

Ukulapha izihlahla izisulelekile ngama-anthibhay-othikhii aqeda izimpawu, kodwa awaselaphi isihlahla esisuleleke ngokufa. Ukubulawa ngokushesha kwezi-hlahla kunconya kakhulu.

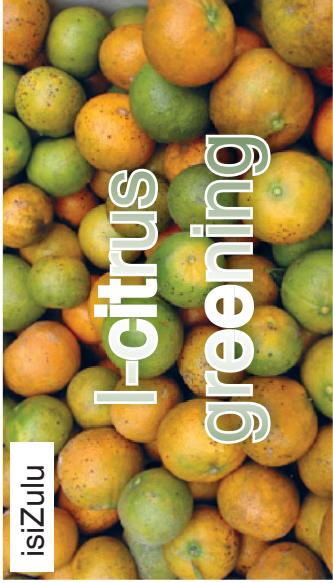
Umthelela kwezomnotho

I-citrus greening yehlisa izinga lomkhqizo yezithelo ezinamanzi futhi ekugcineni izihlahla ezsulelekile zigcina zingakhiqizi. Isihlahla esisulelekile silkhqiza izithelo ezingakufanele ukuthengiswa njengezithelo ezsizintsha nomazokwenza ujusi. Ubhubhane olun-gavumelekile emazweni lapho lungakabibiko khona. Ukwanda kwalokhu kufa ezweni ebelinganako ngaphambilini kunqanda ukuba lelo zwe libe nemakethethe yezithelo ezinamanzi elingakwazi ukuziletha zisuka kwezinye izindawo ezingenakho ukufa kwe-citrus greening. I-citrus greening ngakho-ke, inomthelela ongemuhle kuzimakethethe zomhlaba zezithelo ezinamanzi, ezifana ne-United States of America kanye ne-European Union.

Imithelela yomnethetho

NgokoMithetho Wobhubane Lwezolimo we-1983 (Agricultural Pest Act, 1983, Act no. 36 of 1983), Izinyathelo Zokulawula R.110 zomhla zi-27 Januvari 1984 (njengoba zichtishiyelwe), ukuhanjiswa kwezin-to ezidalu izitshalo ezintsha zezithelo ezinamanzi zisuswa endaweni eyodwa ziya kwenye ngaphakathi eRiphabhlikhi yaseNingizimu Afrika akuvunyelwe ngaphandle uma ukuhanjiswa kugunyayazwe ngem-vume nomalezo zinto ziqinisekisiwe njengezingenalo ubhubhane. Umnyango Wezolimo, Amahlathi Neze-zinhlanzi uhlinzekan ngezinsizo zokuhola futhi ukhipha izimvume zokuqinisekisa ukuhambisana nezinyathelo zokulawula ezisethenziswayo. Lokhu kungenelela okushiwuo ngenhla kuzosiza ekunqandeni ukwanda okuqhubebekayo kwe-citrus greening.

UNIVERSITY OF FLORIDA, 2001, Citrus greening Another threat to Agriculture, UF-IFAS, USA.
PIETERSEN, G., ARREBOLA, E., BREYENBACH, J.H.J., KORSTEN L., LE ROUX, H.F., LA GRANGE H., LOPEZ, S.A., MEYER J.B., PRETORIUS M.C., SCHWERDTFEGER, M., VAN VUUREN S.P. & YAMAMOTO, P. 2010. A survey for *Candidatus Liberibacter* species in South Africa confirms the presence of only *Ca. L. africanus* in commercial Citrus. *Plant Disease*, 94: 244-24.



isiZulu

I-citrus greening

'*Candidatus Liberibacter africanus*'
'*Candidatus Liberibacter asiaticus*'
'*Candidatus Liberibacter americanus*'

Incazelo

I-citrus greening ephinde yaziwe ngokuthi isifo i-yelow dragon nomu i-Huanglongbing, ingesinye sezifo ezidala izithelo eyingozi kakhulu kuzihlahla wayo ezidala i-citrus greening, eyohlobo Iwase-Afrika i-*Candidatus Liberibacter africanus*, eyohlobo Iwase-Asia i-*Candidatus Liberibacter asiaticus* kanye neyohlobo IwaseMelika i-*Candidatus Liberibacter americanus*. Lena yohlobo Iwase-Afrika Ibonakala emazengeni okushisa athokomele (ama-20-24°C) ngenkathi eyohlobo Iwase-Asia ivela ngaphansi kwazo zombili izimo zokushisa, esamazinga aphansi kanye nesamazinga aphezulu okushisa. I uncanekakhulu okwaziwayo ngezidingo zamazinga okushisa ohlotsheni IwaseMelika.

Imvelaphi kanye nokusabalala emhlabeni

I-Citrus greening cishe yavela kwelaseShayina ngeminyaka ye-1900. Uhlobo Iwase-Asia i-*Candi-*

Uma udinga ulwazi oluthe xaxa?

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2013

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datus *Liberibacter asiaticus*' yivo eyingozi kakhulu futhi eyande kakhulu ezweni. Ithokala kulo lonke izwekazi lase-Asia, kungxenyanaya yezwekazi lasenDinya kanye nakuziqhingi ezingomakhelwane, kwingasichingi sase-Saudi Arabia, eningizimu yase-Florida, e-California, e-Cuba, e-Mauritius, e-Reunion nase-Topiya. Kanti uhlolo lwasé-Afrika i-'Candidatus Liberibacter africanus' ayinabo ubungozi obungako futhi ayitholakali yonke indawo. Ithokala e-Afrika, enyakatho ye-Sahara. Uhlolo lwasemelika i-'Candidatus Liberibacter americanus' kwaziwa ukuthi itholakala e-Brazil, e-Cuba, e-Florida, e-Belize, e-Mexico Naku-Domanican Republic.

