

Industry allocated project number

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Indicate (X) client(s) to whom this final report is submitted. Replace any of these with other relevant clients if required.

## FINAL REPORT 2012/13

### Programme & Project Leader Information

	Research Organisation Programme leader	Project leader
<b>Title, initials, surname</b>	Dr C A de Klerk	Dr C A de Klerk
<b>Present position</b>	Privaat	Privaat
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### Project Information

<b>Research Organisation Project number</b>	ADK3	Privaat
<b>Project title</b>	Chemiese beheer van blaarspringers om Astervergeling te bekamp	
<b>Fruit kind(s)</b>	Wyn-, tafel- en droogdruive	
<b>Start date (mm/yyyy)</b>	01/09/2009	<b>End date (mm/yyyy)</b> 31/03/2013
<b>Project keywords</b>	Blaarspringers; chemiese beheer; astervergeling	

Approved by Research Organisation Programme leader (tick box)

THIS REPORT MUST INCLUDE INFORMATION FROM THE **ENTIRE** PROJECT

### Executive Summary

Give an executive summary of the total project.

Aster Yellows is a phytoplasma disease and was recently found to attack and kill vines in the Vredendal- Wabooms River- and Robertson areas. It was also established that a specific leafhopper species act as a vector of this disease. The control of leafhoppers was thus a high priority to prevent this quarantine disease spreading from infested vineyards to other vineyards. However, no insecticide was registered for the control of leafhoppers in South African vineyards. Various field trials to evaluate different pesticides were thus conducted over four seasons in all three infected areas.

The contact insecticides, Steward (indoksocarb); Dursban (chlorpyrifos) and Mospilan (acetamiprid) gave excellent control. Unsatisfactory control was obtained with Prev-Am (borax/orange oil) and Cascade (flufenoxuron). The systemic insecticides Confidor and Kohinor (imidacloprid) also provided excellent control while Movento (spirotetramat) was not effective.

Confidor provided good control even up to 16 months after application at 10cm shoot length as well as at 2-3 weeks after harvest. Commercial application with Kohinor through drip irrigation also provided very good control for up to 17 months.

As a result of this study, Steward, Dursban and Kohinor is presently registered for the control of leafhoppers. All information was delivered to farmers by regular presentations and a popular article will soon be published.

### Problem identification and objectives

State the problem being addressed and the ultimate aim of the project.

Astervegeling is 'n fitoplasma-siekte wat onlangs vir die eerste keer in Suid-Afrika in die onmiddellike omgewing van Vredendal en in die Waboomsrivier area gevind is. Ernstige skade word aangerig deurdat die trosse verdroog en groot oesverliese veroorsaak. Dit is 'n kwarantyn-siekte en hou ernstige nadelige implikasies vir die hele wingerdbedryf in, aangesien wyn- sowel as tafel- en droogdruiwkultivars aangeval word. 'n Groot aantal blaarspringer spesies is reeds geïdentifiseer en Astervergeling is in die spysverteringskanaal van vier spesies gevind. Dit is ook onlangs met oordragstudies (in 'n ander projek) bewys dat een van hierdie vier spesies wel 'n vektor van Astervergeling is. Die beheer van blaarspringers is dus uiters noodsaaklik om verdere verspreiding van dié gevaarlike siekte te voorkom. Geen middel was egter geregistreer vir die beheer van blaarspringers op wingerd nie en die doel van die projek was derhalwe om verskeie plaagdoders in veldproewe te toets.

**Workplan (materials and methods)**

List trial sites, treatments, experimental layout and statistical detail, sampling detail, cold storage and examination stages and parameters.

Volledige inligting ten opsigte van elke proef wat uitgevoer is, word in meegaande publikasie verduidelik.

**Results and discussion**

State results obtained and list any industry benefits. If applicable, include a short discussion covering ALL accumulated results from the start of the project. Limit it to essential information only.

