

Understanding Biotechnology

[Ateso translation]

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APOLOU NAKA AKIRO ACIE NUKA SAYANS KWAPE ITWASAMAERE KOTOMA SAYANS NAKA IBORO LUEJARETE

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Adoption in relation to a technology. Aijaun, kowai loikamunit etatai	Aitwasam ibore yenitetet yenetataunitai.	Acamun aitwasam
Allergens – Iboro luegirit akuan	Ibore yen eyauni aijulakinet naerono toma akuan.	Iboro luegirit akuan.

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Antibodies – Ikur luakuan luajokak luitijete adeka	Iketijiok adekasinei luibwaikit Lokasuban toma akuan.	Iketijiok adekasinei
Application - Ailip	Ailip acamakinio aitolot aingic arai alacun ibore kinga	Alipan
Bacteria, Fungi, virus – Ikur luegelegela ludidik noi lueyaunete adekasinei	Iboro ludidik noi luejarete lumam epedorio aanyun kakonyen bon	Ikur luegelegela ludidik noi lueyaunete adekasinei.

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Bio-fortification – Aitojok inyamat	Eipone loka aiyatakin ajokisio toma oraan.	Inyamat luepol ajokis kotoma kec.
Biofuels - Akinyet nainoka naelomuni koboro luejarete	Akinyet nainoka naerasakini alomun kanejaas iboro luejarete.	Akinyet nainoka naelomuni kanejaas iboro lumam ebositos
Biosafety – Ayuara kanejaas iboro luejarete	Aitwasam iboro luejarete koipone lo eyuara	Ayuara

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Biotechnology – Etatai kanu aitojok ejautene loka iboro luejarete.	Aitwasam iboro luejarete kanu aismamaunia/ aitojokia iboro luitolomunio.	Etatai kanu aitojok ajokis naka iboro luejarete.
Chromosome Eusi loka aijar	Eusi loibwokit edukune loka aijar.	Eusi loerai erikot loka ejautene loka aijar.
Competent Authority - Itunganan/ Erionget loejaas ka Apedor	Yen ecamakit Ekisil Aipuga	Yen ecamakit Ekisil aipuga/ yen ejaas ka aijen ngin naepol

Cartagena
Protocol on
Biosafety to the
Convention on Biological
Diversity
Aitutuket
naetolomunio
ko Cartagena
naikamunit
Ayuara kanejaas
Iboro luejarete
atupakin
Aitutuket
napolon naka
Akwapin kere
kanu Iboro
luegelegela
luejarete kakwap
kere.

Aicorakinet
nejaas Akwapin
kere eyaitai
eitolose loka
Iboro Luejarete
luetataununio
atubonor
koikoruon luka
akwapin.

Aitutuket na
Akwapin kere
naikamunit
aitolot Iboro
Luejarete
luetataununio.

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Confidential business information – Akiro nuka aiyeyea naikamunit agwelanar.	Ayeyea naepol ajokis toma akerianut.	Aiyeyea naka agwelanar, Nuka idiope ituan/erionget bon/iwadikauna kwape acobeu naka ituan idiopet bon aitolomunun
Indeterminate – Epoloi apakio kapakio kere	Ejai iyata apolo apakio kapakio kere.	

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Confined field trials – Amisirin nuigalikitai kanu aisisia	Amisirin nuitolosere aisisia iraan ka ibaren nuitikokitai tetere mam iciebore elomari kinga ke.	Amisirin Nuitolosere Aingic Nuitikokitai alomar toma kec
Conventional – Koipone loduc	Eipone loduc iswamaere iboro	Kopiten/yen epiten
Determinate – Apoloun irwan atipet	Epolouni irwan atipet bon.	

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Diagnostics – Angicun adek	Ainwak kanu aanyun arai ejai arai emamei adek	Aanyanar/aingic
Enzyme – Iboro ludidik kotoma akuan luejarete luitunyete luce aswam	Iboro luingarakitos ka aisuburikin iboro luejarete kotoma akuan aswam ajok ido katipet	Iboro luisinyikokitos iboro luejarete kakuan aswam atipet.

