

Appendices

Chapter 3

Appendix 3.1 A questionnaire form that was used during the baseline survey interviews of farmers in the communities

INTRODUCTION

The survey aims at collecting information on the current status of sweet potato production in target communities in order to be able to measure the effects of research projects after a period of two years. The main thrust being to increase the production and utilisation of sweet potato in South Africa.

Name of interviewer

Production region (Province)

Date of interview

Respondent name (group)

Name of production locality

[Where applicable, mark by “x”. If more than one option is applicable, mark more than one]

Biographic profile of respondent

1. Gender: Male Female

2. Age of respondent

3. What is your major livelihood/source of income?

Agricultural activities Other Employment (Please specify)

Other

.....
.....

Agricultural profile

4. If various agricultural activities are practiced, please rank these activities according to their economic importance.

1	4
2	5
3	6

5. What is the size of land available for agricultural activities?.....unit.....

C. Importance and role of sweet potato

6. Which crops do you rank as the 5 most important for household food security and for cash sale as income generation? Ranking (1 - 5)

Crop	Food	Cash
Grain crops
Irish potato
Sweet potato
Fruits
Vegetables
Other

7. Why do you choose to produce sweet potato? (i.e. tradition, good at it, right climate, soil, good income, crop rotation? etc.)

.....

.....

.....

8. For what purpose do you use your sweet potato crop?
 Sell to generate income Own consumption Both

9. If you are selling your sweet potato crop to what extent does sweet potato contribute to your household income?
 Small Average Large
 Percentage contribution%

10. What is the annual income of your household from sweet potato?
 < R100 R100 - R400 R500 - R900 More (specify)

11. How often do you eat root crops?
 Less than once a week Once a week
 Twice a week More (specify)

.....

12. Where do you get sweet potato to eat?
 Local market Hawkers
 Shop Other

13. How do you eat it?
 As vegetable in main meal Cold with tea
 Half of main meal Chips
 Leaves as vegetable Baking products

Other

D. Sweet potato cultivation practices



14. How many years have you been actively producing sweet potato? (years of experience in SP production)

15. Have you ever received formal training in the cultivation of sweet potato?

Yes No

If yes, from whom and when did you receive training?

.....

17. What is the average size of land you with sweet potato?
 ha/morgans/number of plots of m x m.

18. What do you use to plough/cultivate your land?

Hand hoe Animal traction
 Tractor Other.....

19. What is the plant spacing applied for sweet potato cultivation?

spacing.....cm between plants in rows
 spacing.....cm between rows

20. Are you irrigating your sweet potato crop? Yes No

If yes, specify the type of irrigation used and how often

.....

21. Are you applying fertiliser? Yes No

If yes, please specify the type and quantity of fertiliser applied

.....

22. What type of beds do you plant on? Flat Ridges Mounds

23. What type of weeding practices are implemented?

Hand Hoe Other.....

24. Are you practising plant protection? Yes No

If yes, what method or type of protection is used?.....



25. What are the production costs for sweet potato associated with each of the activities in sweet potato production?

Labour	R...../unit.....
Planting material	R...../unit.....
Fertilisers	R...../unit.....
Pest and disease management	R...../unit.....
Weeding	R...../unit.....
Irrigation	R...../unit.....
Other:.....	R...../unit.....
.....	R...../unit.....
.....	R...../unit.....

Total cost? R.....
Cost / unit R...../Unit.....

26. Are you practising intercropping with regard to sweet potatoes?

Yes No If yes, please list other crops

.....

27. Do you rotate sweet potato crop with others ?

Yes No

If yes , what crop ?.....

28. What yield do you get from sweet potato?

..... ton or kg per area
..... crates per area (Size of crates:)
..... buckets per area (Size of buckets:)

29. If you are selling your excess produce, please indicate to whom you are selling your produce.

Neighbours Door to door Local market

Fresh produce market Other, please specify

.....

30. What is the average price obtained for the produce sold?

.....R perunit.....

E. Information with regard to cutting material

31. Where do you obtain your planting material from?

Own Relatives

Neighbours/Friends Shop

Vine growers Other.....

IF NOT MAKING OWN MATERIAL

32. Is it easy to get hold of planting material? Yes No
If not, give reason

33. How many farmers produce and sell cuttings in this area?

IF MAKING OWN PLANTING MATERIAL

34. If you grow your own material, how do you preserve your material (during winter time)?

.....

.....

35. Did you ever receive any formal training in making sweet potato planting material?
Yes No

36. If yes, from whom and when did you receive the training?

.....

.....

F. Virus questions

37. Do you know (understand) what virus disease are ?
Yes No

38. (If yes), How did you acquire the knowledge ?
Friends
Extension workers
ARC
Other.....

(If no) Show pictures of sweet potato plant with virus symptoms if there are no virus-diseased plants in the field/ plants showing symptoms.

39. Have you ever seen these symptoms in your field ?
Yes No

40. If no, give a brief explanation

41. (If yes) What do you call the symptoms? (Local name).....

42. What causes or spreads the disease?
Planting material
Insects (aphids, whiteflies)
Don't know
Other.....

43. Which season of the year is the disease/symptoms more severe?

Show pictures of insects (aphids, whiteflies)

44. Do you regularly see these insects in your field/plot ?
Yes No

F. Varietal choice of root crops

The objective of the question is to establish what characteristics producers are valuing as important in choosing a variety to plant and the reasons why they prefer certain characteristics. Use real roots or use pictures to visualise the different characteristics. Try to identify farmers' criteria for evaluating varieties. Mark those in ranking matrix. Then let them rank the criteria according to importance. Do not force interview into this set of criteria and try to use their own wordings.

Possible phrase for question: What characteristics do you look for in a sweet potato cultivar when deciding on a cultivar to plant and give a reason for the specific choice? (Indicate with ✕ the criteria chosen in the matrix and state reason for choice)

Value these criteria indicated on a scale of 1-5 on the level of importance when choosing a variety (1 = very important; 5 = just of little importance)

45. Criteria applied in cultivar choice matrix

Criteria:	✕	Level of importance	Reasons for preference of characteristic
<i>Foliage</i>			
Colour of vines (sweet potato)			
Leaf shape (sweet potato)			
Length of vines (sweet potato)			
<i>Roots</i>			
Root shape			
Root skin colour			
Root flesh colour			
Root yield			
Root size			
Occurrence of defects: Veins Grooves Cracks Constrictions			
<i>Other characteristics</i>			
Taste			
Storage quality			
Drought tolerance			
Disease resistance			
Cooking quality			
Consumer demand			
Other:			

46. How many varieties do you plant?
Sweet potato: varieties.....

Name	Description

47. What do you consider good varieties? (E.g. specific colour or shape; good yield - use characteristics in ranking matrix as guideline)

.....
.....

48. Which characteristics are needed to improve current varieties used?

.....
.....

49. Are you interested in obtaining new sweet potato varieties for cultivation?

Yes No

Reason for answer.....

G. Major constraints

50.. What are the main problems you encounter in producing sweet potato?

.....
.....

