

Littafin horo na manoma don tsara kawo abubuwa da suka shiga cikin aikin noma

Da kuma kyautata kasuwancin albarkatun noma



Watan Afirilu 2008

Kungiyar kasar japan ta tsanwa albarkatu
(J-Green)

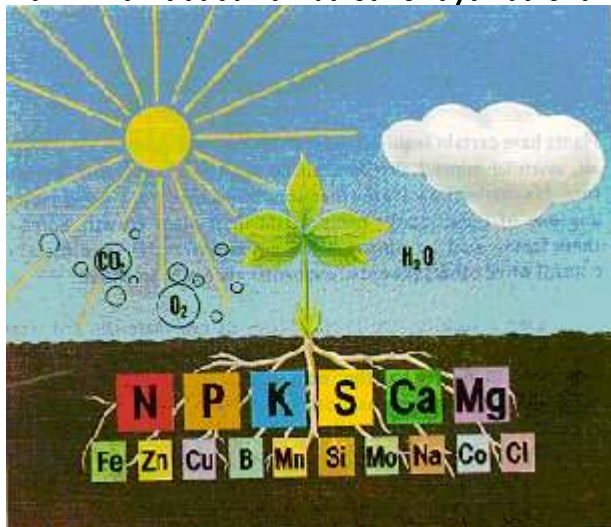
Wannan kungiyar da ake kira a faransanci Gie « Economie Ecologie pour le 21^e siècle – ECO 21 » ita ce ta wallafa wannan littafin cikin yarjejeniya da EDOS tare da kamawar Huroje intrants / FAO :

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I. Rayuwar shuka da zuzzuba ma kasa taki

1.1. Abubuwan da suke da mahimmanci ga rayuwar shuka

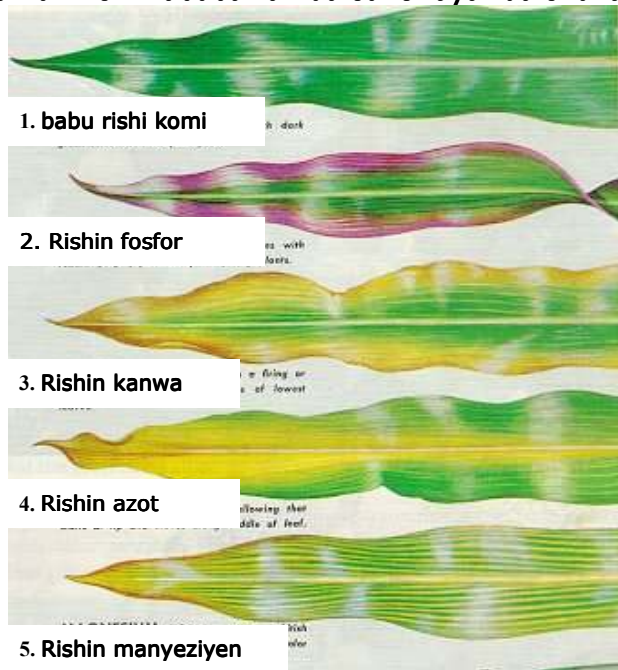
Mahimman abubuwan da suke rayar da shuka



Cikin abubuwa 6 masu mahimmanci N,P, K, S, Ca, Mg, shuka tana amfani kwarai da N, da P, da kuma K.

Amma dukan abubuwan 16 suna da amfani ga shuka, kuma ana iya kara su cikin hadin taki

Alamun rishin abubuwan da suke rayar da shuka



1.2. Anfanin N, da P, da kuma K da siffarsu.

N : Azot

1. Yana kara tsanwa
2. Yana bada tsanwayen

P : fosfor

1. Yana yada sayu
2. Yana kara taki kuma ya hamzarta shuka

K : Kanwa

1. Ta sanya shuka ta riƙe karfinta
2. Tana kara kariya game da rishin ruwa.
3. Tana kara kyawon diyan ice



N : Azot

1. Yana bajewa da sauri cikin kasa.
2. Sai an sanya shi sau da yawa
3. Yana aiki da gaugawa

P : Fosfor

1. Ba ya bajewa da sauri cikin kasa kuma yana dadewa yana aiki.
2. Ya Kamata a sanya shi tun farko
3. Ba a samun shi ko'ina cikin Nijar.

