Leh Rihzawng Tlangpui (Layer):

Upat zawng (Kâr)	Taksa rihzawng (g/bird)	Ni khata chaw eizat (g)	Ar chaw ei belhkhawm (gram)
Day old	40	-	-
1	65	8	60
2	100	13	150
3	140	15	260
4	200	27	450
5	270	36	700
6	350	43	1000
7	430	46	1325

8	520	46	1650
9	610	50	2000
10	710	50	2350
11	810	54	2725
12	900	57	3125
13	960	61	3550
14	1010	64	4000
15	1050	68	4475
16	1090	68	4475
17	1130	71	5450
18	1160	71	5950
19	1200	75	6475
20	1260	75	7000
21	1290	79	7550

Artui Laiin Nitina A Chaw Eizat Leh A Tui Tam Lam :

Upat zawng (Kâr)	Nitina an tui dan (%)	Ni khata chaw eizat (g/bird)	Ar chaw ei belhkhawm (gram)
21-24	23.2	95	2660
25-28	65.2	100	5460
29-32	79.2	130	9100
33-36	78.5	129	12712
37-40	76.8	127	16268
41-44	75.4	125	17768
45-48	74.2	123	23212
49-52	72.7	121	26600
53-56	67.5	119	29932
57-60	64.2	117	33208
61-64	61.4	115	36428
65-68	58.9	113	37592
69-72	55.4	111	42700

Note: Hen-day egg production - Nitina Arpui tui tam lam tihna ani a. A chung ami ah khian kar 21-24 ah 23.2% tih ani a, chumi awmzia chu chawh rualin hemi chhung hian layer 100 in artui nikhat zelah 23.2 vel an tui tihna ani.

Layer Vulh Nana Hmun Awl Mamawh Zat (Floor Space Requirement):

	Upat Lam (Kar)	Phuai phah chhuat (Deep litter system) Ft ²	Cages (Ft ²)
Ar tui tam chi (Layer)	0-8	0.60	0.20
	9-18	1.25	0.30
	>18	1.50	0.50

Eng (Lighting) Mamawh Dan:

SL.NO	AR LEN LAM	NIKHAT A ENG MAMAWH ZAT
1	Ar note piang hlim	Darkar 23 - 24
2	Kar 20	Darkar 12
3	Ar tuilai	Darkar 16
4	Arpa chi thlahtu tur	Darkar 10



Artui Awpkeutir Tur Thlan Dan:

- ✓ *Artui len zawng:* Artui laihawl vel thlan tur a ni. 55-58 g. vela rit hi thlan tur
- ✓ *Artui kawr/heng:* Artui heng chu a fai kâlh nghal tur a ni a, a khi emaw a heng nem/pan tur ani lo. Bawlhhlawh dangin a pawlh tur a ni lo bawk.
- ✓ Artui shape dilo lutuk thlan loh tur
- ✓ *A chhung lam:* Eng thlara enin a pangngai tur a ni a, thisen zam leh bawlhhlawh dangin a pawlh tur a ni lo.
- ✓ Artui kar1 aia hlui thlan loh tur
- ✓ Artui tha chu a vanglam aiin a dung lam hmun 1.4 in a sei



- ✓ Artui reng reng pawncchhe fai leh ro a dim te tea hruk tur a ni.
- ✓ Artui bal, chemtea ziah fai ngai khawp te chu awp keu tir loh tur.



Ar Note Lei Dawna Hriattur Pawimawh:

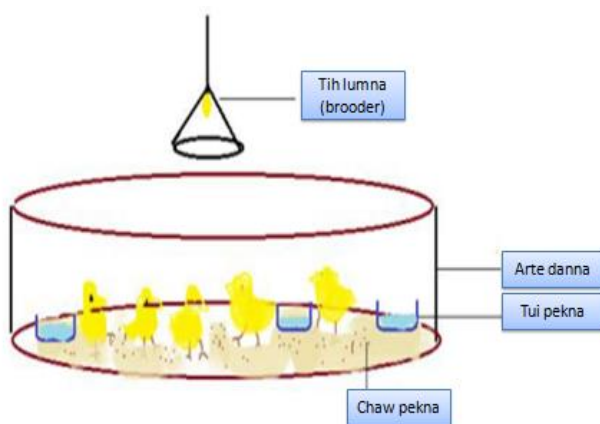
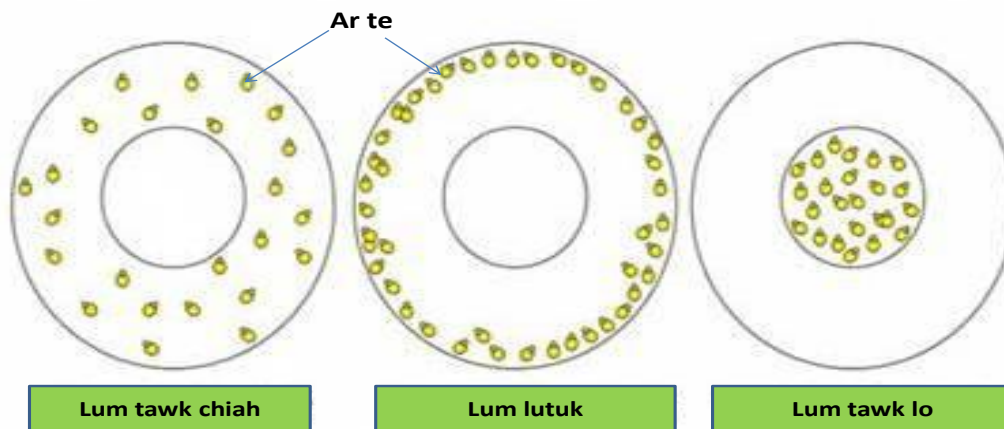
- ✓ Ar note chu an intiat rualin an harhtha tur ani.
- ✓ A rih zawng 38-40 gram aia tlem lo
- ✓ Taksa fai leh ro tha bakah an mit mengfiah leh fai
- ✓ An ke, an hmui leh taksa a piangsual tur ani lo.
- ✓ Ar note lei dawn reng reng in hriat chian sa/Farm ami ngei lei tur



Ar Note Enkawl Dan (0 - Kar 8):

- ✓ Ar note dahna (Brooder) chu Arte dah hma darkar 6-8 ah lo peihfela, lo tihlum lawk tur a ni.
- ✓ Darkar 2-4 chhung chu chaw pe lovin tui chauh pek tur a ni.
- ✓ Ni 1 -2 na ah an tui inturah electrolytes, Vitamin A,D, E leh C te a pawlhsak theih a, a tul dan a zirin Antibioticpawh a pawlh theih.
- ✓ Kar 1- 2 chhung chu Arte tla darh tur vennan Arte danna (chick guard) hman tur ani.
- ✓ Ar te danna hi Ar note 1 zelah 45 cm bial a tawk a, a san zawng hi 1.5 ft. aia sanglo ni thei se.
- ✓ A chhuat atan favai/phuai inches 2-4 a chhah dah a, Phuai chungah lehkha phah a tha. Nitin lehkha phah hi thlaksak thin tur ani.

- ✓ A tirah Ar note dahthar ten chaw an thlan thiam theihnan lekhaphah chungah Arte chaw/vaimim densawm te thehdarh sak tur.
- ✓ Ar te dahna lum zawng hi kar 1 a upa annih thlengin 95°F vel niin, kartin 5°F a tihhniam zel tur 70°F anih thlengin.
- ✓ Kar 1 a upa annih velah anmahni chaw eina pangngaiah chaw pek tawh tur ani. A chaw pekna hi Arte tana chaw ei nuam tawk turin siamrem mai tur ani.
- ✓ A chaw: Pre starter/Starter ration
- ✓ Eng (light) darkar 24 chhung pek tur
- ✓ **Hri danna:** Marek's disease, Ranikhet , IBD



AR THANGLAI (GROWER/PULLETS) ENKAWL DAN:

- ✓ Layer te chu kar 9 a upa annih in a thanglai/a puitling In ah sawn chhuah tur.
- ✓ Ar In liana sawn dawn chuan zanah sawn thin a tha. Sawn chhuah hma ni 2 leh sawn chhuah hnu ni 2 chhung chu antui inturah taksa chakna lam pek tel atha.
- ✓ A chaw ah a laihawl/thanglai chaw pek tur.
- ✓ A chaw leh tui pekna te Ar mamawh dan azirin siam rem tur ani a, chaw leh tui baw ral mai mai tur ven tur.
- ✓ Ar suan dawn emaw suan zawh chiahin hri danna (Vaccine) pek loh tur a ni.
- ✓ Ar inchuk hi Ar in tawt lutukah te a awm duh bik a, a hmui tan hi kar 16 an nih chhungin tan sak a tha. An hmui chunglam hmun thuma then hmun khat tan sak tur.
- ✓ Chaw leh tui thianghlim intur an mamawh ang tawh chhawp tur a ni.
- ✓ An thanchak zawk hriatnan kar 8, 12, 16 leh 20 a upa anih in an taksa rih zawng teh sak tur.
- ✓ Rulhut hlo hithla 1-2 a upa an nih atangin thla 3 dan zelah pek tur.

AR IN THARA AR NOTE DAHLUH DAWNA BUATSAIH DAN

Ar In Damdawi Hmanga Tihthianghlim:

Ar In chhung leh abul vel chu phiahfai a, tihfai hmasak vek phawt tur ani a. Ar In chhung zawng zawng chu chinai in emaw cement var emaw hnawih hmasak phawt tur ani. Heng chinai powder 2 Kg (ft. 100 bialah), 3 % copper sulphate leh 5 % formalin te hi chawhpawlh a, a tihfai nan hman tur ani. Hemi hnuah hian Ar In chu tha taka dah ro tur a ni. Ar In chu a phui that chuan damdawi hu hmang pawhin a tih thianghlim theih.