Thank you for your valuable time and inputs

Chapter 4

Appendix 4.1 Pests and diseases of sweet potato-survey results

Mpumalanga

Ratings	Areas surveyed																					
	GW1	GW2	GW3	GW4	GW5	GW6	B1	B2	B3	B4	B5	B6	T1	T2	T3	HV1	HV2	HV3	HV4	HV5	HV6	AVG
LS/B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0	0	0.00
SS/B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Viruses	0.19	0.65	0.46	0.62	0.55	0.23	0.75	0.6	0.31	0	0	0.11	0.35	0.4	0.35	3	0.58	0.54	0.35	0.66	0.35	0.53
ID	0.42	0.35	0.69	0.15	0	0	0.25	0.6	0.85	0.96	0.25	0.5	0.55	0.32	0.88	3.7	0.27	0.38	0.38	0.27	0.12	0.57
Root rot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LS/B-Leaf spot and blight; SS/B-Stem spot and blight & ID-Insects damage

GW-Gutjwa, B-Beverbreed, T-Tonga, HV-Hazyview

Limpopo

Ratings	Areas surveyed										
	Tshid 1	MIW1	MIW2	Tshiombo	MP	RS	GS	DDE1	DDE2	ARN1	AVG
LS/B	0.03	0.14	0	0	0.1	0	0	0	0	0.05	0.03
SS/B	0	0	0	0	0	0	0	0	0	0	0
Viruses	0	0	0	0	0.1	0	0	0	0	0	0.01
ID	0.85	0.4	0.7	0.58	1.4	1.17	1.4	0.8	0.9	0.33	0.85
Root rot	0	0	0	0	0	0	0	0	0	0	0
Wilt	0	0	0	0	0	0	0	0	0	0	0

LS/B-Leaf spot and blight; SS/B-Stem spot and blight & ID-Insects damage

Tshid-Tshidane, MIW-Mianzwi, MP-Maseromola Park, RS-Riverside, GS-Greenside, DDE-Dingleydale and ARN-Arthurstone

Eastern Cape

Ratings	Areas surveyed													AVG
	A1	TM1	TM2	TM3	LM1	MK1	PA2	NC1	NC2	BT1	BT2	BT3	MQ1	
LS/B	2.5	0	0	0	0	0	0.14	0	0.05	0.01	0	0	0	0.21
SS/B	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0.00
Viruses	0	0.03	0	0	0	0	0	0	0	0.01	0.1	0	0.7	0.06
ID	1.5	4	1.9	0.1	3.8	0.1	3.5	3	4	0.09	2.4	2.2	1.5	2.2
Root rot	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilt	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LS/B-Leaf spot and blight; SS/B-Stem spot and blight & ID-Insects damage

A-Alice, TM-Thombo, LM-Lower Mpako, MK-Mpako, PA-Port Alfred, NC-Ncambendlana, BT-Buthurst and MQ-Mqanduli

Western Cape

Ratings	Areas surveyed										AVG
	S1	S2	S3	FH1	E1	E2	E3	GT1	GT2	PD1	
LS/B	0.1	0.57	0.58	0	0.12	0	1.4	0.6	2.13	0.15	0.57
SS/B	0.1	0	0	0	0	0	0	0	0	0	0.01
Viruses	0	0	0	0	0	0	0.2	0.43	2.27	0.15	0.31
ID	1	1.33	4.17	1.7	1.46	1.2	5.0	1.87	1.63	1.92	2.13
Root rot	0	0	0	0	0	0	0	0	0	0	0
Wilt	0	0	0	0	0	0	0	0	0	0	0

LS/B-Leaf spot and blight; SS/B-Stem spot and blight & ID-Insects damage

S-Saron, FH-Fremersheim, E-Ebeneser, GT-Goedverwacht and PD-Pacalsdorp

Average for the whole country

Ratings	Average			Average
	GT	KZN	NW	
				0.170
LS/B	0.46	0.54	0	0.002
SS/B	0	0	0	0.274
Viruses	0.42	0	0.15	1.388
ID	3.8	3.54	2	0
Root rot	0	0	0	0
Wilt	0	0	0	

LS/B-Leaf spot and blight; SS/B-Stem spot and blight & ID-Insects damage

GT-Gauteng, KZN-Kwazulu Natal and NW-North West Provinces

Chapter 5

Appendix 5.1 ELISA results of sweet potato samples from seven provinces of South Africa (LP-Limpopo, MP-Mpumalanga, GT, Gauteng, WC-Western Cape, EC-Eastern Cape, KZN-Kwazulu Natal and NW-North West)

a. SPV G not tested

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
2MIW 7	L.P	Mianzwi	VC	LP	+	+	-	-	-	-	-	-	-		-	-
2 MIW 6	L.P	Mianzwi	LD	N	-	-	-	-	-	-	-	-	+		-	-
2 MIW 8	L.P	Mianzwi	VC	LD	+	-	-	-	-	-	-	-	?		-	-
2 MIW 9	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	-		-	-
C MIW 2	L.P	Mianzwi	VC/CS	N	+	-	-	-	-	-	-	-	-		-	-
MIW 2	L.P	Mianzwi	VC/F	N	+	-	-	-	-	-	-	-	+		-	-
MIW 3	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	+		-	-
MIW 4	L.P	Mianzwi	VC-severe	N	-	-	?	-	-	-	-	-	-		+	-
MIW 5	L.P	Mianzwi	CS/M	N	+	-	-	-	-	-	-	-	+		-	-
MIW 6	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	-		-	-
MIW 8	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	-		-	-
MIW 9	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	+		-	-
MIW 10	L.P	Mianzwi	VC/CS	N	+	-	-	-	-	-	-	-	+		-	-
MIW 11	L.P	Mianzwi	VCLD	N	+	-	-	-	-	-	-	-	+		-	-
MIW 12	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	+		-	-
MIW 13	L.P	Mianzwi	VC	N	-	-	-	-	-	-	-	-	+		-	-
MIW 14	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	+		-	-
MIW 15	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	-		+	-
MIW 16	L.P	Mianzwi	VC	N	?	-	-	-	-	-	-	-	+		-	-
MIW 17	L.P	Mianzwi	VC	N	+	+	-	-	-	-	-	-	-		+	-
M MIW 1	L.P	Mianzwi	VC	N	+	-	-	-	-	-	-	-	-		-	-
M MIW 4	L.P	Mianzwi	VC/severe	N	+	+	-	-	-	-	-	-	+		-	-
Tshidane 1/11	L.P	Tshidane	CV/LP	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/5	L.P	Tshidane	VC/S	VC	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/46	L.P	Tshidane	VC/LD	VC	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/7	L.P	Tshidane	VC/LD	N	+	-	-	-	-	-	-	-	+		-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
Tshidane 1/48	L.P	Tshidane	VC	VC	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/41	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	+		-	-
Tshidane 1/1	L.P	Tshidane	VC/LD	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/18	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/24	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/12	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/16	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/19	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/23	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/40	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/44	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/34	L.P	Tshidane	VC/F	N	+	-	-	-	-	-	-	-	+		-	-
Tshidane 1/38	L.P	Tshidane	VC	CS	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/16	L.P	Tshidane	VC/CS	VC/LP	+	-	-	-	-	-	-	-	+		-	-
Tshidane 1/39	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/3	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	+		-	-
Tshidane 1/14	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	+		-	-
Tshidane 1/4	L.P	Tshidane	VC	N	-	-	-	-	-	-	-	-	+	+	-	-
Tshidane 1/22	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/27	L.P	Tshidane	VC/CS	N	+	-	-	-	-	-	-	-	+		-	-
Tshidane 1/30	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/28	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-		-	-
Tshidane 1/33	L.P	Tshidane	VC	CS	-	-	-	-	-	-	-	-	+		-	-
Tshidane 1/21	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	+		-	-
Tshidane 1/29	L.P	Tshiombo	VC	N	+	-	-	-	-	-	-	-	-		-	-
1 Tshiombo 1/1	L.P	Tshiombo	VC	N	-	+	-	-	-	-	-	-	-		-	-
1 Tshiombo 1/9	L.P	Tshiombo	DM	N	-	-	-	-	-	-	-	-	+		-	-
1 Tshiombo 1/15	L.P	Tshiombo	VC/LP/VB	N	+	-	-	-	-	-	-	-	-		-	-
1 Tshiombo 1/13	L.P	Tshiombo	LD	N	+	-	-	-	-	-	-	-	+		-	-
1 Tshiombo 1/10	L.P	Tshiombo	VC	N	+	-	-	-	-	-	-	-	-		-	-
1 Tshiombo 1/3	L.P	Tshiombo	LD/VC	N	+	-	-	-	-	-	-	-	-		-	-
1 Tshiombo 1/8	L.P	Tshiombo	VC	N	+	-	-	-	-	-	-	-	-		-	-