K Kanwa

1. Akoy shi ko'ina a Nijar
2. A sanya shi da farin.

1.3. Yawan taki, da guba da kuma hatsari ga yana yi

Yawan taki yana iya zama guba ga shuka kuma ya takure girmanta da yaduwarda.

Kuma yawan azot da yawan fosfor yana iya sanya ruwan gulbin kasa su zama guba koko ruwan tabki su ki shayyuwa ga mutane da dabba.

1.4. Abin da taki ya kumsa da yadda ake haɗa shi

Hanyoyi iri biyu ne na haɗa taki :

- Hanyar haɗa taki ta kimiya
- Hanyar haɗa taki ta garwaya da hannu

Hanyar haɗa taki N-P-K-iri biyu ce :

Hanyar garwayawa

Takin garwayawa yana bi ta masana'anta uku.



Taki mai azot



Taki mai fosfor



Taki mai kanwa

Sa'anna sai a garwaya su.



Kenan akwai kwayoyi iri uku da suke bamban.

Kwaya ɗaya ta N,
Kwaya ɗaya ta P,
Kwaya ɗaya ta K.

Ba wuya a yi ha'inci ga wanan irin taki.

Amma ta wannan hanyar ana iya samun dukan irin haɗin da ake so.

Misalin irin takin garwaye na Najeriya da ake samu cikin kasuwannan Nijjar.



Hanyar kimiya

Yana bi ta masa- na'anta guda.



Masana anta tana yin takin ɗa yake da N da P da kuma K cikin kowace kwaya.

Kenan kwayar taki iri ɗaya ce.

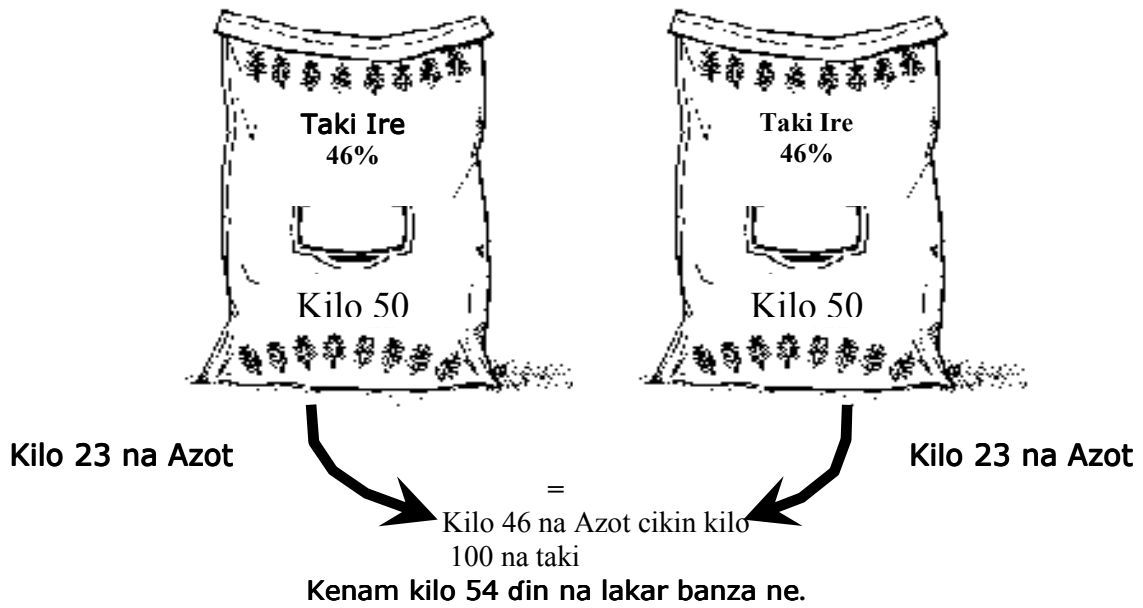
Misalin irin taki haɗin kimiya na Najeriya da ake iya samu cikin kasuwannan Nijjar