Damdawi Hu Hmanga Ar In Tihthianghlim Dan (Fumigation):

Damdawi hu hmanga Ar In tihthianghlim dawnin Ar In len zawng 100 cubic feet zelah Formalin 40 ml leh Potassium permanganate (tuisen) 20 g chawhpawlh tur ani. A damdawi hi chawhpawlh laiin a phul hluah theih avangin fimkhur atha. Damdawi hu hi boruak ro aiin a hnawng lamah a that zawk avangin Ar In lo phuh huh hmasak atha hle. Ar In awng/pawp, tukverh leh kawngkhar zawng zawngte tihphui hmasak vek phawt tur ani. Bur chhungah Potassium permanganate hi dah hmasa in formalin tui hi va leiluh tur ani. Hemi zawhah hian Ar in khi darkar 24 chhung kharphui tlat tur ani a, a tukah darkar 24 chhung hawn dar leh vek tur ani. Hemi damdawi hu hmanga Ar In tihthianghlim hi Ar note dahluh hma ni 10-15 ah tih thin tur ani. Ar in phui that loh

vanga damdawi hu hman theih lohna ah chuan a chhuat leh a bang ft. 3 chin chu Formalin tui (5 %) in darkar 6 chhung chiah tur ani.



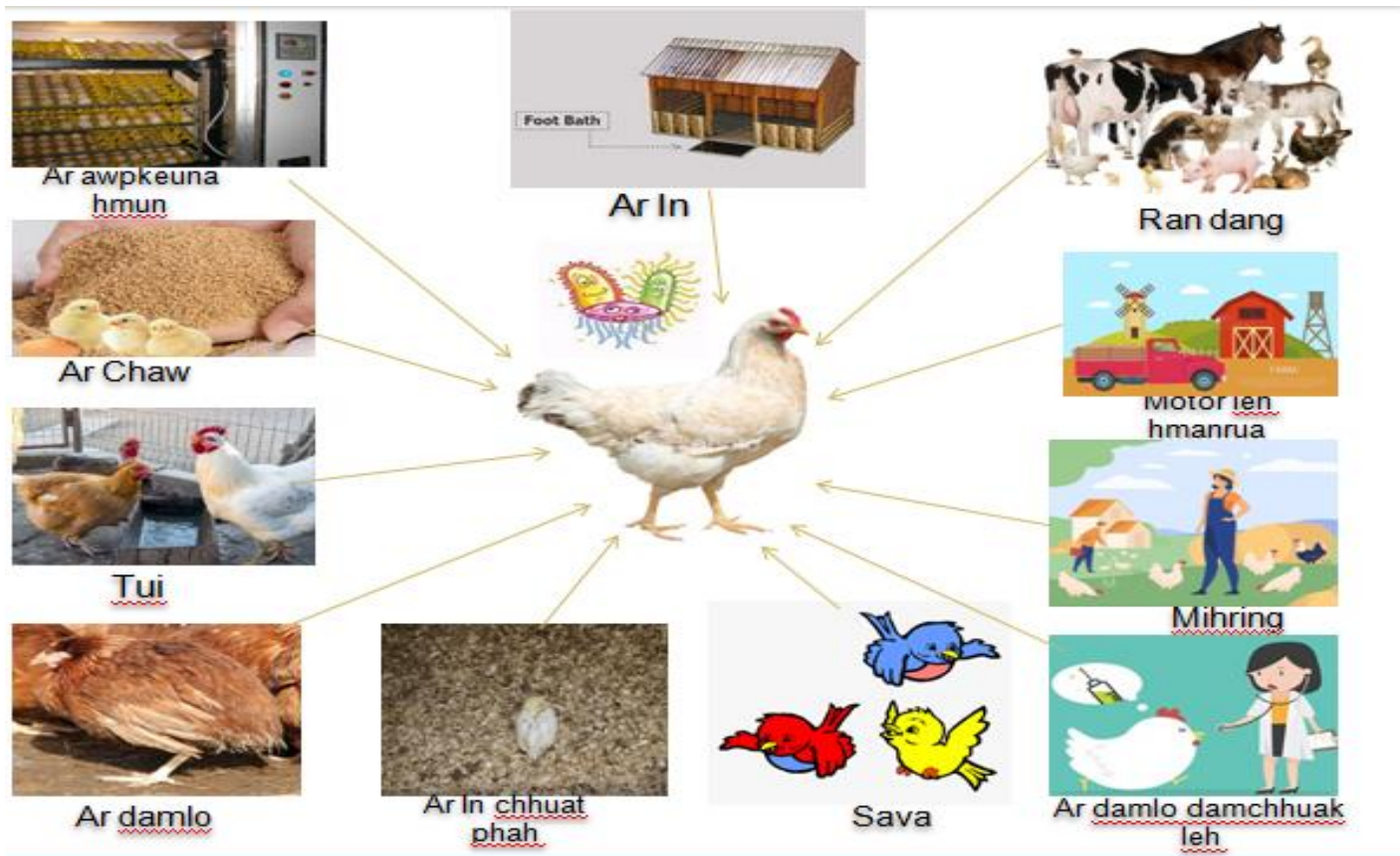
NATNA LAKA AR VEN LEH ENKAWL DAN

A Tumte:

- ✓ Ar In leh avela natna/hri lut tur ven
- ✓ Hrilenna hmun atanga ala len ve lohna hmuna hri darh tur ven
- ✓ Mihring tana hlauhawm thei tur hri len leh darh tur ven.

Ar Natna Inkai Chhawn Dan:

- ✓ Ar atangin: Ar hmun dang atanga lakluh emaw hmun danga suan chhuah te leh Ar thi tihral dan mumal lo atangin
- ✓ Ran dang: Sava, Chepa, Thehle, Ran vulh ho, Ui leh Zawhte, Rannung, Sazu etc
- ✓ Mihring, motor leh bungrua/hmanrua
- ✓ Ar chaw leh tui thianglim lo
- ✓ Boruak atangin
- ✓ Ar In, Ar awp keuna, Ar In chhuat phah (litter)
- ✓ Ar damlo

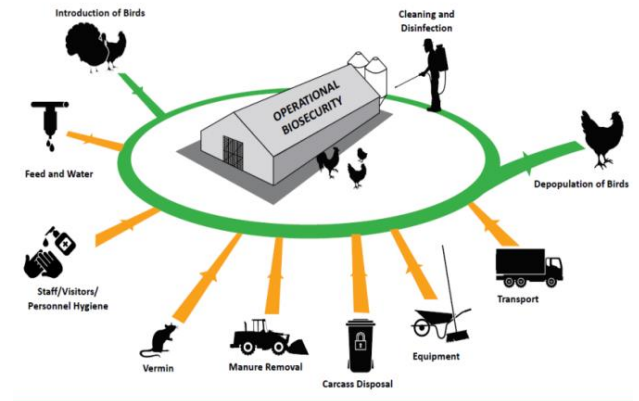


Ar Natna Lanchhuah Dan Tlangpui Te:

- ✓ Chaw eiduh lo leh chau/harh lo
- ✓ Artui dehchhuah tlahniam
- ✓ Artui hawng nem leh a len zawng dik lo
- ✓ Lu, mit, chhuang, leh ke vung
- ✓ Ar chhuang duk
- ✓ Hnap tui
- ✓ Rihna tlahniam
- ✓ Kawthalo
- ✓ Che sawn tha duh lo/zeng
- ✓ Khuh, thawhah/ thaw ri berh berh, hahchhiau
- ✓ Thak/ hmul tlakawlh
- ✓ Hmul pawr chip chep
- ✓ A chhan hriatloha thi thut.

Natna Laka Ar Ven Dan/Natna Darh Tur Ven Dan:

- ✓ Ar enkawltu in a hriseh leh damlo awmna enkawl kawp loh tur
- ✓ Ar damlo chu dah hran tur ani.
- ✓ Ar in upat hleih emaw in rualkhai lo In khatah dah dun loh tur. A theih hram vawi khatah tihral vek tur. A hlui leh athar dahpawlh loh tur.
- ✓ Ar enkawltu lo chu Ar In chhungah luhtir loh tur.
- ✓ Ar thi reng reng phumbo/halral vek tur.
- ✓ Ar In leh a vel, chaw pekna, tuipekna etc dam dawi hmanga tihfai (disinfect) fo tur ani.
- ✓ Ar In leh a chhuat phah (phuai, favai etc) a ro tha reng tur ani.
- ✓ Boruak luh leh chhuahna tha tawh siam.
- ✓ Ar In chep lutukah dah loh tur.
- ✓ Chaw tha leh tui thianghlim chauh pek tur.
- ✓ Hridanna leh rulhut hlo a hun takah pek tur.



Rulhut Hlo Pek Dan Tur (De-Worming):

- ✓ Layer chu kar 6-7 upa an nihin a pek tan theih
- ✓ Kar 3 danah pek zel tur (kar 18 annih hma in vawi 4 pek hman tur). Thla 3 danah pek leh tur
- ✓ Tui inturah pawlh anih chuan arte in darkar 4 chhunga an inzawh hman turin. Entirnan Ar kar 6 vela upa Ar 100 ah zelah tui litre 6 vel.
- ✓ Damdawi telh tui an inzawh hma chu tui dang pek loh tur
- ✓ Rulhut mum sei chi (round worm) thah nan heng rulhut hlo te piperazine compounds, albendazole, mebendazole etc te a hman theih a. Rulhut sei pheh chi thah nan Niclosamide, Praziquintel, Albendazole te a hman theih bawh.

Ar Hrik:

Ar hrik lam chi an lo awm chuan a rang thei ang berin Ar chu damdawi hmanga chiah emaw phul vat tur ani a. Tin, Ar In pawh damdawi hu hmangin tihthianghlim bawh tur ani. Damdawi hmanga Ar chiah hi khawchhiat ni ah chuan tih loh tur ani a, an lu chiah tel loh bawh tur ani.