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Exotic - Ilongwaut	Ibore yeniyaunitai kokinga	Yenitetet yen eyaunitai kokinga kosodete ainyalakin toma
Fertilization – Aurikin		Kowai lo akiro nuka ainyal ikinyom - Ainyal kanuka aitojok alupok, - Aiyatakin inyamat/ajokis toma alupok

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Focal point - Akidingot	Itunganan arai eyapesi loedolokino loidarit aitutuketa nuidokitos akwapin kere akanin	Itunganan yenedolokino
Gene flow – Ailia naka ateker	Eipone loiswamator Lokasuban ejautene/ iponesio luka aijar aijulanar arai aikoponar.	Aurianakin naka ikinyom luka iraan

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Gene/DNA – Ikadukunon eipone	Edukune loka eipone loka aijar	Aibunget naka iboro ludidik noi luejarete kotoma akuan luesubunete ejautene loitegelikina loka iraasit arai lo itunganan
Gene release - Alacun ikadukunon eipone loitetet	Aibwakin otunga kere ibore yenitetet yen angicun ka acamakin.	Ejai kwana kanu itunga kere aitwasam.

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Genetic Engineering – Atata kanu aitojok ejautene loka ibore yen ejari.	Aijulakin iponesio luka ibore yen ejari.	Aswam naka aitojok
Germplasm – Aibunget naka ikinyom	Aibunget naka ikinyom luegelegela luka iraasit idiopet luepedorio aitwasam kanu aitojokia ka aidaria iraan.	Aibunget naka ikinyom luegelegela luka iraasit idiopet

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Grafting – Airuc	Airiamakin atutubeta nu eupanara nuka awate nuka iraan, itunga arai ityang lu eputos.	Airiamanakin/aimorikikin
Hormones/insulin – Ikitikitikok aswam kakuan	Iboro luegwetanakinete aswam naka iboro luejarete kotoma akuan ejok	Igweseta
Hybrid/Cross breeds - Ebego	Ekinyomit loeuruunitos iraan arai ityang iarei arai adepar	Iraan/ityang luitojokitai (Ebego: ibore yen ejari yen euruunitai)

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Improved - Itojokitai		Ejok adepar
Indigenous/ Landraces – Lokatutubet/ Loidila	Lokatutubet – Ejai lem ageun apengo Loidila – eipone loka iraasit yen idila akoriok aitwasam.	Yen idila arai bo yen itwasamao ageun apengo katutubet
Minerals/ vitamins	Iboro luajokak konyamat luka iraan, itunga ka ityang.	Iboro luajokak, luepolok konyamat

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Liability and redress – Apesen ka aitemokin adiakaret	Apesen – epelu lo aitemokin kotoma okisila. Aitemokin adiakaret – aitemokin aronis.	Apesen – egelit/ aitac etiai Aitemokin adiakaret – Aanyun ebe itemokin aronis.
Isolation - Agitar	Apeleikin aibwaikin nelwana kanejaas luce.	Elwana/etiakara
Offspring / progeny - luriat	Ibore yen ejari yen eurunitai	Ikoku/ ikinyom/aturio nukoi ngaren

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Organism – Ibore yenididi yen ejari	Ibore yenididi noi yen ejai aijar kotoma otyang, oraasit arai yen ejai bon yen epedori abwangun ka auriar bon.	Ibore yen ejari
Pesticides, Fertilizers, herbicides Ikee lueyarete ikur luka iraan, ikee lueraas ebolea, ikee lueyarere edoan	Ikee luitwasamao kotoma akoru iraan ka aipit ibaren.	Ikee lu akoru

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Presice/precision farming Akoru naedesiaritai toma	Eipone loka aitojok iraan/ ityang loejok adepar	Toma cut, naitebeikitai
Probiotics – Ikur luingarakitos	Ikur luejokak luisuburikitos akuan aitolot aswamisinei ke nukotoma.	Ikengarakitok
Terminate Aitanang	Kikamunite Amisirin nuigalikitai kanu aisia	Apalar/ Angetakin

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Resistance/ Tolerance – Aitiji/ Angirikit	Aitiji – naepedoritor iraasit/ityang aipikorit adekasinei, amunaario kanejaas ikur arai abilibilio ka acilicila.	Aitiji – Ikajion, aninikan, agogongon Angirikit – ikajaran
Susceptible - Etesek	Epedori iraasit arai ityang amunaar, adekakin arai aitotolikin.	Ejai oreret lo adoere toma atiokisio.