Isolates name	Province	Region/Subregion	Symp on I set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
Tshiombo 1/45	L.P	Tshiombo	VC/F	N	+	-	-	-	-	-	-	-	+		-	-

Symptoms→VC=vein clearing, CS=chlorotic spots, LP=leaf puckering, F=feathering, VB=vein banding, DM=diffuse mottle, LD=leaf distortion, M=Mosaic, S=stunting & N=no symptoms
+=Virus detected, -=Virus not detected, ?=Faint reaction/unsure, *=positive when tested with sweet potato material from the field.

b. All 12 viruses were tested

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
B1-5	MP	Beverbreed	VC/DM	N	+	-	+?	+	-	-	-	-	++	-	-	-
B1-6	MP	Beverbreed	DM/VC	N	+	+	-	-	-	-	-	-	+	++	-	-
B1-7	MP	Beverbreed	DM	N	+	-	-	-	-	-	-	-	++	-	-	-
B1-8	MP	Beverbreed	VC/CS	N	+	-	-	-	-	-	-	-	+	-	-	-
B1-3	MP	Beverbreed	VC	N	+	-	-	-	-	-	-	-	++	-	-	-
B1-1	MP	Beverbreed	VC	N	+	-	-	-	-	-	-	-	++	-	-	-
B1-4	MP	Beverbreed	DM/VC	N	+	-	-	-	-	-	-	-	++	-	-	-
B2-4	MP	Beverbreed	DM/M	N	+	-	+?	-	-	-	-	-	+	+	-	-
B2-8	MP	Beverbreed	VC/DM	N	+	-	-	-	-	-	-	-	+	-	-	-
B2-7	MP	Beverbreed	LD/DM	N	++	-	-	-	-	-	-	-	-	-	-	-
B2-6	MP	Beverbreed	VC/DM	N	+	-	+	-	-	-	-	-	-	++	-	-
B3-2	MP	Schuzendal	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
B3-6	MP	Schuzendal	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
B3-5	MP	Schuzendal	VC	N	+	-	+	-	-	-	-	-	+	-	-	-
B4-1	MP	Beverbreed	CS-older leaves	N	-	-	+	+	-	-	-	-	+	+	-	-
B4-6	MP	Beverbreed	DM/CS/F	N	+	++	-	-	-	-	-	-	+	-	-	-
B4-4	MP	Beverbreed	DM	N	++	-	-	-	-	-	?	-	-	++	-	-
B4-3	MP	Beverbreed	VC/DM	N	+	-	+	+?	-	-	-	-	-	+++	-	-
B4-8	MP	Beverbreed	LD/DM	N	+	-	+	-	-	-	-	-	+	++	-	-
B4-7	MP	Beverbreed	VC/DM	N	+	-	-	-	-	-	-	-	++	+	-	-
B5-4	MP	Beverbreed	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
B5-3	MP	Beverbreed	VC	N	+	-	+	-	-	-	-	-	-	-	-	-
B5-2	MP	Beverbreed	DM	N	+	-	-	-	-	-	-	-	+	-	-	-
B5-1	MP	Beverbreed	VC/DM	N	+	-	-	-	-	-	+	-	+	++	-	-
B5-5	MP	Beverbreed	VC/DM	N	+	-	-	-	-	-	-	-	++	-	-	-
B5-6	MP	Beverbreed	VC/F	N	-	+	-	-	-	-	-	-	?	?	-	-
B5-7	MP	Beverbreed	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
B6-1	MP	Beverbreed	DM	N	+	+	+?	-	-	-	-	-	+	+	-	-
B6-5	MP	Beverbreed	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
B6-4	MP	Beverbreed	VC/CS	N	+	-	+	-	-	-	-	-	+	-	-	-
B6-2	MP	Beverbreed	VC/DM/CS	N	+	+	-	-	-	-	-	-	+	+	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
GW1-6	MP	Gutjwa	CS	N	-	-	-	-	-	-	-	-	+	-	-	-
GW1-5	MP	Gutjwa	VC/DM	N	+	-	+?	-	-	-	-	-	++	+	-	-
GW1-4	MP	Gutjwa	VC	N	+?	-	-	-	-	-	-	-	+	?	-	-
Gw1-1	MP	Gutjwa	DM	N	+	-	-	-	-	-	-	-	++	-	-	-
GW5-5	MP	Gutjwa	CS	N	-	-	-	-	-	-	-	-	-	+	-	-
GW5-6	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
GW5-7	MP	Gutjwa	VC/DM/LP	N	++	-	-	-	-	-	-	-	+	++	-	-
G3-10	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
G3-9	MP	Gutjwa	VC/DM/M	N	+	-	-	-	-	-	-	-	+	++	-	-
G3-3	MP	Gutjwa	VC/CS	N	+	-	-	-	?	-	-	-	+	-	-	-
G4-1	MP	Gutjwa	VC/	N	+	-	-	-	-	-	-	-	+?	-	-	-
G4-2	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	-	-	-
G4-3	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	+?	-	+	+	-	-
G4-4	MP	Gutjwa	VC/CS	N	+	-	-	-	?	-	-	-	+	+	-	-
G4-5	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	++	+	-	-
G4-6	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
G6-2	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
G6-3	MP	Gutjwa	CS/VC	N	+	-	-	-	-	-	-	-	+	-	-	-
G6-7	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
G6-5	MP	Gutjwa	CS	N	-	-	-	-	-	-	-	-	+	+	-	-
G6-4	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	++	-	-	-
G5-8	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-9	MP	Gutjwa	VC/DM/M	N	++	-	+	+	-	-	-	-	-	-	-	-
G5-10	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-12	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	++	++	-	-
G5-13	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-15	MP	Gutjwa	DM	N	+	-	-	-	-	-	-	-	-	+	-	-
G5-14	MP	Gutjwa	DM	N	+	-	-	-	-	-	-	-	+	-	-	-
G5-16	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-5	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	-	-	-
G5-4	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-3	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
G5-2	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-1	MP	Gutjwa	DM	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-6	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