- ✓ Tik out/Clinar (cypermethrin) : 1 ml/tui litre 1 (60 litre of spray mixture per 1,000 birds)
- ✓ Butox (deltamethrin): 4 ml / tui litre 1
- ✓ Housing: 20 ml/ tui litre 1 (5 litres mixture per 100 sq.m)

Sl. No	Damdawi hming	Pek zat tur	Pek dan tur
1.	Albendazole (Albomar 2.5 % w/v)	30 – 45 ml/ Ar 100	Tui inturah pawlh tur
2.	Levamisole Hcl (De-warm plus/Vetmisole)	20-25mg/Ar rih zawng kg 1 zelah	Tui inturah pawlh tur
3.	Praziquantel + Fenbendazole (Fencure plus)	Ar puitling – 5mg/ Ar rih zawng kg 1 zelah Ar thanglai – 10 mg/ Ar rih zawng kg 1 zelah	Tui inturah pawlh tur



Hri Danna Pek Dan Tur (Vaccination Schedule):

Ar natna hming	Vaccine hming	Pek hun	Pek dan tur
Marek's Disease	Herpes virus vaccine	Ni 1	0.2 ml S/c Vun hnuaiah
Ar pul hri(Ranikhet disease)	ND Lasota	Ni 5	1 drop, mit/ hnarah/tui inturah
Ar pul hri (Ranikhet disease)	ND Killed	Ni 7	0.2 ml vun hnuaia/tihrawl
Infectious bursal disease(IBM)	IBM (Georgia)	Ni 13	1 drop, mit/ hnarah/tui inturah
Ar hmai huh (Fowl pox)	Fowl pox vaccine	Kar 5	Thla hnuaiah
Ar pul hri (Ranikhet disease)	ND Killed	Kar 6	0.2 ml vun hnuaia/tihrawl
Ar pul hri (Ranikhet disease)	R2B live	Kar 8	0.5 ml tihrawl
Ar pul hri (Ranikhet d's)	ND Killed	Kar 16	0.5ml vun hnuaia/tihrawl



Chemical Disinfectant (Thil Tihthianglimna Damdawi) Chi Hrang Hrang Leh A Hmanna Te:

Sl.No	A hmanna tur	Disinfectant hming
1.	Ke chiahna/rahna (Foot bath), ar awp keuna hmanrua, tui leh chaw pekna	QACs (Benzalkonium chloride, cetrimide), sodium/calcium hypochlorite, lime etc
2.	Motor (vehicle) spraying	QACs, glutaraldehyde, Vircon-s
3.	Ran In/Cages (spraying)	QACs, Glutaraldehyde, sodium hypochlorite, Vircon-s etc
4.	Farm/ran in leh a chhehvel	Lime, Phenol derivative: phenol, cresol, dettol (chlorohexylenol)
5.	Electric bungrua, ar awp keuna In, artui	Formaldehyde
6.	Thawmhna (suk hma a chiah)	Sodium/calcium hypochlorite, Vircon-s etc
7.	Kut/taksa	Alcohol: Iso propyl alcohol, ethanol
8.	Tui pekna lam	Sodium/calcium hypochlorite, hydrogen peroxide



Disinfectant Hmanlar Deuh Deuh Te:

KOHR SOLIN: Ar In kahna

- ✓ 10 ml of Kohrsolin – 25 sq.ft area
- ✓ Kar 2 danah ah voi 1, Arte dah hma ni 3 ah kah tur



SOKRENA: Tui tihthianglimna

- ✓ 0.5-1 ml Sokrena + tui litre 10
- ✓ Ni 8 danah



OLKLIN: Ar In leh Ar awpkeuna

- ✓ Olklin tui + powder = 1:1 – Chhuatah theh kual tur
- ✓ Kar khatah voi 1-2



FARM TANA ZIAK A CHHINCHHIAHNA (RECORD) VAWN THAT

Record felfai taka vawn hi sum lakluh a hlawk leh hlawk loh chhut nan a pawimawh. Chutih rualin Ar vulh chungchanga hriat tur pawimawh tam tak vawn that a, nakin hnulama enlet leh nan pawh a tangkai em em a ni. Natna leh hrileng a awmin heng record te hian a chhan zawn chhuah leh hmalak dan tur ruahmanna siam a ti awlsam.

Record hi chi hnih a vawn thin a ni:

- ✓ **Production Records (Tharchhuah dan):** Hetah hian tharchhuah kawnga thil pawimawh ho heng ar note rih zawng, an than chhoh dan, thihna thlen dan, natna awm dan, vaccine pek dan kimchang te ziah luh tur.
- ✓ **Financial Records (Sum leh pai chet vel dan):** Pawisa lam thil zawng zawng, heng ar note man, ar note lakna, hralh chhuah ni, hralh annih a an rih zawng, chaw man, chaw lampang chi a sum sen zat leh a vulhtu senso dang.

Record Vawn Pawimawhna Te:

A hnuaia chhan tarlan vang hian thiltih kawng reng rengah record vawn hi a tul hle a ni:

- ✓ An nihphung tura ngaih nena khaikhin theuh turin an tunhun dinhmun chiang taka hriat a pawimawh.
- ✓ Chumi atana sum khawhral leh kumtina lakluh zat hriat theih nan
- ✓ Sum endik theih nan leh bank lam mamawh atan records te hi mamawh an ni
- ✓ Hmathar lakna hrang hrang, thil neihzat leh hmuhna hnar te vawnthat nan
- ✓ Thawktu te kaihhruai nan leh an hnen atanga hna tha a chhuah theih nan
- ✓ Chhiah chawitur chhutnan te records te hi mamawh an ni
- ✓ Thil tihsual, khawhral leh thildang diklo awm thei te hriatchhuah a siam that nan leh hnathawh a hmasawn na zel siam theih nan. Chutih rualin, records sum vawwna chu mawl te, thil, harsa kuallova a tum hlen maithei leh atak nilo leh hriatthiam harsa thil a awmtur a ni lo.

AR VULH SENSO LEH LAKLUH CHHUTNA (COST BENEFIT ANALYSIS)

BROILER AR 100 CHHUTNA

1. Ar vulh dan: Ar In chhung khung, chhuat phah nei chi (Deep Litter system)
2. Ar vulh zat: Broiler 100
3. Hralh chhuah hun : kar 8-10 a upa an nih in
4. Ar thi zat (mortality): 5%
5. Kum 1 chhunga Ar hralhchhuah/lei (batch) zat : 6
6. Ar note 1 man zat : Rs.65/-
7. Ar chaw man zat : Rs.60/Kg
8. Ar chaw pekna leh tui pekna man zat : Pakhat zel Rs.300
9. Damdawi leh vaccine man zat (LS): Rs. 2,000
10. Broiler a nung chungin Kg 1 man : Rs 280
11. Ar hralhchhuah huna taksa rih zawng : 3.5 Kg
12. Kar 8 chhunga Broiler 1 chaw mamawh zat: 6 Kgs

Sl.No	Particulars	Amount (Rs)
A.	Sum hmanna (Gross Cost/expense):	
1.	Ar In sakna ram	Neih sa
2.	Ar In sakna - Broiler 1 tan 1 sq.ft a zau @ Rs 200/sq. ft	20,000.00
3.	Ar tui inna leh chaw pekna 3 ve ve @ Rs 300/piece	1,800.00
5.	Electrification (LS)	3,000.00
6.	Ar note ni1 a upa 100 man @ Rs 65/ar note 1	6,500.00
7.	Ar chaw man @ Rs 60 per kg (95 x 6 x 60)	34,200.00
8.	Medicine and Vaccines (LS)	2,000.00
9.	Sum senso dang (LS)	2,000.00
	Total	69,500.00
B.	Sum lak luhna (Gross return)	
1.	Kar 8 hnua broiler 95 (5 % thi anga chhut) hralhna zat, ar 1 Kg 3.5 a rit a chhut in @ Rs 280/Kg = 95 x 3.5 x 280	93,100.00
2.	Ar ek lei tha hralhna (manure)	500.00
	Total	93,600.00
	Hlawkna (Net return)	24,100.00

Broiler ah chuan kar 8 zelah an hralh chhuah theih avangin kum 1 chhungin batch 6 a hralh chhuah hman a. A hnuaiah hian batch 2 na vulh nana sum senso leh lak luh zat kn chhut leh anga, batch 2-6 thleng hi chu sum senso leh lakluh zat a in ang tlangpui tawh ani.

C. Sum hmanna (batch 2 na):

1.	Ar note ni1 a upa 100 man @ Rs 65/ar note 1	6,500.00
2.	Ar chaw man @ Rs 60 per kg (95 x 6 x 60)	34,200.00
3.	Medicine and Vaccines (LS)	2,000.00
4.	Sum senso dang (LS)	2,000.00
Total		44,700.00

D Sum lak luhna (batch 2 na)

1.	Kar 8 hnua broiler 95 (5 % thi anga chhut) hralhna zat, ar 1 Kg 3.5 a rit a chhut in @ Rs 280/Kg = 95 x 3.5 x 280	93,100
2.	Ar ek lei tha hralhna (manure)	500.00
Total		93,600.00
Hlawkna (Net return)		48,900.00
BC Ratio		2.09

Kum 1 chhunga sum chet vel dan (Cash flow analysis):

Sl. No	Batch/cycle	Sum senso zat (Rs)	Sum hmuh let zat (Rs)	Hlawk na (Rs)
1.	I	69,500	93,600	24,100
2.	II	44,700	93,600	48,900
3.	III	44,700	93,600	48,900
4	IV	44,700	93,600	48,900
5	V	44,700	93,600	48,900
6	VI	44,700	93,600	48,900
Total		2,93,000.00	5,61,600.00	2,68,600.00

AR NATNA LANGSAR ZUAL TE

Ar hian ran dang aiin natna an la hmain an thih pui awlsam bik emaw tih tur a ni. Tin, tunlai artui tam chi Layer leh ar thang chak chi Broiler te phei hi chu natna hrik lakah an duapkai zual a, chuvangin, inven hi enkawl aiin a tha zawk fo a ni. Ar natna avangin kawng hnihin hlohna a awm thin a, a kawngkhatna ah chuan ar a lo thihin ar thi man, an eiral man leh enkawl na a senso zawng zawng hloh vek a ni. A pahnihna chu an lo damloh emaw an than a lo thut deuh a an enkawl na damdawi leh senso thlawn ta te a awm leh a. Hlawkna duha ar vulh kan nih miao avangin natna thlentu(natna hrik) leh natna thlentir theitu kan hriat a ngai thin a ni. Natna thlentir thei tute hi chi hrang hrang an awm a. Natna hrik te takte te bacteria, virus, mycoplasma, fungi leh protozoa in a thlen te, rulhut leh hrik chi hrang hrang bakah vitamin emaw minerals emaw tlakchham avanga natna te ani. Heng natna chi hrang hrangte hi a tlangpuiin chaw leh tui thianghlim loh vang te, chaw that tawh loh vangte, ar in leh a vel tawp vangte, ar in chhunga ar chep lutuka dah vangte leh sik leh sa danglam lutuk vangte an ni ber.

