



Ebijaguzo ebye myaaka 20 bukya bimera eby'embala biyingira ettunzi ly'ensi yonna: okuva mu 1996 okutuuka mu 2015.

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Obukakafu kumi obwenkukunala obukwata ku bimera eby'embala engunje mu myaaka 20 egyasooka, 1996 okutuuka mu 2015.

Obukakafu obusooka. mu gwe 2015 lwe gyawera emyaaka 20 mu kuganja kwe ebimera eby'embala mu katale . Obungi bwe nnimiro obuwumbi bubiri obw'ebimera eby'embala engunje obutabangawo, bw'ogeraageranya n'omugatte gwe ttaka lya us lyonna awamu nga olikubisizaamu emirundi ebiri (obuwerera ddala obukadde bwa yiika 937) bwalimwa bulungi ensi eziwera 28 mu nsi yonna buli mwaaka mu bbanga erye myaaka 20 okuva 1996 okutuuka 2015; amagoba abalimi gebaafuna mu myaaka egyo, 1996 okutuuka 2015, ekitono enyo gateeberezebwa okuba nga gaawera obuwumbi 150 obwa doola. Abalimi abawererera ddala obukadde 18,bano nga batera okwewala ebyo ebisobola okubafiiriza, bagobolola buli mwaaka, ekyewunyisa 90% bano baali balimi banfuna mpola abo mu mawanga agakyaakula.

Obukakafu obwo kubiri. Entumbuka mu kwettanira enkozessa y'ebimera bino mu myaaka 20 egyasooka. Oluvanyuma lwe nkulakulana eye njawulo eye myaaka 19 egyomuddiringanwa okuva mu 1996 okutuuka mu 2014 obungi bwa hekiteya ze birime eby'embala engunje zakoona obukadde 181.5 mu 2014, bwogerageranya no bukadde 179.7 mu 2015, kuno kuba kuserebako katono akatundu 1% kokka wakati we myaaka 2014 ne 2015. Ensi ezimu zayongera ku misiri gyaazo wabula endala nezikendeeza ku hekiteya ze nnimiro olwensonga nti ebbeeyi ye birime yali eggude. Obungi bwa hekiteya zino busuubirwa okuddayo okulinyanya nga ebbeeyi y'ebimera erongoose. Ennimiro ze bimera eby'embala engunje mu nsi yonna zeyongerako nezikubisaamu emirundi 100 miramba okuva ku kakadde 1.7 aka hekiteya mu 1996, okutuuka ku bukadde 179.7 mu 2015, ekifuula enkozessa y'ebimera bino tekinologiya asinga okwettanirwa mu nsangi zino.

Obukakafu obwokusatu kati emyaaka ena egy'omudiringanwa nga ensi ezikyaakula zongera okusiga ebimera ebyembala. Mu mwaaka gwe 2015, abalimi bomu latin america, asia na africa okutwaalira awamu balima hekiteya z'ennimiro obukadde 97.1 ku bukadde 179.7 obwalimwa ensi yonna (wano geraageranya ne bitundu 53% ebyalimwa mu 2014); embeera eno erabika okweyongera mu maaso. Ku mawanga 28 agaalima ebimera ebyembala engunje mu 2015, 20 agasinga gaali ago agakyaakula ate omunaana negaba ago agaakula edda.

Obukakafu obwokuna . Ebimera ebye ensigo engattirire byasakaatira ebitundu 33% ku hekiteya ze nnimiro obukadde 179.7 obulimwa munsu yona awamu. Endyo engattirire zettanirwa nyo abalimi be bimera eby'embala engunje ebisatu ebisinga. Ekika kino kyeyongera okubuna okuva

ku hekiteya obukadde 51.4 mu 2014 okutuuka ku 58.5 mu 2015-kwe kweyongerako mubungi bwa hekiteya zona kwe zirimwa kwa bukadde 7.1 ekyenkanankana ne bitundi 14%.

amawanga 14 gasiga ebimera eby'embala engunje engattirire ezebika ebibiri n'okususaawo mu 2015, nga 11 ku ago mawanga agakyaakula. Vietnam yasiga kasooli omugattirire owekika kya bt/ht nga ekimera kyaayo ekye mbala engunje ekisoose mu 2015.