G5-7	MP	Gutjwa	VC/DM/F	N	+	-	-	-	-	-	-	-	+	-	-	-
HV1-1	MP	Gutjwa	VC	VC	+	-	-	-	-	-	-	-	+	-	-	-
HV1-2	MP	Hazyview	DM/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
HV1-4	MP	Hazyview	VC/CS	N	+	-	-	+	-	-	-	-	+	-	-	-
HV1-6	MP	Hazyview	VC	N	+	-	+	+	-	-	-	-	-	-	-	-
HV1-7	MP	Hazyview	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
HV1-8	MP	Hazyview	VC/CS	VC	+	-	-	-	-	-	-	-	+	+	-	-
HV1-9	MP	Hazyview	VC	N	+	-	-	-	-	-	-	-	?	-	-	-
HV1-10	MP	Hazyview	VC/DM	CS	+	-	+	-	-	-	-	-	-	-	-	-
HV2-5	MP	Numbi	VC/DM	N	+	-	+	+	-	-	-	-	++	+	-	-
HV2-3	MP	Numbi	VC/CS	N	+	-	-	-	-	-	-	-	-	+	-	-
HV2-6	MP	Numbi	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
HV2-7	MP	Numbi	VC/CS	N	++	-	+	-	-	-	-	-	+	++	-	-
HV2-4	MP	Numbi	VC	N	-	-	-	-	-	-	-	-	-	++	-	-
HV2-8	MP	Numbi	VC/DM	N	+	-	-	-	-	-	-	-	-	++	-	-
HV3-3	MP	Hazyview	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
HV3-1	MP	Hazyview	VC/DM/LP	N	+	-	-	-	-	-	+	-	-	++	-	-
HV4-1	MP	Burgerhall	VC/CS	N	+	-	-	-	-	-	-	-	++	-	-	-
HV4-3	MP	Burgerhall	VC/DM	N	+	-	?	-	-	-	-	-	+	+	-	-
HV4-5	MP	Burgerhall	DM	N	+	-	-	-	-	-	-	-	-	+	-	-
HV6-1	MP	Ntsikazi	VC/DM	VC	+	-	-	-	-	-	-	-	+	+	-	-
HV6-5	MP	Ntsikazi	VC/DM	VC	+	-	?	-	-	-	-	-	+	-	-	-
HV6-4	MP	Ntsikazi	VC/CS	N	+	-	-	-	-	-	+	-	+	+	-	-
HV6-13	MP	Ntsikazi	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
HV6-11	MP	Ntsikazi	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
HV6-10	MP	Ntsikazi	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
HV6-14	MP	Ntsikazi	VC/DM	N	+	-	-	-	-	-	-	-	++	++	-	-
HV7-2	MP	Hazyview	VC/DM-severe	N	++	-	+	-	-	-	-	-	+	++	-	-
HV7-3	MP	Hazyview	VC/DM/CS	N	++	-	-	-	-	-	-	-	+	++	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
HV7-4	MP	Hazyview	VC/DM	N	+	-	-	-	-	-	-	-	++	-	-	-
T1-4	MP	Tonga	DM/CS-mild	N	+	+	-	-	-	-	-	-	-	++	-	-
T1-8	MP	Tonga	VC/DM	N	+	-	-	-	-	-	-	-	+	++	-	-
T1-7	MP	Tonga	VC/DM	N	+	-	-	-	-	-	-	-	+	-	-	-
T1-9	MP	Tonga	VC/CS	N	+	-	-	-	-	-	+	-	-	-	-	-
T1-5	MP	Tonga	DM	N	+	-	-	-	-	-	-	-	+	-	-	-
T1-3	MP	Tonga	DM/CS	N	+	-	-	-	-	-	-	-	+	++	-	-
T1-2	MP	Tonga	VC/CS	N	+	+	-	-	-	-	-	-	-	++	-	-
T1-6	MP	Tonga	VC/DM	N	+	-	-	-	-	-	-	-	+	++	-	-
T1-1	MP	Tonga	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
T2-3	MP	Tonga	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
T2-2	MP	Tonga	DM/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
T2-7	MP	Tonga	VC/DM-severe	N	++	-	-	-	-	-	-	-	++	-	-	-
T2-4	MP	Tonga	VC	N	+	-	-	-	-	-	-	-	++	++	-	-
T3-5	MP	Tonga	DM/VC/M	N	+	-	-	-	-	-	-	-	-	++	-	-
T3-4	MP	Tonga	VC/DM	N	+	-	-	-	-	-	+	-	-	++	-	-
T3-3	MP	Tonga	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
T3-9	MP	Tonga	VC/DM/CS	N	++	-	+	-	-	-	+	-	-	+	-	-
T3-8	MP	Tonga	VC/DM	N	+	-	-	-	-	-	-	-	-	-	-	-
GW2/03/1/1	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	++	-	-
GW2/03/1/2	MP	Gutjwa	VC/DM/CS	CS	+	-	-	-	-	-	-	-	++	++	-	-
GW2/03/1/3	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	-	++	-	-
GW2/03/2/1	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	++	++	-	-
GW2/03/2/2	MP	Gutjwa	VC/DM	N	+	-	+	-	-	-	-	-	+	++	-	-
GW2/03/2/3	MP	Gutjwa	CS/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
GW2/03/2/4	MP	Gutjwa	VC/CS-severe	N	++	-	-	-	-	-	-	-	+	+	-	-
GW2/03/2/5	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	++	-	-
GW2/03/3/1	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	++	-	-
GW2/03/3/2	MP	Gutjwa	VC/DM	N	+	-	+	-	-	-	-	-	-	++	-	-
GW2/03/3/3	MP	Gutjwa	VC/DM	N	+	-	+	-	-	-	-	-	-	++	-	-
GW3/03/4/1	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	++	++	-	-
GW2/03/4/2	MP	Gutjwa	VC/CS	CS	+	-	-	-	-	-	-	-	-	++	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
GW2/03/4/3	MP	Gutjwa	VC/CS	VC/CS	+	-	-	-	-	-	+	-	+	++	-	-
GW2/03/5/1	MP	Gutjwa	VC/LD/CS	Chlrs/VB	+	-	-	-	-	-	-	-	-	-	++	-
GW2/03/5/2	MP	Gutjwa	VC	Chlrs /VB	+	-	-	-	-	-	-	-	+	+	-	-
GW2/03/5/3	MP	Gutjwa	VC/DM/CS	Chlrs /VB	+	-	-	-	-	-	-	-	-	+	++	-
GW2/03/6/1	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	++	+	-	-
GW2/03/6/2	MP	Gutjwa	VC/DM/CS	N	+	-	-	-	-	-	-	-	-	?	-	-
GW2/03/6/3	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
GW2/03/6/4	MP	Gutjwa	VC	N	++	-	-	-	-	-	-	-	-	++	-	-
GW2/03/7/1	MP	Gutjwa	DM/CS	N	+	-	-	-	-	-	-	-	++	+	-	-