I. Bacteria in A Thlen Natna Langsar Zual Te:

1. Fowl Typhoid:

Fowl typhoid hi a natna thlentu chu bacteria *Salmonella gallinarum* ani. Ar bakah sai ar (turkey) ten an kai awlsam bik a. Tin, vahmim, varak, vahrit, ar awn bakah vavu te pawn an kai ve thei bawh.

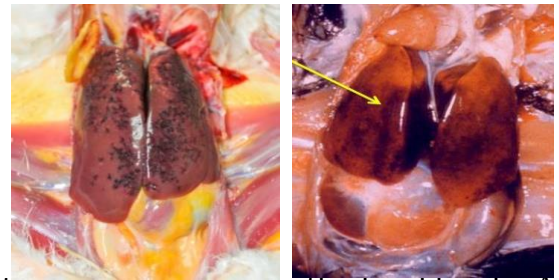
A natna kaidarh dan: Fowl typhoid hi arpui a hri kaiin a tui ah kaichhawngin a note alo keuin a kai nghal thei a. Tin a hri kaiin an ek emaw ar thi atang mai bakah thawmhnaw, pheikhawh leh bungrua atang te in a natna ar dangah akai darh thei bawh. Ar puitlingah a natna hi a tam mai bakah thihna emaw ar hrisel lo leh thang thalo a thlen nasa hle.

A natna lanchhuah dan: Ar upa lamah an chhuang sawngte leh dang, ti ro/taksa a tui ril lam tlachham (dehydrate), hmul pawr, kawthalo, tui tlem/tlahniam mai bakah thihna a thlen thin. Ar te/la naupangah chau, nguai, chaw eiduh lo, hmul pawr, thangtha lo leh mawng berh.



Post mortem a landan:

- ✓ Thin lian, ro leh durh pheuh pheuh leh bronze rawng
- ✓ La leh kal vung
- ✓ Thisen tlachham/dang



A enkawl dan (treatment): Fowl typhoid natna kai tawh te chu enkawl dam a tha ber kher lo. A chhan chu an dam hnuah pawh a natna theh darh theitu an nih avangin. A natna kaite chu lak hran a, tihral hnuah an In leh a vel leh bungrua zawng zawng, tui inna leh chaw eina te damdawi hamngin tihfai vek tur ani. A enkawl nan antibiotic amoxycillin, fluoroquinolones leh potentiated sulphonamides te a hman theih.

A ven dan: Ar In leh avel tih thianglim, Ar In bul velah midang, ran dang kal tir loh, arte hriseltha chauh lakluh, chaw leh tui thianglim chauh pek, ar damlo chu lakhran vat a, a damtha lai te nen a dah dun loh tur. Ram changkangah chuan a hri venna vaccine an nei a, kan ramah erawh kan la nei ve rih lo.

2. Fowl Cholera:

Fowl cholera hi a natna thlent chu bacteria *Pasteuralla multocoda* ani. Ar note lam aiin a upa lamin an thihpui nasa. Taksa a natna hrik a luh a, a natna alo lanchhuah hun (incubation period) hi ni 5-8 a ni. A natna hi Ar vulh chi hrang hrang bakah sava te thlengin an kai thei ani.

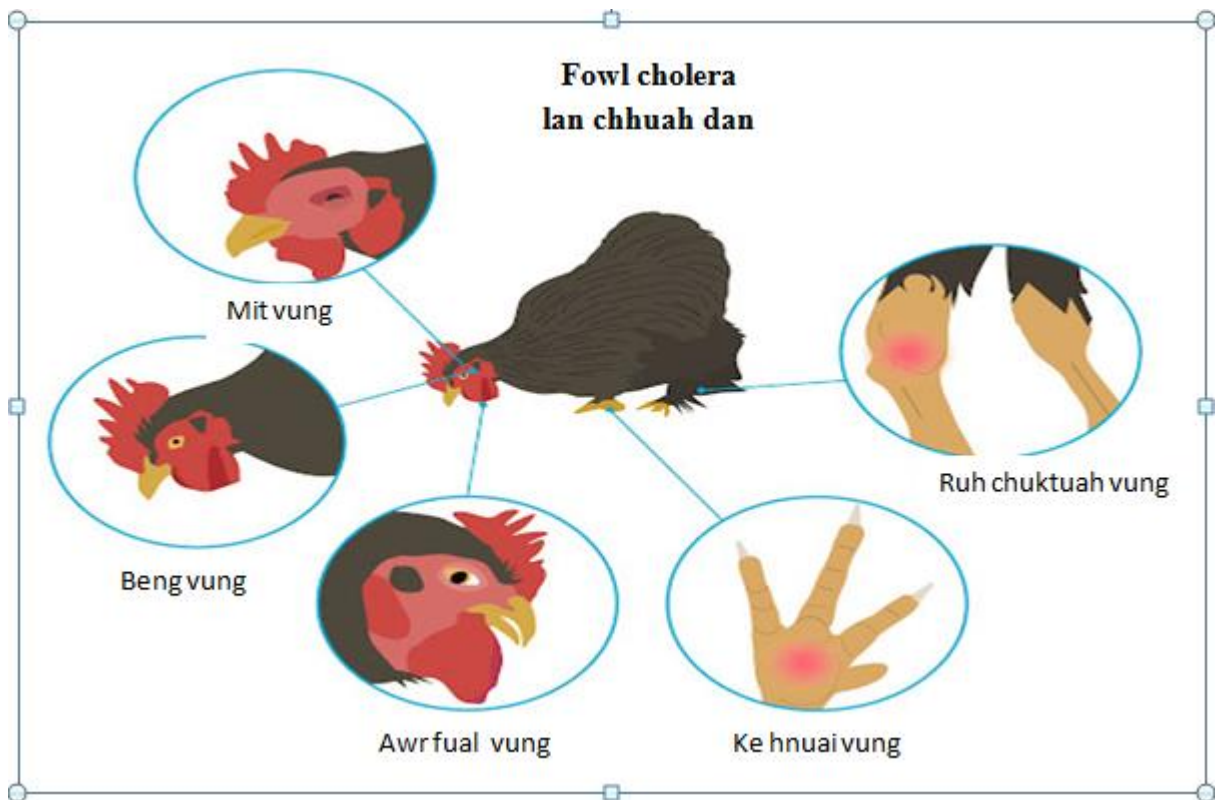
A natna kaidarh dan:

- ✓ Ka leh hnar atangin natna hrik lut
- ✓ Hnap tui, ek, lei, bungrua leh mihring atangin a inkai darh thei.
- ✓ Leiah rei tak an dam thei

A natna lanchhuah dan:

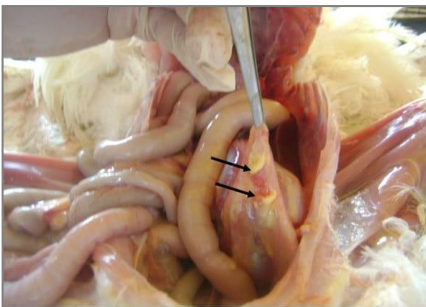
- ✓ Hmul pawr chip chep
- ✓ Chaw ei duh lo
- ✓ Kawthalo
- ✓ Khuh, mit ek tam, hnar tui leh ka atanga thil tui chhuak
- ✓ Hmai leh awrfual vung
- ✓ Ruh chuktuah leh kehnuai vung
- ✓ Ke bai
- ✓ Thi thut
- ✓ Thawk rang
- ✓ Nghawng kawi/inkual





Post mortem a landan:

- ✓ La leh Thin lian
- ✓ Sai Ar ah chuap hmin/senno rawng
- ✓ Artui chhungmu tuamtu natna
- ✓ Ril pan



A enkawl dan (treatment): Fowl typhoid enkawl nan heng antibiotic te hi a hman theih a - sulphonamides, tetracyclines, erythromycin, streptomycin, penicillin. Amaherawhchu a natna hi damdawi pek tawh loh hnua a rawn awm nawn leh duh avangin a damdawi hi rei deuh hlek pek angai thin.

A ven dan: Ar In leh avel tih thianghlim, Ar In bul velah midang, ran dang kal tir loh, arte hriseltha chauh lakluh, chaw leh tui thianghlim chauh pek, ar damlo chu lakhran vat a, a damtha lai te nen a

dah dun loh tur. Sazu chi reng reng, sava te, ui leh zawh te te Ar in bul leh avel a kal lo turin khuahkhirh (control) tur. Hri venna vaccine ar kar 6 a upa annih in pek tur (live attenuated vaccine).

3. Colibacillosis:

A natna thlen tu natna hrik (bacteria) hi *Escherichia coli* ani. Ar, sai ar bakah ar leh sava chi deuh zawng zawngin an vei thei.