<b>Milestones</b>	<b>Achievements</b>
Om plaagdoders in veldproewe te evalueer vir die beheer van blaarspringers.	Dursban, Steward, Mospilan, Confidor en Kohinor het baie goeie beheer gelewer. Drie ander middels het swak beheer gelewer.
Om te bepaal hoe lank die middels goeie beheer kan lewer na een toediening vroeg in die seisoen. (10cm lootlengte.)	Twee sistemiese produkte, Confidor en Kohinor, het 16-17 maande na toediening steeds goeie beheer gelewer. Hierdie produkte hoef dus slegs elke tweede seisoen toegedien te word. Die kontakmiddels se langtermyn beheer was baie korter. (2-3 weke.)
Om te bepaal of die sistemiese middel, Confidor ook langtermyn beheer kan lewer indien dit na oes (2-3 weke) toegedien word.	Soortgelyke beheer is met 'n na-oes toediening verkry as met 'n toediening vroeg in die seisoen.
Om te bepaal of soortgelyke langtermyn beheer met kommersiële toediening van Kohinor verkry kan word.	Kommersiële toedienings met Kohinor deur driebesproeiing het soortgelyke beheer as met veldproewe gelewer.

Om die resultate aan produsente bekend te maak deur lesings en 'n populêre artikel.	<ul style="list-style-type: none"> <li>• Lesings aan groepe produsente is drie keer in Vredendal, Waboomsrivier en Robertson elk aangebied soos die navorsing gevorder het.</li> <li>• 'n Populêre artikel is opgestel vir publikasie in Wynboer en Sagtevrugte Joernaal. (Aangeheg)</li> </ul>
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<p>Om die projek binne 'n aanvaarbare tydperk af te sluit met bereiking van die gestelde doelwitte.</p>	<ul style="list-style-type: none"><li>• Die projek word afgesluit binne 4 seisoene. Goeie resultate is verkry om blaarspringers te beheer. Dit het gelei tot die registrasie van drie plaagdoders. Die bevindinge lewer ook 'n groot bydrae om die Astervergeling-siekte te bekamp.</li><li>• Alle gestelde langtermyn doelwitte is suksesvol binne gestelde tydperke afgehandel.</li></ul>
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**Resultaat**

Alle doewitte van die projek is suksesvol afgehandel en die resultate word in meegaande publikasie aangebied.

Complete following table **(Sien bladsy 3 en 4)**

Milestone	Target Date	Extension Date	Date Completed	Achievement
1.				
2.				
3.				
4.				
5. Journal publication/s – final milestone				

### **Accumulated outputs**

List ALL the outputs from the start of the project. The year of each output must also be indicated.

### **Technology development, products and patents**

Indicate the commercial potential of this project (intellectual property rights or a commercial product(s)).

Geen

### **Patents**

Geen

### **Conclusions**

**Sien bladsy 3 en 4**

### **Technology development, products and patents**

Indicate the commercial potential of this project, eg. Intellectual property rights or commercial product(s)

Resultate van die projek is gebruik om drie plaagdoders vir beheer van blaarspringers te registreer.

### **Suggestions for technology transfer**

List any suggestions you may have for technology transfer

Populêre artikel

**Human resources development/training**

Indicate the number and level (eg. MSc, PhD, post doc) of students/support personnel that were trained as well as their cost to industry through this project. Add in more lines if necessary.

Student level (BSc, MSc, PhD, Post doc)	Cost to Project
1. Geen	Geen
2.	
3.	
4.	
5.	

**Publications (popular, press releases, semi-scientific, scientific)**

De Klerk, C.A. 2013. Chemiese beheer van blaarspringers om Astervergeling in wingerde te bekamp. Wynboer en S.A. Vrugtejoernaal. (In voorbereiding.)

**Presentations/papers delivered**

Lesing: Nuutste resultate oor chemise beheer van blaarspringers te Vredendal, Waboomsrivier en Robertson. Augustus 2010, 2011, 2012.

Total cost summary of the project

TOTAL COST IN REAL TERMS	COST	CFPA	DFTS	Deciduous	SATI	Winetech	THRIP	OTHER	TOTAL
YEAR 1	338,700		112,000		112,899	113,801			338,700
YEAR 2	237,080		79,027		79,027	79,026			237,080
YEAR 3	192,600		64,200		64,200	64,200			192,600
YEAR 4	172,200		57,400		-	114,800			172,200
YEAR 5									
<b>TOTAL</b>	940,580		312,627		256,126	371,827			<b>940,580</b>