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Resistance/ Tolerance – Aitiji/ Angirikit	Angirikit – naejaatar iraasit ka aanyuneta nuka adekasinei konye kopedorite aitolomun isakan ejok karaida edeka, ipuikitos ikur arai kobilibila ka acilicila.	Aitiji – Ikajion, aninikan, agogongon Angirikit – ikajaran

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Toxin – Ekia loaronon kakuan	Ibore yen emudiari ikur luajokak luedukunitos akuan ka aijar	Epoison
Risk and safety assessment Airere eitelesit lo atiokisio ka ayuara	Airere kanu aanyun ebe erai ibore yen itolomunitai yen iriamara eiponeke ka adoketait naecamakitai kanu aitwasam koyuara.	Aitigogonget naka ayuara

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Seedless fruits Araitō nuemamete icok	Araitō nuitolomunitai komam ikiria lukiliok aurikin abeei, nuepeleikitai aitolomun kanu aicu kocuuman. Mam araitō nuemamete icok eraas nuetataunitai kanu aitojok ejautene kec.	Araitō numam eurikitai abeei nukatotokec

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Segregation Agelemara	Agelakina naka ikadukunok iponesio luka aijar kwape iswamator Lokasuban	Atiakarit
Sterile - Elai	Mam epedori aururun ikoku.	Kowai lo aur – adonge/arakan Kowai lo asegara – Emamete ikur luarokok, elai pio
Stewardship - Aidar	Aitwasam koipone lo ejok	Ipitenio luejokuka luka eyaitene.

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Therapeutic, Drugs, Vaccines Ikee luimadere, luiliko, luicuma ka ikatoi		Ikee luimukeere adekasinei
Terminator genelkadukunon yen itanangi aijar	Mam akirot na elomunit kinga na agola naengicere akiro nuka sayans	
Trait, characteristic - Ipone	Ibore yen etiakunit ejautene ka iponesio	Ibore yen ejenitere eipone

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Tissue culture – Aitemonokin itutubeta lu akuan	Aitwasam itutubet yenika ibore yen ejari auruunia iraan luipu luka eiponeke luemamei adeka katipet noi	Aitolomun iboro luejarete luipu ido katipet noi.
Varieties/cultivar - Ibegoi	Iponesio luegelegela luka iraasit idiopet yen ekorio	Iponesio

Terminology - Akirot	Meaning - Apolouke	Simplified Version Akirot naitapatanitai
Transgenic/GMO/GEM/GEO – Ibore yen etataunitai ejautene ke loka aijar	Ibore yen ejari yenididi noi kakuan Yenetataunitai kanu Aitojok ejautene loiraasit/ityang.	Iraan, ityang ka iboro luejarete ludidik noi luitojokitai iponesio kec luitebeikitai.
Unintentional release Alacakin namam epeleikitai	Alacakin koringa apak	Alacakin iboro luejarete luetataunitai kanu aitojok naerai aibucaret, namam etemokitai.