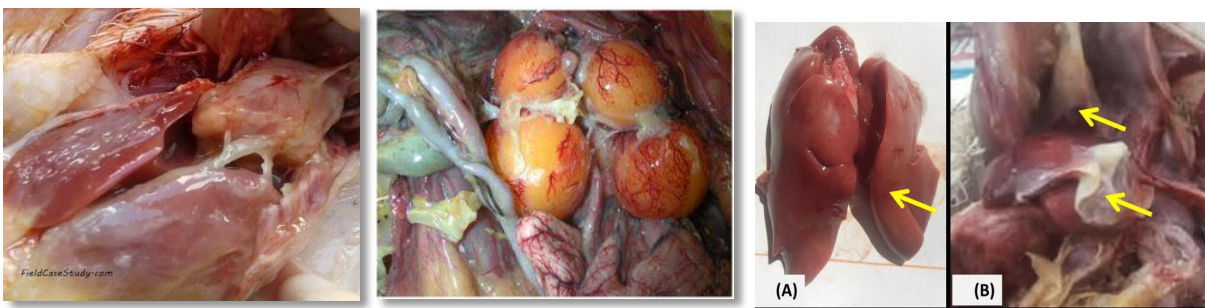
A natna kaidarh dan: E. coli hi ar pumpui leh ril bawr velah an awm a, an ek ah an in semdarh nasa hle. Chuvangin ar damlo atangte, tui, bungrua/thawmhnaw, vaivut, artui keu, Ar In leh a chhehvel ar ek in a tihbawlhhlawh avanga inkaidarh ani ber. He natna hian ar ah thihna tamtak a thlen mai bakah an than a tithu a, artui chi ah an tui a tih tlem phah bawk avangin a vulh tu te tan hlohna nasa tak a thlen thin.

A natna lanchhuah dan:

- ✓ Kawthalo
- ✓ Thisena natna hrik lut (septicaemia)
- ✓ Chau, nguai, chaw eiduh lo, che peihlo
- ✓ Thawkna dawt lam natna chi hrang hrang
- ✓ Lai natna (omphalitis)
- ✓ La leh thin lian bakah taksa a tui tling
- ✓ Lung leh thin tuamtu natana

Post mortem a landan:

- A. Ar thin hrisel tha lai
- B. Colobacillosis vei thin



A enkawl dan (treatment): Antibiotic: Amoxycillin, ampicillin, chloramphenicol, chlortetracyclin, gentamicin, suphonamides, ciprofloxacin etc

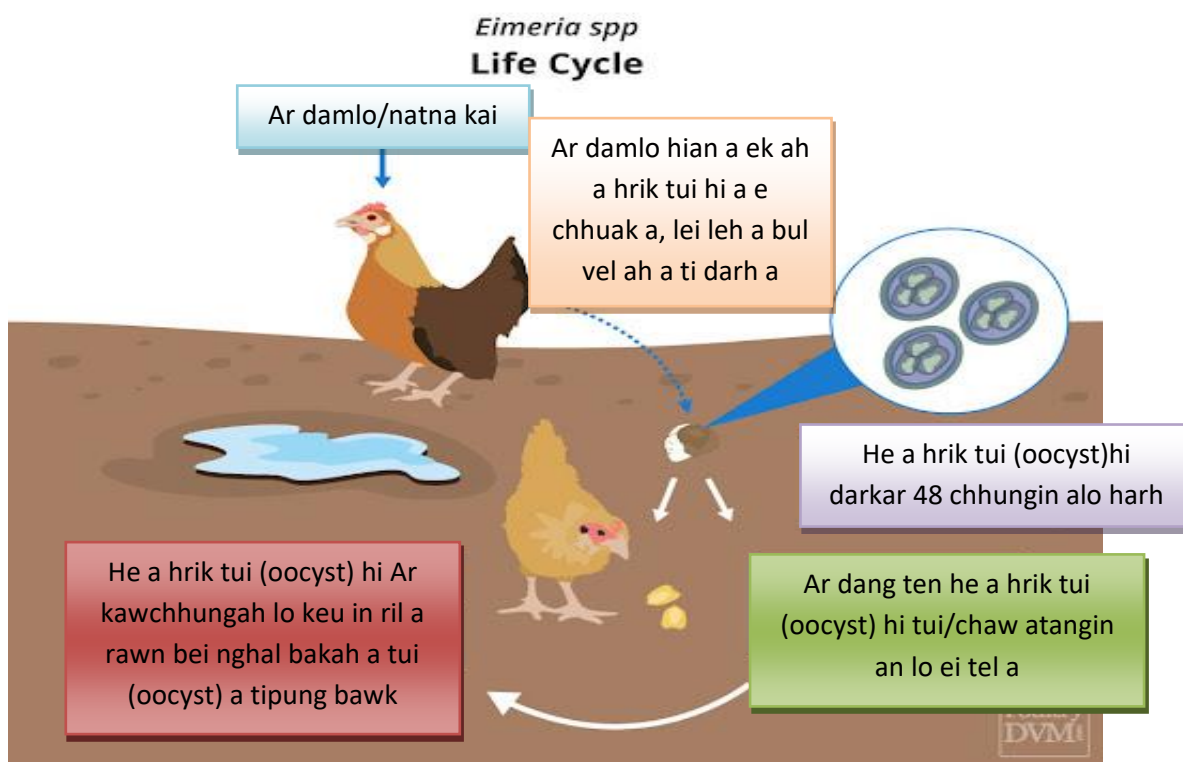
A ven dan: A venna thaber chu Ar In leh avel vawn thianghlim a ni.

Protozoa in A Thlen Natna Te:

1. Coccidiosis:

Coccidiosis hi natna hrik protozoa antih zing ami *Eimeria* in a thlen a ni. Natna hrik leh an tui (oocysts) te hi a darh awlsam em em a, Ar In a a awm tawh chuan tihrem/tihbo a harsa tawh thin a ni. Eimeria hian Ar rilah bu khuarin natna dang pawh atikai awlsam thin bakah ril in a taksa tana tha tur thil (nutrients) a hip tur a dal thin ani. A natna hi ar la naupang lam kar 3-6 inkar a upa ah a tam. Ar tui tam chi (layer) leh a chi thlahtu (breeder) ten he natna hi an kai ve vak lo.

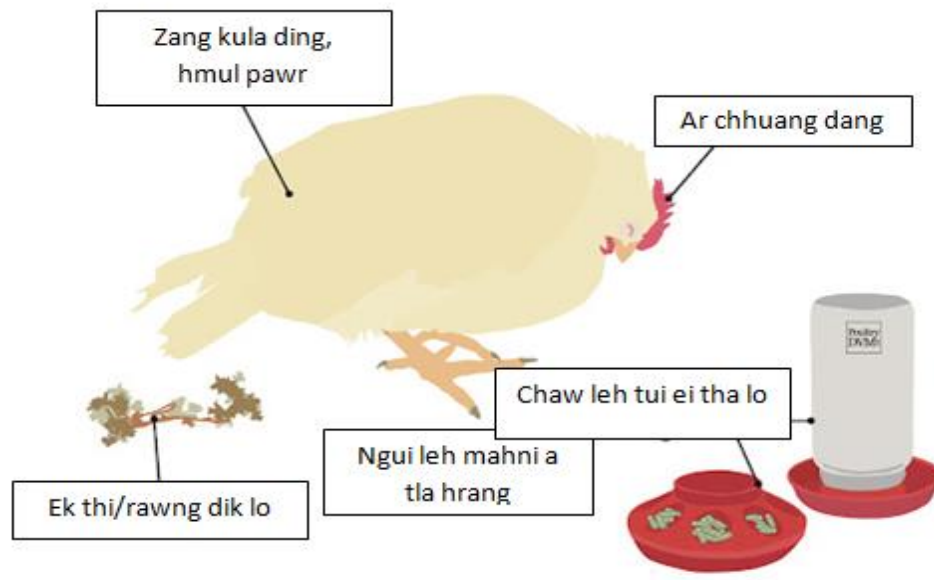
A natna kaidarh dan: He natna hrik hi ar leh ar in an inkai chhawn bakah, an ei tur leh intur, lei, ar In leh bungrua atangte pawhin an inkai chhawng thei a. Hmun hnawng leh tui tlinna hmun te pawh a natna darhna tha tak ani. A hrik tui (oocyst) hi ar In chhuat phah (litter) ah thla tamtak a dam thei bawk. Farm enkawl tute leh sava leh rannung te pawhin he natna hrik hi an pu darh thei bawk.



A natna lanchhuah dan:

Ek thi, ar ngui leh pawr, chaw chuk tlem, tui in tha duh lo, kawthalo nasa, santen, ar than thu bakah ar tamtak dam lo, taksa dang, rihna tla hniam, ar tui zat tla hniam leh ar tamtak thi. A natna

tuarchhuakte chu atlangpuin ni 10-14 hnuah an rawn dam chhuak leh a, amaherawhchu ngai an awh thei tak tak tawh lo ani.



Post mortem a landan:



A enkawl dan (treatment): Damdawi 'coccidiostat' leh 'coccidiocides' an chaw ah emaw tuiah emaw pek theih a ni.

- ✓ Sulfonamides: Sulfadimethoxine, sulfaquinoxaline, sulfamethazine. Layer ah erawh hman loh tur
- ✓ Ionophores : Lasalocid, Monensin, Narasinm Salinomycin leh Semduramicin
- ✓ Quinolones: Decoquinate leh nequinatembuquinolate,
- ✓ Pyridones (Meticlorpindol)
- ✓ Amprolium, Diclazuril
- ✓ Nicarbazin
- ✓ Vitamins A and K : Damchhuah lehna a ti chak

A ven dan: Damdawi hmanga ar in leh a chheh vel te, tui inna leh chaw eina te uluk taka tih fai thin hian natna darh zau zel tur a veng thei. Ar damlo an awm leh awm loh ngun taka thli thlai reng a, ar damlo te dahhran a, arang thei ang bera enkawl vat. Ar upat dan in ang chauh dah ho. Ar chhuah phah ro tha reng leh a huh tur ven.

Virus Natna Hrikin A Thlen Natna te:

1. Ar Pul Hri (Newcastle Disease/Ranikhet Disease) : Ar pul hri han tih hi chi hrang hrang a awm a, tuna kan sawi tur hi Mizorama kan hmuh zin ber leh kan ar vulh suat hnem ber tu newcastle disease an tih bawh hi a ni. He ar pul hri hi Mizoramah chauh ni lo, khawvel pumpuiah ar vulh tu te hmelma lian ber pakhat, hun tawite chhunga tlak chhiatna thlen rup thei tu a ni. Nasa taka ahe natna hi ven leh tih rem tum ani chung pawhin Ar nunna suattu ber ala ni tho ani. Ar engtia upa pawn an vei thei a, ahri vei za zela 50-100 thihna thlen theitu ani. Ar mai bakah Saiar, varak, vahmim , parva, vahrit, vavu, chawngzawngte pawhin an vei thei. Mihring tan natna hlauhawm a ni lem lova, a natna vei khawihtute ah mitna (conjunctivitis) erawh a thlen thei.