GW2/03/7/2	MP	Gutjwa	DM/CS	N	+	-	-	-	-	-	-	-	+	++	-	-
GW2/03/7/3	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	-	++	-	-
GW2/03/7/4	MP	Gutjwa	VC/CS/DM	N	++	-	-	-	-	-	-	-	+	++	-	-
GW2/03/8/1	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	-	+	-	-
GW2/03/8/2	MP	Gutjwa	VC/LD/S	CS/LD	+	-	-	-	-	-	-	-	+	++	-	-
GW2/03/8/3	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
GW2/03/8/4	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	++	++	-	-
GW2/03/8/5	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	++	+	-	-
GW2/03/9/1	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
GW2/03/9/2	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	++	++	-	-
GW2/03/9/3	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	-	++	-	-
GW2/03/9/4	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	++	-	-
GW2/03/10/1	MP	Gutjwa	VC/DM/LD	CS/M/VB	+	-	-	-	-	-	-	-	+	++	++	-
GW2/03/10/2	MP	Gutjwa	VC/LD/S	CS/M/VB	+	-	-	-	-	-	-	-	++	++	++	-
GW2/03/10/3	MP	Gutjwa	VC/LD	CS/M/VB	+	-	-	-	-	-	-	-	++	++	++	-
GW2/03/10/4	MP	Gutjwa	VC/CS/M	CS/M/VB	+	-	-	-	-	-	-	-	++	++	++	-
E1-1	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
E1-3	W. Cape	Ebenezer	VC/CS	N	+	-	-	-	-	-	-	-	-	+	-	-
E1-6	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
E1-8	W. Cape	Ebenezer	VC/CS	N	-	-	-	-	-	-	-	-	+	+	-	-
E1-7	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
E1-9	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
E1-5	W. Cape	Ebenezer	VC	N	+	?	-	-	-	-	-	-	+	+	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
E1-10	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
E1-11	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	-	?	-	-
E1-13	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
E2-1	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
E2-3	W. Cape	Ebenezer	VC	N	+	-	-	-	-	-	+	-	-	+	-	-
E2-4	W. Cape	Ebenezer	VC/CS	VC	+	-	-	-	-	-	+	-	+	+	-	-
E3-2	W. Cape	Friemmersheim	DM/CS	N	+	-	+	+	-	-	-	-	-	+	-	-
FH1-8	W. Cape	Friemmersheim	VC/DM	N	+	-	-	-	-	-	-	-	-	++	-	-
FH2-10	W. Cape	Friemmersheim	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
FH1-11	W. Cape	Friemmersheim	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
FH1-12	W. Cape	Friemmersheim	DM/CS/M	N	++	-	-	-	-	-	-	-	-	++	+	-
FH1-5	W. Cape	Friemmersheim	VC/CS	N	+	-	-	-	-	-	-	-	-	++	-	-
FH1-6	W. Cape	Friemmersheim	DM	N	+	-	-	-	-	-	-	-	-	++	-	-
FH1-1	W. Cape	Goedverwacht	DM	N	+	-	-	-	-	-	-	-	-	++	-	-
GT-1	W. Cape	Goedverwacht	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
GT-2	W. Cape	Goedverwacht	VC	VC	+	-	-	-	-	-	-	-	+	-	-	-
GT-3	W. Cape	Goedverwacht	DM	N	+	-	?	?	-	-	-	-	+	+	-	-
GT-7	W. Cape	Goedverwacht	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
GT-5	W. Cape	Goedverwacht	VC/DM/CS	N	++	-	+	-	-	-	-	+	-	++	-	-
GT-10	W. Cape	Goedverwacht	VC	N	+	-	-	-	-	-	-	-	-	++	-	-
GT-6	W. Cape	Goedverwacht	CS	N	+	-	-	-	-	-	-	-	-	-	-	-
GT-8	W. Cape	Goedverwacht	DM/CS	N	+	-	-	-	-	-	-	-	+	++	-	-
GT-4	W. Cape	Goedverwacht	VC/CS	N	+	-	-	-	-	-	-	-	+	++	-	-
GT-1	W. Cape	Goedverwacht	CS/DM	N	+	-	-	-	-	-	-	-	-	-	-	-
GT1-7	W. Cape	Goedverwacht	CS	N	-	-	-	-	-	-	-	-	+	+	-	-
GT1-6	W. Cape	Goedverwacht	VC	N	+	-	-	-	-	-	-	-	-	?	-	-
GT1-12	W. Cape	Goedverwacht	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
GT1-8	W. Cape	Goedverwacht	VC	N	-	-	-	-	-	-	-	-	+	+	-	-
GT1-14	W. Cape	Goedverwacht	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
GT1-3	W. Cape	Goedverwacht	VC/Cs	N	+	-	-	-	-	-	-	-	+	+	-	-
GT1-1	W. Cape	Goedverwacht	CS	N	+	-	-	-	-	-	-	-	-	-	-	-
GT1-13	W. Cape	Goedverwacht	VC	N	-	-	?	+	-	-	-	-	-	-	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
GT1-5	W. Cape	Goedverwacht	VC/LD	N	+	-	-	-	-	-	-	-	-	++	-	-
GT-9	W. Cape	Pacalsdorp	VC	N	+	-	?	-	-	-	-	-	++	-	-	-
PD1-10	W. Cape	Pacalsdorp	VC	N	+	-	?	-	-	-	-	-	+	-	-	-
PD1-5	W. Cape	Pacalsdorp	VC/chlrs	CS	+	-	-	-	-	-	-	-	+	-	-	-
PD1-7	W. Cape	Pacalsdorp	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
PD1-11	W. Cape	Pacalsdorp	DM/CS	N	+	-	-	-	-	-	-	-	-	-	-	-
PD1-6	W. Cape	Pacalsdorp	VC/CS	N	+	-	-	-	-	-	-	-	++	-	-	-
PD1-1	W. Cape	Pacalsdorp	VC	N	+	-	-	-	-	-	-	-	?	-	-	-
PD1-15	W. Cape	Pacalsdorp	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