Obukakafu obwokutaano . Ebimu ku bikulu mu nsi ezikyaakula mu 2015. Latin america yeyalima emisiri egisinga obunene, nga brazil yeyakulembera neddirirwa argentina. Mu asia, vietnam yasiga ensigo ezembala omulundi gwaayo ogusooka, mu bangladesh obukulembeze nebusamba okusiga biringanya owe kika kya bt era nesa essubi mu muceere ogwe kika kya golden, lumonde owe mbala engunje ne ppamba nga ebimu ku birubirirwa byaayo mu tekenologiya we birime eby'embala engunje. Filipino erimye bulungi era negoba mu kasooli ow'embala engunje okumala emyaaka 13 era ejjulidde n'ensala ya kooti ensukulumu ku bimera eby'embala engunje so nga yo indonesia eri kumpi kusalawo ku nima ne nkozesa ye bikajjo eby'embala engunje ebigumira ekyeeya bye begunjirawo bo keniyini. China yeyongedde okuganyulwa mu ppamba owe kika kya bt (doola obuwumbi 18 okuva mu 1997 okutuuka mu 2014) nga ekyenkukunala chemchina yalamuzizza kkampuni ya syngenta ku buwumbi bwa doola 43. Mu 2015, buyindi yensi ennimi ya ppamba ensaale muni yonna eganyuddwa enyo mu ppamba ono –amagoba gateeberezebwa okuwera obuwumbi 18 okuva mu 2002 okutuuka mu 2014.

Africa yagenda mu maaso wadde nga ekyeeya kyakuba south africa ekyaviiramu okukendeera kwe nnimiro ezaali zisuubirwa okulimwa kwa hekiteya 700,000 mu 2015- kwe kukendera kwa bitundi 23%. Kino kyongera okukaatiriza akabi dekabuusa ake kyeeya mu africa wabula ekyomukisa kiri nti kasooli owe kika kya wema ow'embala engunje agumira ekyeeya ajja kussibwa ku katale mu 2017. Sudan yayongeza ku nnimiro zaayo eza ppamba owe kika kya bt ebitundu 30% obwa hekiteya okutuuka ku hekiteya 120,000 mu 2015 wabula nga yo burkina faso ensonga ezenjawulo eziwerako zagirobera okwongeza ku bungu bwa hekiteya ze nnimiro zaayo. Ekikulu kiri nti mu 2015, ensi 8 eza africa zagezesa ensigo eziyamba abalimi ab'afrika banfuna mpola mu masamba nga lino daala eridirira erisembayo mu bisaanizo ebyetaagisa okutuukiriza okufuna olukusa oluyisa enkozesa y'ensigo zino ez'embala engunje.

Obukakafu obwo mukaaga. ebikulu ebigenda mu maaso mu united states (us) mu 2015.

Waliwo enkulakulana buli wona nga muno mwe muli bino: Okufuna olukusa no kussibwa ku katale okwe bimera ebipya ebyembala nga obumonde bwe kika kya innate ne bibala bya appo ebye kika kya arctic; okussibwa ku katale okwe kimera ekisooka ekyenjawulo ekye kika kya su canola; Okukiririzaawo emmere ye bisoro engunje eye kika kya gm salmon okuliibwa abantu; N'okweyongera kw'enkozesa ya r&d mu tekinologiya ow'amaanyi amanyiddwa nga crispr ; Okweyunira okungi okw'enkozesa ya kasooli agumira ekyeeya (laba wansi wano). dow ne dupont begatta nebakola dowdupont.