1.5. Mahimmancin yawan N, da P da kuma k dake bisa buhuwan taki.

Kashin N ko P ko kuma K cikin dari na nuna yawan waannan sinadaran cikin kilo 100, kenan, cikin buhu 2 na kilo 50.

a) Misali da Ire: **46-0-0**



Abun da yake da mahimmancin shi ne, Azot. Ba abun da ba ya da wani a cikin ɗari. Shi kuɗin buhu kaɗai ba ya da wata ma'ana.

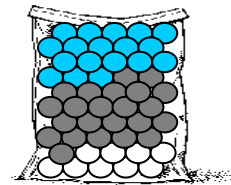
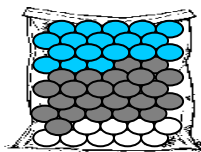
b) Misali da DAP

Bisa buhuwan DAP an rubuta : **18-46-0**

Cikin kilo 100 na takin DAP, kenan akwai :

- Kilo 18 na Azot : N
- Kilo 46 na fosfor : P
- Kilo 0 na kanwa : K
- Kilo 36 na lakar banza.

Cikin kowane buhu na kilo 50 akwai :



Kilo 8 na N (Azot) :



Kilo 23 na P (fosfor) :



Kilo 18 na lakar banza :



+

Kilo 9 na N (Azot) :



kilo 23 na P (fosfor) :



Kilo 18 na lakar banza :



=18-46-0

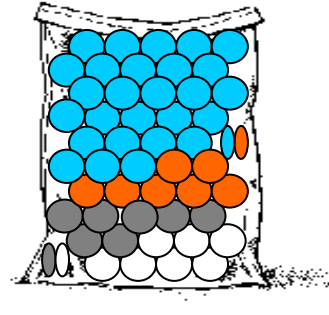
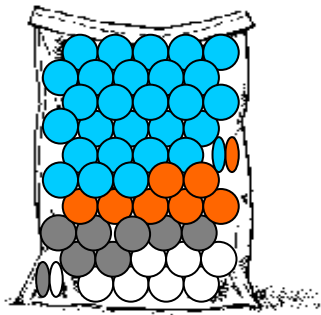
c) Misali da 15-15-15.

Bisa buhuhuwan an rubuta : **15-15-15**

Cikin kilo dari na taki, kenan akwai :

- Kilo 15 na Azot : N
- Kilo 15 na fosfor : P
- Kilo 15 na kawwa : K
- Kilo 55 na lakar banza.

Cikin kowane buhu na kilo 50 akwai :



Kilo 7 da rabe na N (Azot): ○
 Kilo 7 da rabe na P (fosfor): ●
 Kilo 7 da rabe na K (kanwa): ●
 Kilo 27 da rabe na lakar banza : ●

+

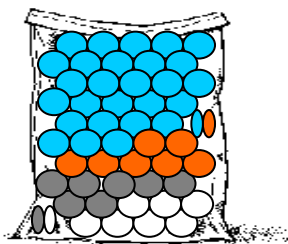
Kilo 7 da rabe na N : ○
 Kilo 7 da rabe na P (fosfor): ●
 Kilo 7 da rabe na K (kanwa): ●
 Kilo 7 da rabe na lakar banza : ●

= **15-15-15**

d) Yiyuwar ha'inci game da ingancin taki

Idan an rubuta 15-15-15 bisa buhuhuwa,

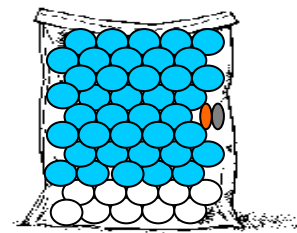
Ya kamata a samu **15-15-15** din



Cikin buhu na kilo 50 na 15- 15- 15 akwai :

Kilo 7 da rabe na N (Azot) : ●
 Kilo 7 da rabe na P (fosfor) : ●
 Kilo 7 da rabe na K (kanwa): ●
 Kilo 27 da rabe na lakar banza: ●

Ba a samu 20 1- 1, cikin an yi ha'inci.