PD1-13	W. Cape	Pacalsdorp	VC/CS	N	+	-	-	-	-	-	-	-	?	-	-	-
PD1-4	W. Cape	Pacalsdorp	VC/DM	CS	+	-	-	-	-	-	-	-	+	+	-	-
PD1-3	W. Cape	Saron	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
S1-4	W. Cape	Saron	DM	N	-	-	-	-	-	-	-	-	+	-	-	-
S1-5	W. Cape	Saron	CS	N	-	-	-	-	-	-	-	-	+	-	-	-
S1-3	W. Cape	Saron	VC/CS	N	++	-	-	-	-	-	-	-	-	-	-	-
S1-6	W. Cape	Saron	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
S1-7	W. Cape	Saron	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
S2-4	W. Cape	Saron	VC/CS	N	+	-	-	-	-	-	-	-	+	-	-	-
S2-3	W. Cape	Saron	DM/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
S2-2	W. Cape	Saron	VC/DM	N	+	-	-	-	-	-	-	-	+	++	-	-
S2-5	W. Cape	Saron	Chlrs	N	?	-	-	-	-	-	-	-	-	++	-	-
S2-1	W. Cape	Saron	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
S2-9	W. Cape	Saron	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
S2-8	W. Cape	Saron	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
S2-7	W. Cape	Saron	VC	N	+	-	-	-	-	-	-	-	-	++	-	-
S3-4	W. Cape	Saron	VC/LP	N	+	-	-	-	-	-	-	-	+	+	-	-
S3-3	W. Cape	Saron	DM	N	+	-	-	-	-	-	-	-	+	+	-	-
S3-5	W. Cape	Saron	F/VC	N	+	-	-	-	-	-	-	-	-	+	-	-
S3-1	W. Cape	Saron	DM	N	+	-	-	-	-	-	-	-	+	+	-	-
A1	E. Cape	Alice	CS	N	+?	-	-	-	-	-	-	-	-	+	-	-
A2	E. Cape	Alice	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
A3	E. Cape	Alice	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
A4	E. Cape	Burthust	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
BT1-4	E. Cape	Burthust	VC/DM	N	+	-	+	-	-	-	-	-	+	+	-	-
BT1-3	E. Cape	Burthust	VC/DM	N	++	-	+	-	-	-	-	-	-	++	-	-
LM1-5	E. Cape	Lower Mpako	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
LM1-2	E. Cape	Lower Mpako	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
LM1-3	E. Cape	Lower Mpako	CS	N	+	-	-	-	-	-	-	-	-	+	-	-
LM1-4	E. Cape	Lower Mpako	CS	N	+	+	-	-	-	-	-	-	-	+	-	-
LM1-1	E. Cape	Mpako	DM/CS	N	+	-	-	-	-	-	-	-	-	-	-	-
MP1-1	E. Cape	Mpako	VC	CS	+	-	-	-	-	-	-	-	++	-	-	-
MP1-2	E. Cape	Mpako	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
MP1-4	E. Cape	Mpako	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
MP1-3	E. Cape	Ncambedlana (Umtata)	VC	N	+	-	-	-	-	-	-	-	-	+	-	-
NC2-2	E. Cape	Port Alfred	VC/CS	N	+	-	-	+	-	-	-	?	+	+	-	-
PA1-2	E. Cape	Port Alfred	VC/DM	N	+	+	-	-	-	-	-	-	?	+	-	-
PA1-1	E. Cape	Port Alfred	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
PA2-1	E. Cape	Port Alfred	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
PA2-4	E. Cape	Port Alfred	DM/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
PA2-5	E. Cape	Port Alfred	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
PA2-3	E. Cape	Tombo	Chlrs	N	-	-	-	-	-	-	-	-	+	+	-	-
TM1-1	E. Cape	Thombo	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
TM2-1	E. Cape	Thombo	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
VK 46	KZN	Mvundleni	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
VK 8	KZN	Mvundleni	VC	N	+	-	-	-	-	-	-	-	+	-	+	-
VK 2	KZN	Mvundleni	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
VK 3	KZN	Mvundleni	VC	N	-	-	-	-	-	-	-	-	+	-	-	-
VK 24	KZN	Mvundleni	VC	N	+	-	-	-	-	-	-	-	-	-	-	-
VK 25	KZN	Mvundleni	VC	N	-	-	-	-	-	-	-	-	+	-	-	-
VK 9	KZN	Mvundleni	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
VK 39	KZN	Mvundleni	VC/CS	N	+	-	-	-	-	-	-	-	-	-	-	-
MGL 6	N. West	Magolego	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
MGL 21	N. West	Magolego	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
MGL 1	N. West	Magolego	VC	N	+	-	-	-	-	-	-	-	-	+	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCSV WA
MLG 2	N.West	Magolego	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
MGL 3	N.West	Magolego	CS	N	+	-	-	-	-	-	-	-	-	+	-	-
MGL 7	N.West	Magolego	DM	N	?	-	-	-	-	-	-	-	+	-	-	-
MGL 9	N.West	Magolego	VC/DM	N	+	-	-	-	-	-	-	-	-	++	-	-
MGL 15	N.West	Magolego	VC/CS	N	+	-	-	-	-	-	-	-	-	+	-	-
MGL 12	N.West	Magolego	DM/CS	CS	+	-	?	-	-	-	-	-	+	+	-	-
MGL 8	N.West	Magolego	Chlrs	N	+	-	-	-	-	-	-	-	-	+	-	-
MGL 14	N.West	Magolego	VC	N	+	-	-	-	-	-	-	-	-	+	-	-
MGL 11	N.West	Magolego	VC	N	+	-	-	-	-	-	-	-	-	+	-	-
MGL 17	N.West	Magolego	DM/CS	N	+	-	-	-	-	-	-	-	-	-	-	-
MGL 18	N.West	Magolego	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
MGL 13	N.West	Magolego	VC	N	+	-	-	-	-	-	-	-	-	+	-	-