Obukakafu obwo musanvu Okweyongera kw'enkozessa ya kasooli agumira ekyeeya alimwa mu united states (US). Kasooli owembala owe kika kya droughtgard eyasooka okulimwa mu 2013 mu us yeyongera emirundi 15 okuva ku 50,000 eza hekiteya mu 2013 okutuuka hekiteya 810,000 mu

2015 ekyoleka obumattivu bwa balimi. Enkola yemu egabiriddwaayo eri omukago ogugatta gavumenti ne ba nnaasiwamukange emanyiddwa nga wema (ekwaata ku kasooli akekereza amazzi), erubirira okutuusa mu budde kasooli agumira ekyeeya mu nsi ezimu eza africa nga 2017.

Obukakafu obwo munaana. Embeera ye bimera ebye mbala mu european union (EU) Ensi era zezimu ettaano zagenda mu maaso okulima hekiteya 116,870 eza kasooli owe kika kya bt,kwe kuka kwa bitundu 18% mu 2014. Hekiteya zakendeera mu buli nsi olwe nsonga ezenjawulo, gamba nga kasooli omutono eyalimwa, obutabaawo bisikiriza balimi no buzibu bwokufuna no kutuusa obubaka bw'ekyo ekigenda mu maaso.

Obukakafu obwo mwenda. Amagoba agava mu bimera ebyembala. Okwekeneenya okusukulumu okwebyaava mu byokunoonyereza okwengeri eziwera e kikumi mu ana mu musanvu (147) okumala emyaaka 20 egiyise kwazuula nti okutwaalira awamu enkola eyokozesa tekinologiya we birime eby'embala engunje yakendeeza ku bwetaavu ne nkozesa ye ddagala erikozesebwa mu kufuyiira ebimera okutta ebiwuka ebitundu 37%. Yatumbula amakungula ebitundu 22%, era neyongera ku magoba go mulimi ebitundu 68% (quaim et al,2014). Ebyazuulwa bino biwagirwa ebirala ebyaava mu kunonyereza okuva mu kunoonyereza kwensi yonna (brookes at al,2015). Okuva mu 1996 okutuuka mu 2014, ebimera eby'embala engunje byayamba ku: Kuleetawo obungi bw' emmere emala, Butonde obw'enkalakalira ne mbeera y'obudde, nga bwongera ku birime ebirimwa ebibaliirwaamu obuwumbi bwa doola 150; Kutondawo embeera yensi n'obutonde ennuungi nga bukendeeza kilogram obukadde 584 obweddagala eryandifuyiddwa ebimera; mu 2014 gwokka omukka gwa co2 ogufulumizibwa gwakendeebwa kilogramu obuwumbi 27 ekigeraageranyizibwa n'okujja emmotoka obukadde 12 ku nguudo okumala ebbanga lya mwaaka mulamba; Kukutaasa obutonde bwensi obwa hekiteya ze ttaka obukadde 152 okuva mu 1996 okutuuka mu 2014; Era byayamba okutaasa ku bwaavu mu balimi obukadde 16.5 banfuna mpola namaka gaabwe abawerera ddala obukadde 65 nga abamu ku abo be basinga obwaavu mu nsi yonna. ebimera ebyembala byetaagisa naye ssi kerenda erivumula buli kimu– kikyetaagisa okugoberera ennima ennuungi nga okukyuusa kyuusa mu kulima ebimera ebyebika ebyenjawulo mu nnimiro buli kiseera n'okukozesa nkola eziyamba ebimera okusobola okugumira endwadde ne nkyuuka kyuuka mu mbeera yo budde. Bino byabuwaze mu nnima ye birime eby'embala nga bwe kiri mu birime ebye nnono.