Cikin buhu na kilo 50 na 20 – 1-1, akwai kawai :

Kilo 10 na N (Azot) : ●
 Rabin Kilo na P (fosfor) : ●
 Rabin Kilo na K (kanwa) : ●
 Kilo 39 na lakar banza : ●

Idan buhu ya kumshi **20-1-1**, yawan sinadarai masu anfani ya rage sau biyu, kenan mutun ya yi asara rabin kudinshi. Mai saida taki shi ne yake da nauyin ingancin takinshi.

1.6. Yanda ake sanya taki cikin gona

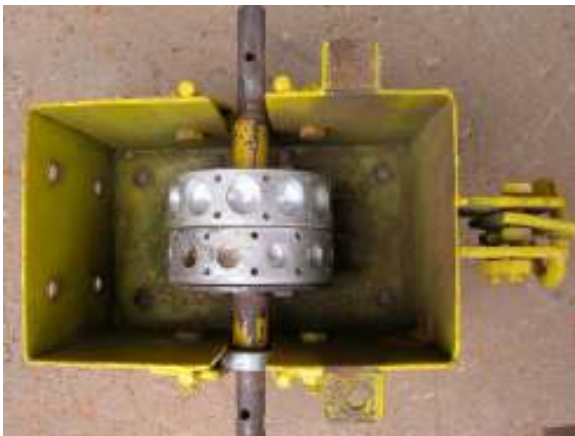
a) Watsar da taki bisa kasa

Dubara ma fi sauki ita ce ta watsar da taki bisa kasa yawancin, lokaci da hannu.

b) Watsar da taki wuri – wuri (ga taka)

Waansu Dubaru suna bada damar zuba taki inda shuka take iya kai da sauki :

- Mashin ta shuka da watsar da taki tana ba da damar sanya iri da taki da ya dace bugu daya.



Mashin ta shuka da watsar da taki

- Zuba taki cikin ramin shuka shi ne ya fi dacewa ga shipke shipken damana
- Zuba taki wuri-wuri da hannu cikin ramin shuka dubara ce ta sanya taki da iri bugu daya cikin rami.



Ya kamata a daka takin sama-sama kafin shuka



Lokacin shuka, sai a zuba takin dakakke cikin ramun bayan an sanya iri.

Da takin 15-15-15, ana sanya garam 6 duk rame; ya yi daidai da maruhin koka-kola, abun da ya kai kilo 60 na taki cikin eka guda.

Da takin DAP, ana sanya garam 2 cikin rami ; kenan ana sanya kilo 20 na taki duk eka.

Sai a ruhe ramun bayan an sanya iri da taki.



Ana kuma iya anfani da fusa'ar kwanoni 2 lokacin shuka : kwano guda na iri kuma kwano guda na taki.



Yawan taki da ya dace

| Wanda ya ba da shawarar | Taki / eka | Farashe da kuɗin CFA duk eka 1 |
|-----------------------------------|--|--------------------------------|
| PEN/INRAN | Kilo 50 TSP da kilo 50 na ire a watse | 20 000 |
| UNIVERSITE HOHENHEIM/ICRISAT/IFDC | Kilo 60 na 15-15-15, karamin auni na garam 6 cikin ramun lokacin shuka | 12 000 |
| Huroje Intrants/ICRISAT | Kilo 20 na DAP, karamin auni na garam 2 cikin rami lokacin shuka | 4 400 |





II Yaɗaɗa iri cikin gonakan koyan aikin nona

2.1. Halin yaɗa iri

An fara yaɗa iri tun 1975 da hurojen cimaka mai kwaya ta kasa (PCM). Matsaloli da yawa sun takure ci-gaban wannan aikin har suka kai ga tsaidar da aikin PCN. Cikin waɗannan matsalolin ana iya zana :

- Rishin aikin ma'aikatar da take larwai da tabbatar da iri,
- Rishin amincewar manoma da irin da ake gwada masu (inganci da farashe) ;
- Kaɗanci mutane ta fanin bincike;
- Rishin kwareya cikin dubarar talla da tattala iri ;
- Karanci da rishin tabat na ruwan sama (yawansu da lokacinsu).