Apodokit kanu Ateker, Akerianut ka iponesio luajokak luerucokina ka ikorian lutataunurio ko Uganda

1 Nuetupitai eyaitai ikorian luetataunitai ko Uganda

- Ejaas Uganda ka Nutupitono Kakwapuwok kere kanu ayaitor aingic naikamunit ikorian luetataunio ageun kokaru 1996. Ejai aiwadikaet naiteteunitai kokaru 2011 toma olago <https://www.uncst.go.ug/national-biosafety-committee/>.
- Ejai Ekomiiti Loakwapuwok Loeyait nuka Ayuara naka iboro luejarete aanyun ebe erimaarit yen itolomuni ikorian luetatauni nutupitono nuitutubitai itolosete aingic kec.
- Ekisil (2018) lomam ber itutubitai kanu Aipugat

Atataunio naka Iboro Luejarete nes itetemit iponesio loka Eiswamae ka Ikisila luka apugan kanu aitolot aingic naka etatai loka iboro luejarete, aitolot iboro luetataunio kotoma agwelanar, alacunio ka aitwasamao kec.

2 Agogong naepedoritere aitolot etatai loka aitojok iboro luejarete ko Uganda

- Adau Uganda ainakin apedor kanu iboro luitwasama luipudai kanu etatai lo aitojok iboro luejarete, kwape nat agolaik nuitolosere aingic Ayuara Nadoketait II, itogoi luigaliunitere ikorion (*screen houses*), ka amisirin nuigaliunitai kanu ikorion bon luengicio.
- Ejai agogong naka ipiriotin luka sayans luedeparitos 300 luitutuoritai kadoketa nukokuju kojaas ka apirianuto nuipudai kanu aingic naikamunit etatai lo aitojok iboro luejarete, aipugat, aitolot ka aiwe akiro ka ayuara naka iboro luejarete.

- Aingic naetolosete ipiriotin luko Uganda luekwetaritos akwapin kere aswam kec naikamunit etatai loka aitojok iboro luejarete nes etolosi ko Uganda adaun ikaru 15 ka adepar. Uganda nes kwapekwana ejaas ka enaaba loikeara ko Africa kere loka ikorion lu eutai aingic etatai loka aitojok kesi. Imoriaritos ikorion lu etaget, emuogo, ekirididi, acok ka emuceri. (UBIC, 2019).

3 Agogong naepedoritere aipugat ayuara naka iboro luejarete ko Uganda

- Etutuor ipiriotin luka sayans luedeparitos 60 koriongeta luegelegela kakiro nuka airere ereret loatiokisio nuaticepak elomunete ka aitolosio naka akiro nuetukunio (Zawedde et al. 2018).
- Ejaas da aiboisio ka icuuman luipudai noi (Zawedde et al. 2018).
- Apugan naka Uganda, ageun okaru 1996, nes

egang adukununio naka eipone loka akwap wok kere loitwasamao kanu aricitor ayuara naka iboro luejarete, kimoriariete adoketa nuetupitai kanu aitutub kesi (Zawedde *ka luce*, 2018).

4 Ainyalanakin naka ikiria lueraas ikinyom lukiliok luka ikorion luetataunitai ka ikiria lueraas abeei nuka ikorion lumam etataunitai luejaas amisirin nukoidunyet.

- Airabet Napolon naka Uganda nes araas 27 olap Loitomonetadiop 2018 abu kitutub ekisil lomam ber itogogongitai kanu aipuga aingic, alacunio ka agwelanario naka iboro luejarete luetataununio kanu aitojok ejautene kec.
- Ekisil lo nes esipokit ka aibwaikin oriongeta eipone loingarakinere aitolomunio naeyuara, aijulario, ka aitwasamao naka iboro luejarete

luetataununio.

- Imarunit da ekisil lo aitisilanareta kanu ikadiakanarak luerucokina ka akiro nuka etatai loka iboro luejarete.

5 Iponesio lu agwaun emusago ka aitemokin aronis

- Imarunit ekisil lo aitisilaanareta kanu ikadiakarak kotoma Atutubeta Nuka Agwaun Emusago, Adiakanareta ka aitisilanareta, ka Aijuliraeta.

6. Aiwadik apapulai nueburere ka eipone loebeitor aswam kesi

- Einakini aiwadik akiro kuju apapulai nueburere iboro iketwasamak aijen naitwasamaete kesi aseunia nuekotos.
- Icorakit ekisil lo ebe ekot kojaas aiwadikaeta/ akiro nuejenunere ibore ngin ejok kuju abureta.
- Ejaun Erionget Loijaikitai apedor aitolomun nutupitono nuecaete iwadikao akiro kuju naka

abureta naka Iboro Luejarete Luetataunitai kanu aitojok ejautene kec.