Obukakafu obwe kkumi. Essuubi. Ebitundu bibiri bisaanidde okwekebejjebwa. Okusookera ddala obujjumbizi obwa waggulu (90% okutuuka ku 100%) obweyoleka mu butale bwe bimera eby'embala engunje ennaku zino tebuwa mwaaganya gwa kugaziwa. Wabula waliwo essuubi n' obusobozi obwenkalakalira obweyoleka munsu endala empya obuli mu bimera ebimu nga kasooli owe mbala engunje nga busuubirwamu hekiteya obukadde 100 mu nsi yonna, hekiteya 60 mu asia (obukadde 35 mu china yokka), n'obukadde 35 obwa hekiteya mu africa. Ekyokubiri, waliwo ebiginje ebisoboka 85 ebipyamba ebiri mu nteekateeka nga kati biri mu kugezesebwa mu masamba nga lino ddaala eridirira. Eribulayo mu kufuna olukusa. Bino birimu kasooli omugunje eyajjibwa munkola ya wema asuubirwa okufulumizibwa mu africa mu 2017, omuceere ogwe kika kya golden mu asia ne bitooke ebiginje awamu ne kawo ataliibwa biwuka nga bino byoleeka essuubi mu africa. Enkolagana wakati we bitongole bya gavumenti ne bya bannasiwamukange esobozesezza okukulakulanya

n'okutuusa ebigunje ebyo ebifunye olukusa ku balimi . Ekyokusatu enkola empya eye bimera ebigunje enongoosemu eye kika kya genome yandiba enkulakulana eyenkukunala ey'omulembe esongeddwaamu ba kakensa b'okunonyereza kwa magezi ga sayansi.

Enkozesa empya erimu essuubi yeya tekinologiya owamaanyi ayitibwa crispr. Abakugu abalondoola ebigenda mu maaso balowooza nti enkola enongoosemu eya genome etonzeewo emigaso egye njawulo egyenkukunala egijjidde mu budde egikira ku egyo egibaddewo mu kozessa ebimera ebye nnono ne byembala engunje mu mattuluba ana: obukakafu, obwangu, ebbeeyi n'okulungamywa kw'amateeka. Ebigunje by 'enkola ya genome enongoseemu byangu okulungamywa mu mateeka kino kyanjawulo ku nkola ya mateeka agaliwo kati agalungamywa enfuga y'ebimera ebigunje kubanga byo byangu okulondoola bulungi mu nkola ya sayansi, etuukana ne bigendererwa, nga yankanankana ate nga ssi nzibu ya kulungamywa mu mateeka. Waliwo enkola erengerwa ewala essuubirwa (flavia , 2015) nga ekozesa engeri zino zina kasatwe ; eya transgenes , genome editing , ne microbes (enkozesa ya microbiones nga ensibuko yo butonde obukozesebwa okulongoosa mu bika bye bimera). Enkola eno esuubira okusobozesa okwongerwa ku bungu bwe birime mumbeera ettumbula ate nga ya nnamaddala ekisobozesa okuyamba ku kutuukiriza kwebyo ebigendererwa ebyo muwendo nga ekyo kuweza emmere emala no kujjuna enjala n'obwaavu mu bantu.

ISAAA si kitongole kya busuubuzi ekigenderera okufuna amagoba, kiwagirwa gavumenti ne bitongole binnassiwamukange. Omuwendo gwa hekiteya ze nnimiro ze birime ebyembala engunje ogufulumira mu biwandiiko bya ISAAA gutwaalibwa wamu wadde nga mulimu endyo ezenjawulo eze bimera eby'embala engunje eziri mu bimera byonna.

Ebisingawo bisange mu kiwandiiko kya ISAAA namba 51 “ebijjaguzo ebye 'myaaka 20 bukya bimera eby'embala biyingira ettunzi ly'ensi yonna(okuva mu 1996 okutuuka mu 2015) ebikulu mu 2015” ekyawandiikibwa Clive James. Okumanyisibwa okusingawo kusange ku mukutu gwa yintaneti oguyitibwa <http://www.africenter.isaaa.org> oba tuukirira ISAAA AfriCenter ku ssimu namba +254 20 4223618, oba ku email africenter@isaaa.org