2.2. Yaɗar da iri ta hanyar gonar koyo (CEP)

| | | | | | | |
|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |
| Hatsi HKP | dawa Sepon 82 | Masara | Shinkafa | Wake | Gyada | Albasa |

Yin gwaji yana sanya a zabi irin da suka fi kyau kuma da suka fi dacewa ga wurin.

▪ *Gurori*

- Karfafa isar abinci ga iyali
- Karfafa iyawar manoma da kuma waƙanda suke aiki su kaƙai
- Tsaidar da bataltalce iri na wurin da ake
- Kara karfin irin wurin da ake
- Rage kuɗin iri da aka kyautata.

▪ *Tsarin :*

- INRAN tana ba da iri na ainahi ;
- Gonar Lossa ta iri tana yin iri na tushe ;
- Wuraren iri na jahohi suna yin iri M1 da iri M2 ;
- Masu yaƙa iri ta hanyar CEP suna yin M3
- Kantunan abubuwan da suke shiga cikin noma sune masu kasuwancin.

▪ *Kebe wuri da shirya shi*

Ya kamata wurin da aka zaɓa ya zamanto mike yake, iri ɗaya ko'ina kuma bai ɗaya. Ya zamanto rairai ne inda za a yin hatsi, kuma mai laka ne idan dawa ce. Wurin shirin za a yi amfani da fusa'ar sassabe da take kare itacen da suke fitowa wurin domin a samu sararin da ake bukata. Wannan za ya yin haka :

- Itace masu girma kamar Gao : gindi 25 duk eka guda ;
- Itace madaidaita kamar Aduwa : gindi 100 duk eka guda ;
- Itace masu hakukuwa kasa kamar sabara : gindi 400 duk eka guda.



Bayan an share wurin, sai a tottone gonar don kasar ta yi tabshi.

Ga wasu abubuwa masu babban mahimmanci.:

- Ga hatsi ko dawa sai a kebe hili mai faɗin meta 150 zuwa meta 300 duk kewayen hilin yaɗar da irin don a kauyace shi da gonakkan da suke kusa ; cikin wannan hilin ana iya shibka wake ko gyada..*
- Ga wake ko gyada, sai a kebe hili mai faɗin meta 50 zuwa 100 kewayen hilin yaɗar da irin don a kauyace shi da gonakkan da suke kusa ; cikin wannan sirin ana iya shibka hatsi ko dawa.*

2.3. Larwan ingancin irin :

- Yawan tsiro,
- Rishin dauɗa,
- Yawan damshi ...



2.4. Fusa'o'in noman hatsi

- Sanya ma iri maganin kwari (thioral) : kilo 10 duk eka 1
- Kara kwayar ridi cikin ri wajen da ke akwai gawgai
- Lokacin shibka : ruwan farin masu amfani (milimita 20 ko sama da haka)
- Sarari : mita 1 ya ruɓa mita 1 kenan ya yi rami 10 000 duk eka guda
- Zuzzuba taki : karamin auni cikin ramu (a dubi littafin zuzzuba taki)
- Cira : gindi uku duk rame ga noman farin
- Gyara : noman haki idan akwai bukata.
- Sanya magani : idan an ga haddabar kwari
- Cirar shuka maras lafiya ko busassu ko wafanda ba su dace ba.



2.5. Fusa'o'in noman dawar fadama

- Yin huda kafin ruwan sama su fadi
- Sanya ma iri maganin kwari (Thioral) kilo 40 duk eka 1.
- Lokacin shibka : Ruwan farin masu amfani (milimita 20 ke fiye)
- Sarasi : mita banza da dugu 8 ya ruɓa mita banza da dugu 3 kenan ya yi ramu 42.000 duk eka guda
- Zuzzuba taki : kanaan auni cikin ramu (a dibi littafin horo na zuzzuba taki)
- Cira : gindi uku kowane rame daga kwana 15 zuwa kwana 25 bayan tashin shibka.
- Gyara : tunar kasa idan akwai bukata
- Sanya magani : sanya magani idan akwai haddabar kwari
- Cirar shuka maras lafiya ko busassu ko wafanda ba su dace ba.