A natna thlentu: He natna thlentu hi Virus chikhat Paramyxovirus a ni a, he virus hi natna hrik thi har tak a ni, tui chhuanso ah 1 min a dam thei a, nisa hnuaiah minute 40 ah emaw tuisa degree 55 a minute 45 chhung chuan in a thi thei thung, tin Phenol te dettol leh chloroform te pawhin a ti hlum thei.

Natna in kai chhawn dan: He natna hi kawng hrang hrangin ar in a kai thei, chungte chu

i) Ar pul/ a hri kai te hi a natana thehdarh bertu an ni. Ar pul leh ar hrisel an tlat hovin awlsam takin an in kai chhawng thei, he natna hrik hi arpul ek-ah leh mittuiah te lo chhuakin ar tui in tur leh chaw te ti bawhlhlawhin ar hrisel laiin a lo kai chhawng ve thin, tin ar pul khuh leh thaw atangin he natna hrik hi chhuakin boruakah rei tak a damin ar hriselin an thawk luhin he natna hi an lo vei thin.

ii) Ar pul dam chhuak leh te hi he natna pu darhtu pakhat an ni, an dam atanga thla hnih chhung chu he natna hrik hi an la e chhuak a ni, ar pul dam chhuak l eh te hi an dam chhungin he natna atang hian an him tawh a ni.

iii) Ar enkawltu te leh ar neitu te hi a hri thehdarh tu lian tak an ni bawh, a bik takin Mizorama ar vulhtu te hi kan la fimkhur tawh lo hle, thenawmte ar kan en emaw, ar-in kan luh hian mahni ar hriselna kan tiderthawng theih bakah thenawmte ar pawh kan ti derthawng tih hriat a tha, mihring taksaah leh thawmhnaw ah he natna hrik hi rei tak a dam thei.

iv) Chawngzawng leh sava dangte atangin ar in an kai chhawng thei bawh.

v) Farm arpul hri lenna atanga artui, artui bawm leh ar-chaw lo kal atangin ar hriselin an lo kai chhawng thei bawk.

Ar pul hri lanchhuah dan: Ar pul hri hi chi liin a lang chhuak thin. Chungte chu:-

i) *Velogenic form* : Hei hi a hlauhawm ber chi a ni a, ar zawng zawng 100 ah 90 ten an thih phah thin, ar an lo nguai a, a tirah rang takin an thaw tawp tawp a, a hnuah harsa takin ring fan meuhin an thaw ri bawrh bawrh thin, kawthalo hring nghelh nghulh, thisenin a pawlh riai riai an e chhuak a, an tha a khur a, an ring a kaw chhu a, an ke a lo zeng thin.

ii) *Mesogenic form* : Hei hi velogenic form aiin a hlauhawm lo zawk a, ar 100 ah 15 in an thih phah thin, ar tui laiin an tui tlem phah a, an khuh a, chaw an ei duh lova, thawk an harsat a, an thla leh an ke te a lo zeng thin.

iii) *Lentogenic form*: Hei hi a hlauhawm loh ber chi a ni a, ar puitling chuan an thih phah lem lo, amaherawhchu ar note chuan an thih phah thei, hritlang satliah angin a lang thei.



Post mortem a landan:



Ar pul hri laka inven dan: He natna hi virus thlen a ni a, chuvangin virus natna dang ang bawkin a enkawl na damdawi mumal a awm lova, a pumpelh dan awm chhun chu a venna (Vaccine) lak hi a ni. Ar pul venna hi arte keu hlimah mitah emaw hnara thlawr chi pek tur a ni. Hei hian thla 2 a veng thei, a venna vawihnihna hi kar 6 hnuah chiu leh tur a ni. Hei hian kum khat chhung a veng thung a ni. Tin

vaccine bakah hian thianghlimna hi a pawimawh hle, kan ar-in leh ar-ek enkawl danin kan ar vulh hriselna thui tak a nghawng tih hriat a tha, hmun hnawng leh ar-ek tling khawm te hi natna hrik lo pianna a ni a, ar mai bakah ar vulhtu tan a hrisel lo tih hriat a tha hle. Tin, he natna hrik hi ar thi ah rei tak a dam theih avangin, ar pul thite hi paih mai lovin, khur 2 feet vel laih khuar a phum tur a ni. A theih phei chuan vur hmain chinai a phul hmasak tur a ni.

2. Ar Hmaihuh (Fowl Pox):

Ar hmaihuh natna hi a thlentu chu natna hrik avipox virus ani. Ar ah chuan natna lar ve tak, darh chak tak a ni lem lo. A natna hrik hi Ar in leh a vel tihthianghlimna damdawi pangngai in a thah an har hle a, a pan bawlah hian kum tam tak an dam thei bawk. He natna hi ar leh Sai ar in an kai hma bik , parva, varak leh vahmim te pawhin an kai ve thei bawk. Ar engtia upa pawn an kai thei vek bawk ani.

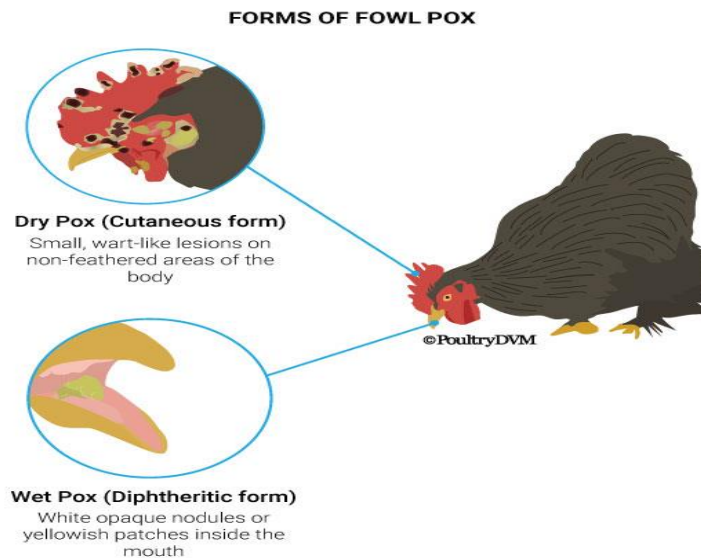
Natna in kaichhawn dan:

He natna hi taksa pem awm lovah chuan a inkaichhawng thei lova, pem te reuhte atangin emaw hliam atangin ar in an kai chhawng thei. Thosi leh rannung mi seh chi te hian he natna hrik hi an pu darh thei. Hri danna pek laiin a hri kaiin ar hrisel laiah akai chhawng thei. A natna hrik hi mitah a kaiin, mittui dawtah chhukin hrawkah natna a thlen thei bawk. A tlangpuiin a natna hi fur lai leh thlasik laiin, Ar in tawt lutuk leh thianghlim lo ah a tam duh bik.

Natna lan chhuah dan:

A natna hi chi hnih in emaw a pahnih inkawpin emaw a lang chhuak thin.

- ✓ **Cutaneous form:** An hmai leh chhuang, khabe uaifual, mit tlang, hnar bul vel, hmui bulah leh taksa hmul awm lohna lai velah pan khir a awm thin. An mit bul vela awm hian ar ti mengtha thei lovin an chaw leh tui pawh an chuk that theih loh phaha, a tawpah an thi nge nge thin. Hemi ah hi chuan ar thi an tam vak lova, a natna vei 25% aia tam an thi meuh lo. An pan hi a ro/khir bawk.
- ✓ **Diphtheric form:** Hemi ah hi chuan durh te reuh te te ka leh chaw kawng velah a in siam a, a rei deuh hnuah a eng hnang deuh siamin an chaw ei ami bakah thawk lam harsatna a siam thin. A natna vei 50 % velin an thihpui thin. He natna hi enkawl chuan awlsam te a dam thei a ni a, enkawl loh erawh chuan an taksa hmun hrang hrangah te in taidarhin an mitte a ti pinga, an ka te a hnawh a, chaw an ei thei lova an thih phah thei.



Ar hmaihuh laka in ven dan: A venna tha ber chu a hri danna (vaccine) lak hi a ni. A hri danna hi Ar kar 6-8 a upa annih in a pek theih a, an tihrawlah emaw an thla hnuaiiah emaw an pe thin. Hri danna pek hi a hlawhtlin chuan hri danna pek atanga ni 7-10 hnuah a pekna laiah vung emaw pan khir alo awm thin. Hemi hi a awmlo anih chuan a hridanna kha chak tawh tawh lo emaw pek dik tawh loh vang ani thei a, pek nawn leh tur ani. A hri lenna hmunah chuan a hri kai 30 % aia an tam loh chuan dah hran a, a hri kai ve lo zawng hri danna pek tur. Ar In leh a vel fai taka vawn tur ani a, mihring, ran dang emaw tlawhpawh tir loh tur. Ar In leh avel chu damdawi sodium hydroxide (1:500), Cresol (1:400) leh phenol (3 %) hmang a tihfaiin a natna hi kawng tamtakin a tihlem/rem theih.

3. Marek's Disease:

He natna hi virus chi khat herpes virus in a thlen a ni a, a vei tawh chu an thih puk loh vek pawhin an chawr che hle thin a ni, hei vang hian natna hlauhawm tak a ni reng a ni. A natna hrik hi

khawlum zawng 37 °C ah darkar 24 chhung a dam thei bakah Ar In, Ar ek, ar in chhuatphah, bawlhhlawh leh ar hmul tona ah kar enge maw zat atanga thla tam tak chhung a dam thei. He natna hi ar kar 6-10 vela upa in an vei ber, ar tui lai an nih thleng pawhin an vei chho thei.