7. Eboliiasi ipiriotin luka sayans bala eraas Lokasuban arai bo eutas aitolitol ejautene loka isuban luka Lokasuban kakwap

- Abu Lokasuban koinak etunganan apedor ayait luce iboro kere luesubit Ngesi. Kotoma Obaibuli (Ageun 1:26), Kobala Lokasuban ebe, “Kasubutu itunganan kotoma aputowok, asimawok: kainakisi kes ayait lukecor, ka akweny nuka apak, ka ibaren, ka akwap kere, ka nginibore kere yen eliat kakwap.”

8 Ajjim arai apianis naka inyammat luetataunitai

- Eputos ajjim naka inyammat luetataunitai ka ipaupakec lupoduc/einono/luka atutubeta, arai caat ajai apeleikinet aijulakin eipone loka ajjim kec.

- Ejaas aisisiaeta nui pu nuetogogongoto ebe eputos eipone loka iboro (*chemicals*) luejaas toma okorion luetataunitai ka loka ngul luejaas toma okorion luduc lumam etataunitai.
- Karaida itolomuni eipone loka iboro (*chemicals*) luejaas toma eipone loka ajijim naka inyamat, elomuni aijulakinakin naepol toma ajijim kotoma aijulanakin naka apakio nuka akoru kotupitete etepe loka edou, kotoma aputosia nuka ikinyom kere, kacut aitetus naka inyamat kangul akaul na alemunio komisiri (GMO Answers, 2015).

9 Edumune ka apatan naka ebee loka ikinyom ka iboro icie luirao luetataunitai

- Ejaasi Uganda ka Ekisil loekaru 2006 Loeyaitere Ikorion ka Ikinyom loipugat adoketa nutupitono kanu alacun eipone loka ikinyom, aitolomunio naka ikinyom, eipone lo aitogogong ajokis naka

adoketait naka ikinyom ka aiwadikaun kec.

- Ejaas ikaapunin adepar 30 luiwadikauna ko Uganda kanu aitolot aswam ka agwelanar ikinyom luka ikorion luegelegela.
- Ajokis naka ikinyom luetataunitai kanu aitojok ejautene kec nes itutubi ebee loegwelarere kesi, konye emunoi ebe epedorete itunga aitac ido enyakuni ameda. Eipone loejaar esokoni nes itutubi ibeein luka ikinyom.
- Kanu ikorion luirai akito arai isus kec, kwape emuogo ka etaget, ka ikorion lueurianakinos ikiria kec lukiliok ka lungor bonik, kwape esoya ka emuceri, epedorete akoriok ainyogokin aira ikinyom/isus/akito ngupengun arai idaritai kesi ejok kosalitas ojautene lo elai loebeit kesi.

10 Ayangar ikorion luetataunitai agwelanareta

- Kakiro kere, eputos iboro luejarete luetataunitai

ka ipaupakec lupoduc lumam etataunitai.

- Ejaas kwape kwana iboro luejarete luetataunitai kanu aitojok ejautene kec toma agwelanareta nuka akwapin kere, aimoriarit oidukai luapolok ko Uganda. Okaru 2017, akwapin 67 kes etwasamatos ikorion luetataunitai, aimoriarit akwapin nuakoriete ikorion luetataunitai ka akwapin numam akoriete nu ejai apedor aipugat aijaununio ka aitwasamao naka ikorion luetataunitai kwape inyamat, luitanere luce ka aiswamao kec (ISAAA, 2018).

11 Ajokis naka ikorion luetataunitai ko Uganda. Kipuda oni kesi?

- Erai akoru egur loka akerianut naka Uganda, na einakit itunga adepar 70 kangul 100 aswamisinei ido nes itolomunit etiai loka iboro loedeparitos 57 kangul 100 luegwelanario kinga naka akwap wok.