Symptoms→VC=vein clearing, CS=chlorotic spots, LP=leaf puckering, F=Feathering, VB=vein banding, DM=diffuse mottle, LD=leaf distortion, M=Mosaic, S-stunting, Chlrs=chlorosis & N=no symptoms
+=Virus detected, ++=highly positive, -=Virus not detected, ?=Faint reaction, *=sample positive when tested with sweet potato material from the field.

c. SPV G and SPCSV not tested

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII
Tshidane 1/37	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-
Tshidane 1/47	L.P	Tshidane	VC	N	+	-	+	-	-	-	-	-	-
Tshidane 1/13	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-
Tshidane 1/10	L.P	Tshidane	VC	N	+	-	+	-	-	-	-	-	-
Tshidane 1/15	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-
Tshidane 1/8	L.P	Tshidane	VC	N	+	-	+	-	-	-	-	-	-
2 MIW 7	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-
I MIW 3	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-
C MIW 3	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-
1 Tshiombo 1/2	L.P	Tshidane	VC	N	+	-	-	-	-	-	-	-	-

Symptoms→VC=vein clearing & N=no symptoms
+=Virus detected, -=Virus not detected.

d. SPVII, SPVG and SPCSV not tested

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV
KS2 3/3	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS2 3/2	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS2 3/5	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS2 3/1	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS2 2/2	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS 1-3/1	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1 1/2	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1-2/2	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS3 -2/1	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1-2/5	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS2-2/1	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1 2/4	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS3-1	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1- 2/1	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1-3/2	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1-3/4	L.P	Klipspruit	VC	N	-	-	-	-	?	-	-
KS1-1/1	L.P	Klipspruit	VC	N	-	-	-	-	-	-	-
KS1-3/3	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS1-2/3	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS2-2/2	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
KS3-2/4	L.P	Klipspruit	VC	N	+	-	+	-	?	-	-
KS2-1	L.P	Klipspruit	VC	N	+	-	-	-	-	-	-
RS2-1/3	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS1 -1/1	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS2-2	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS2 1/2	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS2-4	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS1-2/1	L.P	Riverside	VC	N	+	-	+	-	-	-	-
RS1-1/2	L.P	Riverside	VC	N	+	-	-	+	?	-	-
RS2-5/3	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS2-2/1	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS1-2	L.P	Riverside	VC	N	+	-	-	-	-	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV
RS1-4	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS2-3	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS1-3	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS2-5/1	L.P	Riverside	VC	N	+	-	-	-	-	-	-
RS2-5/2	L.P	Riverside	VC	N	+	-	-	-	-	-	-
ARN 1/1/10	L.P	Athurstone	VC	N	+	-	+	-	-	-	-
ARN 1/1/2	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
ARN 1/1/7	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
ARN 2/1/3	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
ARN 2/1/4	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
ARN 1/1/1	L.P	Athurstone	VC	N	+	-	+	-	-	-	-
ARN 2/1/1	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
ARN 2/1/5	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
ARN 1/1/11	L.P	Athurstone	VC	N	+	-	+	-	-	-	-
ARN 2/1/6	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
ARN 2/1/7	L.P	Athurstone	VC	N	+	-	-	-	-	-	-
DDE 4/1/3	L.P	Dingledale	VC	N	+	-	-	-	-	-	-
DDE 2/1/1	L.P	Dingledale	VC	N	+	-	-	-	-	-	-
DDE 5/1/12	L.P	Dingledale	VC	N	+	-	-	-	-	-	-
DDE 2/1/3	L.P	Dingledale	VC	N	+	-	-	-	-	-	-
DDE 5/1/6	L.P	Dingledale	VC	N	+	-	-	-	-	-	-
DDE 3/1/2	L.P	Dingledale	VC	N	+	-	-	-	-	-	-
DDE 5/1/4	L.P	Dingledale	VC	N	+	-	-	-	-	-	-

Symptoms→VC=vein clearing & N=no symptoms
+=Virus detected, -=Virus not detected

e. SPVIL, SPVG and SPCSV not tested

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV
Cull 1/5/3	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/2/5	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/1/2	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/5/4	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/1/1	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/5/5	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/5/1	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/4/2	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/4/1	Gauteng	Cullinen	VC	N	+	-	-	+	-	-	-
Cull 1/2/1	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/5/2	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/4/3	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/2/2	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/3/1	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/4/4	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/2/3	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/3/3	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/3/5	Gauteng	Cullinen	VC	N	+	-	-	+	?	-	-
Cull 1/1/3	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/3/5	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/1/4	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/2/4	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/4/5	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/3/2	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/1/1	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/5/5	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-
Cull 1/5/1	Gauteng	Cullinen	VC	N	+	-	-	-	-	-	-

Symptoms→VC=vein clearing & N=no symptoms

+ =Virus detected, - =Virus not detected & ? = Faint reaction

f. Old isolates from the previous survey (1997/1998)- SPVII, SPVG and SPCSV not tested

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV
TO 5.3	M.P	Tonga	VC	N	+	+	-	-	-	-	-
TO 3.3 ENGLAND	M.P	Tonga	VC	N	+	+	-	-	-	-	-
TO 3.4 SWAZI	M.P	Tonga	VC	N	+	+	-	-	-	-	-
TO 2.5 SWAZI	M.P	Tonga	VC	N	+	-	-	-	-	-	-
TO 3.7	M.P	Tonga	VC	N	+	-	+	-	-	-	-
TO 1/1	M.P	Thulamahashe	VC	N	+	-	-	+	?	-	-
TO 3.8 MOZA	M.P	Tonga	VC	N	+	-	-	-	-	-	-
TO 7(2)	M.P	Tonga	VC	N	+	-	-	-	-	-	-
TO 3.5 SWAZI	M.P	Tonga	VC	N	+	-	-	-	-	-	-
TO 2.1	M.P	Tonga	VC	N	+	-	-	-	-	-	-
T ½ SPMAFUTHA	M.P	Thulamahashe	VC/LD	N	+	-	-	-	-	-	-
M2/2/2	KZN	Mamfene	VC	N	+	-	-	+	-	-	-
M3/2/1	KZN	Mamfene	VC	N	+	-	-	-	-	-	-
M4/2/2	KZN	Mamfene	VC	N	+	-	-	-	-	-	-
M6/2/1	KZN	Mamfene	VC	N	+	-	+	+	-	-	-
M6/2/2	KZN	Mamfene	VC	N	+	-	-	-	-	-	-
M5/2/1	KZN	Mamfene	VC	N	+	-	-	-	-	-	-
M5/2/3	KZN	Mamfene	VC	N	+	+	-	-	-	-	-
M2/2/1	KZN	Mamfene	VC	N	+	-	-	-	-	-	-
THOMAS 1.6.A	N/A	N/A	VC	N	+	+	-	-	-	-	-
THOMAS 1.6.AMX	N/A	N/A	VC	N	+	-	-	-	-	-	-
THOMAS 1.6.CMX	N/A	N/A	VC	N	+	+	-	-	-	-	-
THOMAS 1.6.BMX	N/A	N/A	VC	N	+	-	+	-	-	-	-
THOMAS 1.6.B MX 600	N/A	N/A	VC	N	+	-	+	-	-	-	-
FRANK 5.2(MX)	N/A	N/A	VC	N	+	-	-	-	-	-	-
FRANK 5.2	N/A	N/A	VC	N	+	-	-	-	-	-	-
MB4 b	N/A	N/A	VC/LD	VB	+	+	-	-	-	-	-
MD1/1	N/A	N/A	VC	N	+	-	-	-	-	-	-
MD3	N/A	N/A	VC	N	+	-	+	-	-	-	-
MD1	N/A	N/A	VC	N	+	-	-	-	-	-	-
MD2	N/A	N/A	VC	N	+	-	-	-	-	-	-
PD1/2	N/A	N/A	VC	N	+	-	-	-	-	?	-