A natna inkai chhawn dan: He natna hrik hi ar ek atangte, Ar enkawltu atang te leh farm bungraw hrang hrang atang te a theh darh thin a ni a, he natna hrik hi boruak atang pawh a inkai chhawn theih a ni. He natna hi Ar 1 in a vei tawh chuan hridanna la pawh ni se nasa takin ar dangah an inkai chhawng thin. Ar a hri kai mek bakah a dam chhuak leh te pawh reitak chhung a natna tidarhtu an ni a. Hri danna pekin a hri darh tur hi a ti ziaawm thei amaherawh chu za aza erawh a ven theih loh. A natna hi artui atangin a inkaichhawn theih loh.

A natna lan chhuah dan : He natna hi ar naupang ah chuan hnawng deuha khuh ri berh berh ang emaw hahchhiau ang te in a lang chhuak thin, ar puitling chuan an thih pui meuh lova, ar note ah chuan 40% velin an thih phah thin.

- ✓ Pum chhunga bawk insiam
- ✓ Ke leh nghawng, thla a zeng
- ✓ Ar mitdel phah leh vuna bawk awm te pawh sawi tur a awm.
- ✓ Ar ngui, dang, chaw ei duh lo, kawthalo, cher leh rihna hloh.
- ✓ Thazam (nerve) vung/hliam
- ✓ Ding thei lo, ke pakhat hma lama kak, ke lehlam hnung lama kak
- ✓ Ring in herh/kawi
- ✓ Mitdel



A natna laka inven dan: He natna hi a enkawlina damdawi hranpa a awm lova. Hri danna (vaccine) lakin a ven theih. Heng bakah Ar In leh avel, ar up lumna (Brooder) te damdawi hmanga tihfai te a tangkai. Hri lenna hnuah chuan Ar In leh avel damdawi Formalin 5% hmanga tihfai vek a, thla 1 vel tal dah ruah tur.

4. Infectious Bursal Disease/Gumboro Disease:

He virus hrikin a thlen ar natna hi a rang em em a, a darh chakin, ar kar 3-6 inkar ten an vei nasa ber. He natna vei 80-90% ten an thihpui mai bakah a vei tawh za a za te pawh ngai an awh leh thei tawh lo ani. A natna an kai atanga ni 2-3 chhungin alo lang chhuak thin. He natna hri hi a len tawhna ah chuan awlsam takin ar farm puma ar awmte an lo damlo chiama, ar farm hlawkna tur a ti chhe thei hle thin. Ar naupang lam te chu an kua a thalo a, an ngui a, an khawnga, an thi zui mai thin. Ar a hri veite an taksa a natna do theihna ati chhia a, natna dang pawh an kai awlsam phah bawh ani.

A natna inkai chhawn dan: Ar ek atang te, chaw leh bungbel thianghlim lo, artui dahna thleng leh Ar phurhna motor atang te in natna hi thehdarh theih a ni. He natna hi artui atanga kai chhawn theih a ni lo. A hri kai Ar ten ni 10-14 chhung an ek ah a natna hrik hi an e chhuak reng a. He a natna hrik hi ni 120 chhung Ar In velah a dam thei bawh. Thosi leh Ar In chhuatphah a hrik awm te pawhin he a natna hrik hi an pu darh thei bawh. Ar upa lam tawhin he natna hi ankai ve vak lo thung.

A natna lan chhuah dan: He natna vei arte te chu an kua a tha lovin, an ngui a, an thi mai thin. He natna hian arte mawng bula taksa peng pakhat a ngum“ Bursa of Fabricious” a run a, chu chu lo vungin hemi atang hian post mortem hmangin a thih chhan hi a hriat theih thin a ni.

- ✓ An ngui a, chaw an ei tha lo leh khur beuh beuh
- ✓ Kawthalo (ek var)
- ✓ Mahni mawng chuk leh mawng berh
- ✓ Che tha peih lo
- ✓ Maimichhing tlat leh thihna



A natna laka inven dan: Hri danna (vaccine) hmanga ven theih a ni. Hri danna hi kar 2 a upa annihin a vawi 1 na pek tur ania, a booster hi kar 3 na ah pek leh tur ani. An chaw ah Vitamin E pek tel atha. A hri lenna hmunah chuan Ar In chhuat phah (phuai), ar thi, buara hman hnu leh bawlhhlawh dangte halral vek emaw thuk taka phum a, chinai thi a chhilh leh vek tur. Ar In leh avelah lirthei leh mihring kal khuahkhirh tur ani. Ar chaw eina leh tui inna te damdawi hmangin (5% formalin) tihfai thin tur. Hei bakah hian Ar In pawh damdawi hu hmangin tih thianghlim bawh tur.

Minerals Tlakchham Avanga Ar Note Leh Ar Tuilai (Layer) A Harsatna Hrang Hrang Awm Thin Te:

Minerals	Ar note natna	Ar tuilai natna
Minerals hraw (macro minerals)		
Calcium	Rickets - an ruh a kawisawi a, an bai a, an chaw ei tui lo a, an thangtha thei thin lo.	Osteomalacia (ruh mawih) - an chau a, an ke a chak lova, antui kawr a dup bakah antui tlem bawh. Artui chhungmu a tial a, thisente a awm thin a ni.
Magnesium	• Chaw an ei tlem • An than athu • Ka in an thaw • Hriatna thazam khawih (an za sek a, an tihrawl te a in pawtkhawr thin) • An thaw hlawp hlawp a, an hmul a puk a, an dak awr awr a, an thi mai thin.	• An tui tlem • Artui a zang • Artui kawr a khawng tawh lo
Phosphorus	• Rickets - an ruh a kawisawi a, an bai a, an chaw ei tui lo a, an thangtha thei thin lo, an hmul an in pehsak thin	• An tui kawr a khawng tawh lo va, an keu tha thei lova, an tui tlem bawh
Potassium	• An thangtha lo • An chak lo • An taksa a zawi a, an che thei lo • An chaw ei a tui lo	• An tui tlem • An tui kawr a khawng tawh lo
Sodium and Chloride	• Thisen volume a hniam • An than a thu • An chaw ei a tui lo • An chaw ei ang an taksa tan an hmang tangkai thei lo	• An hmul an in pehsak • An tui tlem • An hmul a tla thin
Minerals sin chi (Micro/trace minerals)		
Copper	• Hmul thalo an ngah	• An tui tlem

	• An hmul a tial thek thek • Thisen an tlachham • An ruh a pangngai lo • An kal bai thin	• Artui chhungah ar note an thi thin • An tui an keu tha thei lo • An tui a dup bawk thin
Iodine	• An thangtha lo • An awr a puar (goitre) • Hmul thalo an ngah	• Antui a keu tha thei lo • Apa chi a thi nasa
Iron	• Thisen an tlachham • An zang a • An chaw ei a tui lo • Hmul tha lo an ngah	• An tui chhungah a note an thi • An tui a keu tha lo
Manganese	• Van vadak awrin an thi a, hei hi star gazing posture an ti • An khup a bawk a, an kal tha thei thin lo. hetiang hi slipped tendon emaw perosis emaw an ti	• An tui tlem • An tui a keu tha lo • An tui kawr a pan a, a then chu a dup thin. • An tui chhunga ar note in tui a apai tam avangin an dulte alo tawlh deuh pur a, vaki hmui ang maiin an hmuia chhah a, an lu a bial a, hetiang hi chondrodystrophy an ti.
Selenium	• Pum leh awmzawn vel hnuaiah thil tui pawl hring a awm thin (exudative diathesis) • Ruh tuamtu tihrawlte a thi a, a var tial ruai thin. Cystine emaw methionine emaw leh vitamin E tlakchhamna a awm tel bawk chuan a nasa leh zual thin.	• An tui tlem • Artui chhunga ar note piansualna athlen thin
Zinc	• An thangtha lo • An tui tlem • An hmul quality a chhia • An ke a phuhlip • Ruhsei chi a ti pan a, a titawi bawk thin • An khup a vung bawk thin • An chaw ei a tuilo	• An tui tlem • An tui tan har • Ar note ah piansualna chi hrang hrang hnungzangruh kawi, ngumruh in zawm, ketin awm lo, ke lehlam nei lo te a thlen thin.

Vitamins Tlakchham Avanga Ar Note Leh Ar Tuilai (Layer) A Harsatna Hrang Hrang Awm Thin Te:

Minerals	Ar note natna	Ar tuilai natna
Hriaka zawp ral chi		
Vitamin A	• A nih dan tur anga taksa tihrawl te chet that theih loh (Ataxia) • An than a thu • An cher a, an sawngte thin (emaciation) • An mit a ro (Xerophthalmia) • An taksa pum a chak lo • An hmul a puk (ruffled feathers)	• An tui tlem • Artui chhungah ar note an thi nasa • Artui a keu tha lo.
Vitamin D ₃	• An hmul a tial • An thang tha lo • An kal tha peih lova, an hmuite, an ke tin te, an ke ruh leh an ruh dangte thelret ang maiin a nem a, hei hi ricket an ti	• An tui tlem • An tui keu tha lo • An tui kawr a pana, a thenin kawr an nei lo • Ar note an that loh avangin rawn keu chhuak turin artui kawr an rawn chuk pawp zo lo.
Vitamin E	• An awmzawn chuk tur angin an awm (crazy chick disease), an ketang an kawm a, an kar chhuak bakah an vir chui chui thin. Heng hi thluak natna encephalomalacia vang ani. • Tluak chhung cerebellum ah thisen leh tui atling thin. • An khup a bawk luau bawk thin.	• An tui a keu tha lo • Ar note artui chhungah an thi nasa
Vitamin K	• Thial chhunglam bang a pilh a, a pan tial tial thin (gizzard erosion) • Thisen a khang zung zung thei lo • Tihrawl kar a thi thin	
Vitamin B ₁ (Thiamine)	• Lung natna neiin an lung alian a, tui a pai a, an lungphu alo muang bawk thin. • An taksa a sawngte a • An taksa pum a chak lo • chaw ei tui lo • A tawpah chuan an hriatna thaam a khawih a, phungzawl ang deuhin an tlu a, an ring/nghawng a mar a, van vadak awrin an thi thin (star gazing)	• An inthlahchhawanna kawng alo sawngte tial tial thin