- Atata ikorion kanu aitojok ejautene kec nes ijaikit arereng naka aitolomunun ikorion luingarakitos aitemonokin acie kotoma ainingosia nuetioko nuetereikina ka akoriok/ikanyamak, aimoriarit adekasinei, akamu, edoan, aikidiokut naka iboro lueraas inyamat, ka acie da.

Koipone kalo, epedorete akoriok aitidisiar igaraman luka apiai luelomunitos kotoma aitwasam ikee kanu akoru, aitac eswamak ido epote ikanyamak adumun inyamat luejokuka noi arai aimedaun kanejaas iboro icie koraan kalu, kwape nat amamus araitoit naenyaritai *apol (apple)* aimugeikin, esoya loemamei atarion kotoma ke arai ikorion arai ibaren luelingakinete akonore.

Ayuara ka Apod nuikamunitos ejautene loka isuban luka Lokasuban korucokina ka Ikorion luetataunitai ko Uganda

1 Ayuara naka inyamat luetataunitai kanu itunga ainyam.

- Eyuara inyamat luetataunitai naarai itoritere kesi toma ainwakio ka airereo kodoco kanu ayuara.
- Adautu apak na eoj adepar ikar 20 enyamio kakwapin kere komam adio ationis naelimoritai naeyaunitos kesi.
- Icie konyamat luetataunitai luejenas kes imoriaritos esoya lo America (USA) loemamei atarion, epapali lo akwapin nuka Hawaii ka Phillipines loitikokini ikur

(virus), ebirinyanya lo Bangladesh loemwangit ikur luka iraan, Rapeseed kanuka akinyet naka canola kotoma Canada, agaria nuka salmon nuepoloete atipet noi ko USA, ekirididi loka Bt loikanyi akamu ka loka Round-up atipet ko South Africa (ISAAA, 2017, FAO, WHO)

2 **Ajijim arai apianus naka inyamat luetataunitai**

- Irwan ipu idila itunga ayangarit inyamat luetataunitai erono bala luepiaka ido koburok.
- Erai na aiyuunit naemamei abwoetai naarai itwasamao etatai loka inyamat kanu asipokin eitolomunune loka ikorion komam aijulakin aures, ajijim ka ailungulunga na ibore kangin.
- Eputos ajijim naka inyamat luetataunitai ka ipaup kec luageunere atataunia kesi, kilema arai kerai apeleikinet aijulakin ajijim ke.

3 **Atwaniar iboro luejarete kotoma akwap.**

- Arai etatao inyamat icie arai mam, konye iyata atwaniar iboro luejarete kakwap naarai aridakin ejautene loka etepe loka edou ka ikwamin, ikur luka iraan, adekasinei ka akoru. Keja ngun da, akoru ikorion luengirikitos akamu nes itidisiari aitwasamao naepol naka akipi kanu aicokicokia iraan kamisirin ibore da yen ematari akipi nuipu kosama ka aitidisiar akipi nueleleete kocileta. Ikorion da luetataunitai luengirikitos ikur ka luengirikitos aijar komam isikio ikee kes da itidisiaritos adoketait na amunaar naka ejautene loka alupok ka ikwamin naitwasamaere ikee lueraas ebolea, ka ikee luisikio kanu aiyar ikur ka edoan.
- Aingic naka aisia naetolositai kakwap nako Denmark nes abu kisisiau ebe ajaatatar amusiri na eraitai ikorion luetataunitai ka edoan loapol irwan aarei kitiiriani ka amusiri na eraitai ikorion lupo

duc, ido epu ikur, asimokokon ka luce iporiporin adepar, kanuka ngun ejaikit do inyamat luyatakina nejaas ikweny adepar amusiri na eraitai ikorion lupoduc, ibore yen itodunit bala edit ationis na eyauni akoru ikorion luetataunitai adepar na eyauni akoru ikorion lupoduc. (IUCN, 2007).