2.6. Fusa'o'in noman wake

- Sanya ma iri maganin kwari (Thioral) kilo 15 duk eka guda
- Lokacin shibka : Har zuwa 15 ga watan yuli

- Sarari : mita banza da ɗugu 6 ya ruba mita banza da ɗugu 8 ga noma na iri guda, ko mita 0 da ɗuga 5 ya ruba mita 1 ga noma iri da ya wuce iri ɗaya.
- Zuzzuba taki : kilo 100 na super triple duk eka 1 ko kilo 200 na super simple duk eka guda.
- Gyara : noma idan cityawa ta fito
- Sanya magani : Idan akwai haddabar kwari.



2.7. Fusa'o'in noman gyada

- Barje kafin sabkar ruwan sama
- Sanya ma iri maganin kwari (Thioral)
- Lokacin shibka ; ruwan farin masu amfani (milimeta 20 ko fiye)
- Sarari : mita o da ɗugu 4 ya ruba mita o da ɗugu 15, abun da za ya yi ramu 166.000 duk eka ko o da dugu 5 ya ruba mita o da ɗugu 10 kenan ya yi ramu 130.000 duk eka guda.
- Zuzzuba taki : kilo 50 na super triple duk eka ko kilo 75 na super simple duk eka guda.
- Gyara : Juya kasa idan lokaci zuwa lokaci.



2.8. Ibar albarkatun gona da gyaran su


Aikin ibar albarkar gona da shanya ta da kuma sussuka ta aiki ne wanda ya kamata a yi shi cikin natsuwa.

2.9. Tabbatar da ingancin iri

Ma'aikatar gidan gona ita ce keda nawyin tabbatar da ingancin irin.













III Kasuwancin albarkatun noma

3.1. Matsalolin kudi da banzatar da albarkatun noma

| | |
|---|--|
|  | <p>Ga kaka manomi na karyar da albarkatun noma da karamin farashe.</p> <p>Idan lokacin wahala ya zo farashen waɗannan albarkatun yana karuwa da kashi 50 cikin dari.</p> |
|---|--|





3.2. Jingina : dubara ta kasuwanci mai kyau

Wannan yana ba ma manomi damar ya sami bashi idan ya bada abbakar noma tamkar jingina don ya yi wani aiki mai amfani.

| | | | |
|---|---|--|--|
|  | <p>1. Ga kaka, mambobin kungiya suna ba kungiyarsu ajiyarsu ta albarkar noma.</p> |  | <p>2. Sai a jawo kungiyar jari ta zo ta ziyarci ajiyar don ta mizanta yawan shi da inganyinshi da halin adanonshi.</p> |
|  | <p>3. Idan kungiyar jari ta amince ta tsimin, da kuma adanonshi sai kungiyoyin 2 su daidaita don a ruhe ma'adanin kuma su sanya hannu bisa yarjejeniyar su.</p> |  | <p>4. Sai kungiyoyin 2 su sa hannu bisa takardar bashi da take kayyade yawan bashin. Wannan takardar yarjejeniyar tana nuna abunda za ayi da bashin kuma da ka'idodin biyan kudin.</p> |
|  | <p>5. Bashin da kungiyar jarin ta ba kungiyar manoma ana rarraba ma mambobin kungiyar don tafiyar da ayyuka masu amfani.</p> |  | <p>6. Kowane mamba, yana tafiyar da wani aiki mai amfani da za ya sa ya iya biyan bashin har ya samu ma wata riba.</p> |
|  | <p>7. Kafin lokacin biyan bashin ya zo sai kungiyar manoma ta tsara karba kudi waja kowane manba da uwa da ruwa.</p> |  | <p>8. Idan kungiyar manoma ta karbi kudin biyan bashi (da uwa da riba) sai ta shirya zuba kudi gaba daya idan wa'adin ya kai.</p> |
|  | <p>9. Da an biya bashin baki daya sai a bude mangazar.</p> |  | <p>10. A lokacin nan manoma suna iya saida albarkar gonarsu a farashe may karfi.</p> |
|  | <p>11. Da kudin sai kungiyar manoma, ta tsara sayayya ta abubuwar noma kafin aikin noma ya tashi.</p> |  | <p>12. Sabilin jingina kasuwancin albarkar gona yana tafiya da kyau kuma'a kawo ingantacin kayan noma cikin lokaci.</p> |