Vitamin B ₂ (Riboflavin)	• curled toe paralysis annei a, hetiangah hian hriatna thazam pahnih brachial leh sciatic nerve a vung a, an ke bawrchhunglamah a kawilut a, an khupin ankal avangin an kal tha peih lo • An thangtha thei lova, vun natna in a tlakbuak thin • An kua athalo vak thin	• An tui tlem • Artui chhunga ar note an than puitlin loh avangin an te hle thin • An keutha thei lo bawk
Vitamin B ₆ (Pyridoxine)	• Awmdan dangdai tak mai, leiah an lu an nght a, tum lam pawh nei lovin an tlan kual chiam a, an tal chiam thin • An thangtha thei lo • An thial chhunglam pang a pilh ral tial tial • Chaw an ei tlem • An hmul a puk thin.	• An tui tlem • A keutlem bawk
Vitamin B ₁₂ (Cyano caobalamine)	• Thisen an tlachham (anemia) • An thang thei lo • An thial chhunglam pang a pilh ral tial tial • Chaw an ei tlem • An hmul a puk thin.	• An tui a zanga • An keutha thei lova • Artui chhunga ar note piangsual a awm fo thin
Biotin	• An ke a kual a (crooked legs) • An thangtha thei lo • An ke, hmuibul leh mit kovah te vun natna a wm thin • An hmul a pangngai lo • An khup a vung (perosis) • Chaw an eitam ang hu in an thangtha lo	• An tui tlem • A keutha thei lova • A note in vaki ang maia bawngturh hmuiannei thin
Choline	• An khup a vung a, hriau hmawrtiat let thisen a awm thluah • Tha (achilles tendon) hi khup zawna ruh kak atangin a pelh chhuak thin a, he tha hi kelam thununtu anih avangin ke a pawtsawi thin. Hetianga an awm hian perosis or slipped tendon an ti • An thangtha lo hle bawk	• An tui tlem • An tui a te bawk
Folic acid	• An hmul arang thluah • An hmul quality a chhe hle bawk • An thangtha thei lo	

Niacin/Nicotinic acid	• An ke a kual (bowed leg) • An thang tha thei lo • An kua atha lo • An khup a vung • An lei leh ka chhung a vung bawk • An hmul a tha lova • An vun leh keah te natna awmin a phuhlip tuarh thin.	• An tui tlem • A keu tha thei lo • An taksa rihna an hlahh nasa hle bawk
Pantothenic acid	• An hmui kil leh ke ah te belkang ang deuh sin te te awm thluah thin • An thangtha thei lo • An hmui bul velah vun natna an nei a, an ke phah leh an ke inrina ah an vun a chat thluah bawk • An hmul a tha lo • Tui hngang ban deuh an mit atanga a chhuah reng avangin an mit vun a inchar thin.	• An tui tlem a • An keu tha theilo bawk • Artui chhungah ar note an thi nasa, heng ar note te hian tui an pai tam avangin an dup hluar thin
Vitamin C/ Ascorbic acid	• Natna an kai awlsam • Lum lutuk leh vawt lutuk an tuar thei lo	• An thlahchhawanna lam an chak lo (poor fertility) • An tui a keu tha lo • An tui kawr a pan bawk

AR CHIN THA LO LANGSAR LEH PAWIMAWH ZUAL TE

(VICES/BAD HABIT OF POULTRY)

Ar te hian chin tha lo tak tak an lo nei ve treuh mai a. A tir atanga tihrem nghal vat loh phe chu chuan alo rei hnuah tih rem a harsa in Ar vulhtu tan harsatna leh hlohna nasa . tak a thlen thin. Ar chin tha lo langsar leh pawimawh zualte ilo sawi ila:-

1. Cannibalism: Cannibalism kan tih chu Ar rual thenkhatin an awmpui Ar dang an va sual/chukrawn a, asa an eisak a, hliam natak an siamsak hi a ni a, thenkhat phe chu damchhuak zo lovin an thihpui thin. Ar mawng/ngum in chuk sak hi ar tui tam chi (layer) ah hian a awm duh bik hle a. Ar in he chinha lo hi an tih tawh chuan ar dangte pawhin an lo ching a, ar tam takin an thihphah a, Ar vulhtu tan hlohna nasa tak a thlen thin. Chuvangin Ar vulhtu ten an Ar vulhten he chin thalo hi an chin loh nan ngun takin Ar vulh te vil tur ani a, a chhan chu he chinthalo hi an chin tawh chuan a tih reh mai mai theih tawh loh ani. Ar in hliam natak an neih a, an thihpui phah emaw thihpui phah loh pawh ni se, anmahni ah hrisel lohna/damlohna dang anneih loh chuan cannibalism vang ani thin.

Cannibalism Lo Awm Chhan Tlangpuite:

- ✓ Ar In ah Ar dah tawt lutuk vang in an duh angin an che vel (exercise) thei lova, an lo nguai in he chinthalo hi an chin phah thin.
- ✓ Cannibalism hi Ar chi (breed) thenkhatah hluar bik a awm.
- ✓ Arpui tui laiin atui lian lutuk vanga atui dawn a a mawng velah hliam aneihin Ar dang a hip thin. Ar dangin thisen/tisa an lo ei tawh chuan chin dawklakah an neih phah thin.
- ✓ Ar In Protein a tlakchhamin emaw chaw an kham loh nasatin emaw an chaw ah vaimim lam pang chi a tam lutukin a awm thei bawk.
- ✓ Arginine leh methionine an tlakchhamin a awm thei bawk.
- ✓ Thenkhat chuan Ar in chi lam leh minerals an tlakchham in a awm bawk thin niin an sawi.
- ✓ Ar hmul tla nasa ah leh an taksa atanga hrik seh avanga thisen a chhuahin a wm duh bawk
- ✓ Ar insual avanga thisen a chhuahin a awm thei bawk.

A Ven Dan:

- ✓ A vendan awlsam ber leh lar ber pakhat chu Ar hmui tansak ani.
- ✓ Ar hmui tan hi manual in (nail cutter etc) hmangin emaw ar hmui tanna khawl hmangin a tansak theih a. Ar hmui chunglam hmun 3 a thena hmun khat leh a hmui hnuailam a hmawr zum lai tlem tan tur.

- ✓ Ar hmui tan hi Ar note ni 1 - kar 6 inkar a upa annih in a tan theih a. A tul dan a zirin kar 16 an nihin a tansak nawn leh theih.
- ✓ Tun hnaiah phei chuan ar tui tam chi vulh tan chuan ar hmui tan hi tih ngei ngei tur ani tawh ani.
- ✓ Ar cannibalism a inhnamhnawih zawng zawng te chu dah hran tur an ni.
- ✓ Ar inhliam te pawh dah hran a, an hliam enkawl damsak phawt tur ani.
- ✓ Margosa oil hi Ar inhliam enkawl nan atha hle.
- ✓ Ar Inah tawt lutukin dah loh tur.
- ✓ Ar chaw leh tuite an khamkhawp pek thin tur.
- ✓ Artui bawm chu hmun kilkhawr deuh, ar dangin an chim buai theih lohna deuh turah dah tur ani a, artui laia an mawng vung leh hliam palhah cannibalism a awm duh
- ✓ Artuina bula electric bulb sen dah hian harsatna tamtak a ti tlem/veng thei bawk.
- ✓ Ar chaw a sa hel pek hian a veng thei bawk a. Sa hel pek tur a awm loh chuan an chaw fish meal pek tam atha
- ✓ Vitamin, minerals leh chi te an chaw ah an mamawh ang tawk pek zel tur.
- ✓ Ar chaw a methionine pek tam hian a veng thei bawk.

2. Egg Eating (Artui Ei):

- ✓ Artui laiin anmahni tui an ei thin.
- ✓ An tui an ei hrat tawh chuan tih reh a harsa tawh hle.
- ✓ A lo awm chhan chu artui khi emaw, artui a keh palh vang emaw in an lo ei palh tawh chuan chin dawklakah an nei a, antui thalai pawh an tikeh a, an ei mai thin.
- ✓ Artui khi/ keh hi a awm chhan chu artui heng a pan emaw dup vang emaw Ar tuina bawm ah a phah a dup/tam tawk loh vangte ani thei.
- ✓ Artui bawm atanga artui lak vat loha dah reng vangte pawhin an lo ei ami thin

A Ven Dan:

- ✓ Ar artui ei hrat chu dah hran nghal tur
- ✓ Mi thiamte rawn chungin an mamawh dan azirin chinai lung leh protein an chaw ah pek tam
- ✓ Artui ei thin Ar chu Ar In cage system angah emaw antuina an tui zawha artui an chuk phak lohva lum daih thei angah dah tur
- ✓ Ar hmui tan hian a veng/titlem thei bawk

- ✓ Artuina hmun tihthim hian mahni tui ei a titem bawk
- ✓ Ar tui zawhin antui lak vat vat tur.

3. Mahni Tui Thukru (Egg Hiding) :

- ✓ Mahni tui thuhruk hi chu a tlangpuiin Ram Ar ah Arpuiin an pianpui ve ani a, kan ar vulh ang chi ah hi chuan an ching ve lem lo. Amaherawhchu, kan Ar vulh ho chhuah zalen a tlattir tawp ah hian an ching ve thin tho bawk.

A Ven Dan:

- ✓ Ar chu an tlatna hmun tur bik hung vek tur
- ✓ An tuina tur bik Ar In chhungah dahsak in an tui bawmah phuai emaw pawnchhia emaw ar/sava hmul emaw dah sak tur.

4. Pica:

- ✓ Pica chu Ar in anmahni chaw pangngai ni lo, ei tur atana siam ni lo entirnan an hmul te, an chhuat phah leh thil dangte an ei hi ani.
- ✓ Tunlai Ar In sak tha leh changkangah hi chuan a awm lem lo.
- ✓ Ar in Phosphorus tlakchham vangte emaw hrikin a tihbui vang emaw Ar In chhuat phah thar dah hian ati punlun thei.
- ✓ Ar uluk taka enkawl leh chawtha an taksa mamawh ang tur pek that hian a veng thei.