Izimpawu

Izihlahla zamaolintshi/zamawolintshi ezsuleleke ngenciwanaye-citrus greening kungenzenka zingakhombisi izimpawu iminyaka eminaga ngemuva kokwesuleleka. Izimpawu zokuqala esihlaheni zimbandakanya ukuvela kwamahlumela aphuzi. Njengoba ibhakhtira ihamba ngaphakathi esihlahleni, umpheme wonke wezhlahla uya ngokuya ubaphuzi ngombala. Zontathu izinhlobo zebhakhtira zdala izimpawu ezifanayo. Okuyisona sici esikhulu sezimpawu kuzihlahla ezine-citrus greening ukuba nezindawana ezinamabala ambalaningi kumacembe kanye nobuphuzi emithanjeni yamcembe nakumahumela. Amacembe asemancane angabonisa izimpawu ezingacatshangewa ukuba zidalwe ukunganele kwe-zink. Amacembe asemadala wona aba namab-

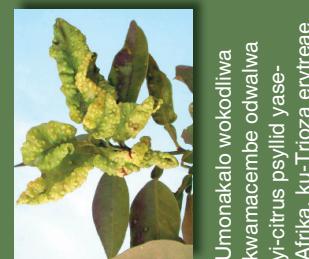
la. Ezinye zezimpawu zimbandakanya ukufa kwamagasha, ukungatheli kahle kwezimbali, nokungakhulu kahle. Izithelo ezivela kuzihlahla ezsulelelekile zincane, futhi kujwayeleke ukuba zibe nokusalela kobuluhaza ngokungajwayelekile kuzithelo ezivuthiwe. Izihlahla eziphetheye yi-greening ziyababa, futhi zimuncu. Imbewu ijwayeleke ukufa, futhi ukwakhekha kwezithelo aukukhle, Izimpawu zingejhlu ka kuye ngesikhathi sokusuleleka, izinga lokufa, uhlobo lwasihlahla kanye nokukhula kwesihlahla.

Ukusulelana

Lokhu kufa kujwayeleke ukuba kusatshalaliswe izinhlobo ezimbili zezilokazana i-psyllid, okuyi-psyllid yase-Asia yezihlahla zezithelo ezinamanz i-*Diaphorinacitri* kanye ne-psyllid yase-Afrika yezihlahla zezithelo ezinamanz i-*Trioza erytreae*. Zombili lezi zinhlobozithatha igciwaneye eliquethwe i-citrus greening zilisuse ezhlahleni ezsulelelekile zilise ezhlahleni eziphilayo njengoba zidla izitshalo. I-citrus greening ingadluseka futhi nangokuxhumelela okususelwa ekuxetshulweni kwehulumela elisulelekile futhi kungadluseka ngembewu esulelekile.

Ukuhlukana kwalapho itholakala khona

I-citrus greening eNingizimu Afrika iyisifo esitholakala Kuma-olitshi anoshukela i-Citrus sinensis. Amanencias akhombisa izimpawu kakhulu emacembeni



Umonakalo wokodilwa kwamacembe odwala yi-citrus psyllid yase-Afrika, ku-Trioza erytreae



Izimpawu zezebazi zobuwahlawaha ze-citrus spp greening



Isibungu se-citrus psyllid yase-Afrika



I-Citrus psyllid yase-Afrika esindala



Isibungu se-citrus psyllid yase-Eshnya Eshya esindala



I-Citrus psyllid yase-Eshnya Eshya esindala

kunama-navels. Futhi ijwayeleke kakhulu kuma-mandarins (*C. reticulata*) naku-m-tangeli (*C. sinensis* x *C. reticulata*), kodwa incane kolamula (*C. limon*), kumabhambusi (*C. paradisei*) kanye nawolitshi amuncu (*C. aurantium*). Kodwa-ke izits halo ezikhethethle ezinjenge-lime (*C. aurantifolia*), i-pomelo (*C. grandis*), kanye newolintshi elimacembentathu (*Poncirus trifoliata*) zivakubekazelela lokhu kufa. Jikelele, iningi lezihlahla ezithela izithelo ezinamanzi kanye nezihlo-bo zazo ziyasuleleka

Izindela zokuphawula

Indela okuyijona kuphela yokuphawula kweesifo kuzihlahla ezsuleleke njegciwaneye eliquethwe i-citrus greening (i-Huanglongbing) yindlela esaketanga yokugquila uketshezi kodwa ungaquqli ukwakhekha kwalo (i-PCR) elabhorati yokucwaninga isifo. ENingizimu Afrika, lokhu kwensiwa yizindlu zocwaningo zokwelapha zoMnyango Wezolimo, Amahlathi Nezezhlanzi ezise-Stellenbosch.

Izindela zokulawula

Ukulawula i-citrus greening kungaphunyeleliswa ngendlela embandakanyayo ukugedwa kwezinto zeziyahla ezsulelekile, ukwethulwa kwezindawo lapho kukhuliswa khona izithombo enganako ukufa, ukubambela kuzinyathelo zokulawula kanye nokuqedza izithwali zilokazana ngezibulala zinambuzane ezihiilekile (njengoba zidla uju lwezimbal).



Izimpawu zezebazi zobuwahlawaha ze-citrus spp greening



Isibungu se-citrus psyllid yase-Afrika