3.3. Kasuwanci na wakiltar da jingina

Wannan fusa'ar tana da ma'ana ga kungiyar manoma mai jarin da za ta tsara kasuwancin albarkatun gona na mambobinta.

| | | |
|---|--|---|
|  | <p>1. Ga kaka kungiyar manoma tana sayen albarkatun gona wurin mambobin ta. Wannan yana nufin kungiyar tana da kudi.</p> | <p>Farashen</p>  |
|  | <p>3. Sai kungiya ta zamanto tana da ajiyar tsi mi da take ba dawa tamkar jingina</p> | <p>Farashen sayarwa daga baya.</p> <p>Kudin saye</p>  <p>Ribar da za a rabawa tzakanin *ungiyar da mambobi.</p> |
| <p>4. Lokacin warware bashi sai kungiyar manoma ta sayar da albarkatun gona, ta mika ma mambobi abun da aka kayyade cikin ribar saidawar. Amma ribar aiki mai yawa ta kungiyarce .</p> | | |

IV. Kawo abubuwan da suke shiga cikin aikin noma ta hanyar gamammun ododi da rarraba su cikin kantuna.

4.1. Tsarin gamammun ododi na kayan noma.

| | | | |
|--|---|---|--|
|  | <p>1. Kowace kungiyar manoma tana kididdige bukatar mambobinta game da kayan noma.</p> |  | <p>2. Tarayyar kungiya suna hada dukan bukatocin kungiyoyin da suke mamba don su game dukan ododin.</p> |
|  | | <p>3Dan kasuwar yana kawo kayan noman har cikin ma'adani na kungiya.</p> | |
|  | | <p>4. Kantin kayan noma na sayar da kayan, kudi hannu.</p> | |

V . Yin aiki da bayyanan kasuwanci

5.1. Bukatar bayyani.

Manoma suna da bukatar bayyanai na kasuwanci game da :

- a) Kasuwar kayan noma
 - Samuwarsu
 - Farashensu
 - Ingancinsu

b) Kasuwar albarkatun gona

- Wurin sayar da su
- Farashensu
- Ka'idodin inganci
- Irin shiryar da su

5.2. Tsarin gaba ɗaya na aiki da bayyani

- 1) Shigar manomi cikin kungiyar manoma
- 2) Shigar kungiya cikin wata tarayyar kungiyoyi

5.3. **BAYYANAI BISA IRI**

- Game da iri na noman damana sai a tuntubi ma'aikatar kayan noma, da larwai, da gyara da kuma ka'idodin hararakokin gona (SICCLA)
- Game da noman lambu sai a tuntubi ICRISAT.

5.4. **Bayyanai bisa magani**

Babbar ma'aikata ta kare tsirai (DPV)

Kungiyar masu saida maganin kashe kwari (ADIPHYTO).

5.5. **Bayyanai bisa kasuwanci albarkatun noma.**

- Tsarin bayyani bisa kasuwannin gida da SIMA-C
- Kasuwar abinci mai kwaya
- Hanyoyin fitar da albarkatun noma zuwa kasashen waje :
 - Kungiyar ƙan Nijar waɗanda suka kware ga fitar da wake, da aya, da ridi, da albasa da kuma tatasai (ANIPEX)
 - FCMN na hanyar kayan lambu
 - Ministan ka'idantawa da na ingatawa.