- Asipoki apugan aingadisias nuka ikinyom luka ikorion ka ibaren kere luetataunitai ka lumam etataunitai kanu aanyun ebe idaritai ikinyom luka ikorion ka ibaren lumojong luitwasamaete itunga ageun apengo kolo toni mwaru naejaunor eipud kesi.

4 Ainyalanakin naka ikiria lueraas ikinyom lukiliok luka ikorion luetataunitai ka ikiria lueraas abeei nuka ikorion lumam etataunitai luejaas amisirin nukoidunyet.

- Ainyalanakin naka ikiria (*pollen*) lueraas ikinyom

lueurianakinete ikiria lueraas abeei nuka ikorion luegelegela nes erai ibore yen iswama duc koipone loiswamator Lokasuban iboro ido iswama kanejaas ikorion kwape nat ekirididi loda duc inyalanakinis ikiria lu kwape ejaar ejautene loiswamator Lokasuban kesi. Mam nu iswamas kotoma okorion icie kwape nat emuceri, etaget, emuogo, alos, ka emaroge.

- Mam apugan ecamakini aterunio toma ojautene loka isuban luka Lokasuban naka iboro luejarete luetataunitai lueyaunete atiokisio nueroko nejaas luce ikorion. Adaun aitemokin akirot naka ikorion luetataunitai aimor atutubet ka luce ikorion koipone lo atiakatiak ikorion luekorio kotoma atutubeta nuka akwap wok, aticepak eponio aanyun inonosio da luka akoru napo duc luejai apirianut naejok toma kotupitete nuitojokitai kotoma atutubeta nuegelegela.

- Ekonsitutusion wok, loerai ekisil loepol kakere kakwap wok, nes kotoma Atutubet 50 ijaikit idiotunganan kere apedor naka ayangar angurian ka adumun aitemokinio naka anguurian ke kadieketa nuka ikisila arai iyuunit ngesi ebe ebilitai ailajaara arai apedorike adio kere.

5 Aitikitik etatai loka ikinyom kotoma akwapin kere

- Mam cut ekotoi abuikin akoriok wok agwela arai adumun ikinyom luka ediopone kere ido adau apugan ikaru luipu noi einakit akoriok apedor naedolit aseun ikinyom kec luka idio ikorion luekotos kesi.
- Erionget Loengici Akiro nuka Akoru Kakwap wok kere (*National Agricultural Research Organisation*) nes adau ikaru 22 luatuboros elacunenei iponesio 1,000 luka iraan luegelegela kanuka ikakoriok ido iyatakit aitolot aingic napo duc kanuka ikakoriok.

- Ejaas duc akoriok ka apedor aingadanakin ikinyom kec kanu aitwasam apakio nuka akoru nuetupakinete koingaren ido mam esayans loka atata ejautene loka iboro luejarete kotoma okinyom imikit aingadao naka ikinyom. Apirianut naka ikinyom luetataunitai nes duc itojokit ti agwelenen ikinyom luitetiak ngolikaru.

6 Epote ikorion luetataunitai amunaar ejuatene loka luce iboro ludidik luejarete kakwap

- Eringa kelacuna ikorion luetataunitai kinga, itolosio ber airere kesi kanu ajenun ayuara kec tetere ajenun nueroko arai nuejokuka nuiswamaikinet kesi luce iboro luejarete, kacut ngul luejaas toma atutubet naejaunos kesi.
- Aitwasamao naka ikorion luetataunitai luengirikitos ikur nes etidisia aitwasamao naka ikee luisikio

kanu aaranar ikur luka iraan, ainaki do na ikur ipuakaros kotoma amisirin nuekorikital ikorion luetataunitai (Lu *ka luce*, 2012b)

- Kanu akoru naebusi bon, ejok noi aitwasam eipone loitikitikere ikur luka iraan loimoriarit kere ido eyuarit noi ejautene loka isuban luka Lokasuban.

7 Nuiswamaiknete ikorion lutatauna alupok

- Mam ikorion luetataunitai eyaunete adiotionis naepol toma angaleu naka alupok, konye iboro luikamunitos ejautene loka isuban luka Lokasuban, kwape nat aijulanakin naka etepe loka edou ka ekuse loka ikwamin, kes duc eyaunenete aijulanakineta toma ojautene loka angaleu naka alupok.
- Arai ekorikin iraan luengirikitos edoan, isinyikokinete ayuario naka aidat alupok naarai esalakinete alupok eminaikina ido iswamaete atutubeta nuka ikorion

nuideunos komisiri kwape inya lueburitos ainat, ibore da itidisiari aleleanario ka akutanario naka alupok, ingadete ainat naka alupok ka kesi aibos kosodete aiyatakin araun ebolea kotoma alupok. (ISAAA, Pocket K 57, 2018)

- Ageun okaru 1996, etidisiari akoriok ikorion luetataunitai aitwasamao naka ikee lu eyarete ikur luka iraan kede 6.3 kangul 100 arai adepar ikiloi imilionin 172.5 nada abu koyau aitidisiario kere naka amunaario na ajai toma ojautene loka isuban luka Lokasuban kede 14 kangul 100. (ISAAA, Pocket K. No. 5, 2005).

8 Ikorion luetataunitai kes ainakisi akwap kere amwaniar noi

- Itidisiaritos ikorion luetataunitai aitwasamao naka ikee luejaas ka ikwamin lueyaunete amwanis, kwape nat *carbon*, *fluorine* ka *chlorine*; apolouke itidisiari

na abukunun naka ikwamin kalu toma okwamin luka atutubet.

- Kokaru 2015, ilatirin ibilionin 58.9 luka ekwam loka *carbon dioxide* loebukunun toma okwamin luka akwap kes aponi kitidisiarai koipone loka aidat naeyuarit alupok kosodete apedor aitidisiar aitwasamao naka akinyet nainoka koipone loka aitwasam ikorion luetataunitai. Eriakas na bala alemar nepetai amotokan imilionin 12 korotin adaun ekaru ediopet (*GMO Answers, 2018*)

9 Ajokis naka ikorion luetataunitai ko Uganda. Kipuda oni kesi?

- Erai akoru egur loka akerianut naka Uganda, na einakit itunga adepar 70 kangul 100 aswamisinei ido nes itolomunit etiai loka iboro loedeparit 57 kangul 100 luegwelanario kinga naka akwap wok.
- Atata ikorion nes ijaikit arereng naka aitolomun

ikorion luingarakitos aitemonokin acie kotoma ainingosia nuetioko nuetereikina ka akoriok/ ikanyamak, aimoriarit adekasinei, akamu, edoan, aikidiokut naka iboro lueraas inyamat, ka acie da.

- Koipone kalo, epedorete akoriok aitidisiar igaraman luka apiai luelomunitos kotoma aitwasam ikee kanu akoru, aitac eswamak ido epote ikanyamak adumun inyamat luejokuka noi arai aimedaun kanejaas iboro icie koraan kalu, kwape nat amamus araitoit naenyaritai *apol* (*apple*) aimugeikin, esoya loemamei atarion kotoma ke arai ikorion arai ibaren luelingakinete aicat apoloor.





Notes

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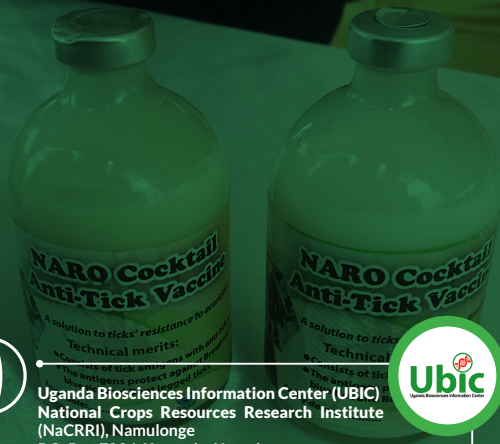
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Notes

Background Photo: Genetically engineered anti-tick vaccine developed by NARO



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