Isolates name	Province	Region/Subregion	Symp on I.set	Symp on SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV
PD1/2/1	N/A	N/A	VC	N	+	-	-	-	-	-	-
H2	L.P	Hoxane	VC	N	+	-	-	-	-	-	-
H16	L.P	Hoxane	VC	N	+	-	-	-	-	-	-
H3	L.P	Hoxane	VC	N	+	-	-	-	-	-	-
JIII	N/A	N/A	VC	N	+	-	-	-	-	-	-
J5/1	N/A	N/A	VC	N	+	-	+	-	-	-	-
VTF4C tshimbupfe	L.P	Tshimbupfe	VC	N	+	-	+	-	-	-	-
VTSB TSHILOMBO V	L.P	Tshiombo	VC	N	+	-	+	-	-	-	-
TSHILOMBO IV	L.P	Tshiombo	VC	N	+	+	-	-	-	-	-
TSHILOMBO IV I-1	L.P	Tshiombo	VC	N	+	-	-	-	-	-	-
TSHILOMBOIII VT-3	L.P	Tshiombo	VC	N	+	-	-	-	-	-	-
TSHILOMBO III VT-3A	L.P	Tshiombo	VC	N	+	-	-	-	-	-	-
TSHILOMBO V	L.P	Tshiombo	VC	N	+	+	-	-	-	-	-
TSHILOMBO IV VT-4B	L.P	Tshiombo	VC	N	+	-	-	-	-	-	-
MALAWUVE IVVM-4	L.P	N/A	VC	N	+	-	-	-	-	-	-
MALAWUVE III VM 3B	L.P	N/A	VC	N	+	+	-	-	-	-	-
MAVUNDLA1.9.2	L.P	N/A	VC	N	+	-	+	+	-	-	-
MAVUNDLA 1.9.2 MAX	L.P	N/A	VC	N	+	-	-	-	-	-	-
WC10	N/A	N/A	VC	N	+	+	-	-	-	-	-

Symptoms→VC=vein clearing, VB=vein banding, LD=leaf distortion & N=no symptoms
 +=Virus detected, -=Virus not detected, ?=Faint reaction
 N/A=Province or region not known

g. Samples collected with the EU-Sweet potato virus project team (2003)

* Sweet potato plants from the field

Isolates	Province	Region/sub region	Symptoms on sweet potato	SPCSVEA	SPCSVWA	SPMM V6F11	SPFMV1C 4	SPFMV 46B	SPF MV C CIP	SPV II	SPLV CIP	SPV G	SPMSV	SPCFV
GWA1	MP	Gutjwa	VC, CS	-	-	-	-	+	+	++	-	+	-	-
GWA10	MP	Gutjwa	Chlrs, CS	-	-	-	-	++	-	++	-	-	-	-
GWA11	MP	Gutjwa	M, LD	-	-	-	-	++	-	++	-	+	-	+
GWA12	MP	Gutjwa	M, CS	-	-	-	-	++	+	++	-	++	-	+
GWA2	MP	Gutjwa	VC, CS	-	-	-	-	+	-	++	-	++	-	-
GWA3	MP	Gutjwa		-	-	-	-	-	+	++	-	-	-	-
GWA4	MP	Gutjwa	VC	-	-	-	-	++	+	++	-	+	-	-
GWA5	MP	Gutjwa	CS	-	-	-	-	++	+	++	-	++	-	-
GWA6	MP	Gutjwa	Chlrs, LD	-	-	-	-	++	+	++	-	+	-	++
GWA7	MP	Gutjwa		-	-	-	-	+	-	++	-	-	-	-
GWA8	MP	Gutjwa		-	-	-	-	++	-	++	-	+	-	+
GWA9	MP	Gutjwa		-	-	-	-	++	-	++	-	++	-	++
GWB1	MP	Gutjwa	VC	-	-	-	-	++	+	++	-	+	-	-
GWB10	MP	Gutjwa	Chlrs, M	-	-	-	-	+	+	+	-	++	-	-
GWB11	MP	Gutjwa	VC, M, LD	-	-	-	-	+	+	+	-	++	-	-
GWB12	MP	Gutjwa	VC, LD, Chlrs	++	-	-	-	++	+	++	-	+	-	-
GWB13	MP	Gutjwa	VC	++	-	-	-	++	+	++	-	+	-	-
GWB14	MP	Gutjwa	VC, M, P	-	-	-	-	+	+	++	-	++	-	-
GWB15	MP	Gutjwa	LD, M,	-	-	-	-	++	++	++	-	++	-	-
GWB16	MP	Gutjwa	VC	-	-	-	-	++	+	+	-	++	-	-
GWB18	MP	Gutjwa	Wild <i>Ipomoea</i> , Chlrs, CS	-	-	-	-	+	+	-	-	++	-	-
GWB19	MP	Gutjwa	Wild <i>Ipomoea</i> -LD, S	-	-	-	-	+	+	+	-	++	-	-
GWB2	MP	Gutjwa	weed-LC	-	-	-	-	-	-	-	-	-	-	-
GWB20	MP	Gutjwa	Cucumber, CMV?	-	-	-	-	-	+	-	-	-	-	-
GWB3	MP	Gutjwa	M, Chlrs, M	-	-	-	-	++	+	-	-	+	-	-
GWB4	MP	Gutjwa	S, VC, LD	-	-	-	-	++	++	-	-	+	-	-
GWB5	MP	Gutjwa	VC, Chlrs, M	-	-	-	-	++	++	-	-	+	-	-
GWB6	MP	Gutjwa	CS	++	-	-	-	++	+	++	-	++	-	-
GWB7	MP	Gutjwa		++	-	-	-	++	++	-	-	+	-	-
GWB7	MP	Gutjwa	VC, LD and M	-	-	-	-	-	-	-	-	-	-	-

Isolates	Province	Region/sub region	Symptoms on sweet potato	SPCSVEA	SPCSVWA	SPMM V6F11	SPFMV1C 4	SPFMV 46B	SPF MV C CIP	SPV II	SPLV CIP	SPV G	SPMSV	SPCFV
GWB8	MP	Gutjwa	LD, VC, S	++	-	-	-	++	+	++	-	++	-	-
GWB8	MP	Gutjwa		+	-	-	-	++	+	++	-	++	-	-
GWB9	MP	Gutjwa	Wild <i>Ipomoea</i>	++	-	-	-	-	-	-	-	-	-	-
GWC1	MP	Gutjwa	VC and M	+	-	-	-	++	++	++	-	++	-	-
GWC2	MP	Gutjwa	VC	-	-	-	-	+	-	-	-	+	-	-
GWC3	MP	Gutjwa	VC	++	-	-	-	-	-	-	-	+	-	-
GWC4	MP	Gutjwa	VC, LD, S	-	-	-	-	++	+	++	-	+	-	++
GWC5	MP	Gutjwa	no symptoms	-	-	-	-	-	-	-	-	-	-	-
GWC6	MP	Gutjwa	M	-	-	-	-	-	-	-	-	-	-	-
HVA1	MP	Hazyview	CS	-	-	-	-	++	-	++	-	-	-	-
HVA2	MP	Hazyview	Chlrs	-	-	-	-	+	-	++	-	+	-	-
HVA3	MP	Hazyview	CS	-	-	-	-	++	-	+	-	-	-	-
HVA4	MP	Hazyview	CS	-	-	-	-	+	+	++	-	+	-	-
HVA5	MP	Hazyview	CS, pallor	-	-	-	-	+	-	++	-	++	-	++
HVB1	MP	Hazyview		-	-	-	-	+	-	-	-	++	-	-
HVB2	MP	Hazyview		-	-	-	-	+	-	+	-	+	-	-
HVB3	MP	Hazyview		-	-	-	-	++	-	-	-	+	-	-
HVB4	MP	Hazyview	cucumber	-	-	-	-	+	+	++	-	++	-	-
HVB5	MP	Hazyview		-	-	-	-	+	+	++	-	++	-	-
HVC6	MP	Hazyview		-	-	-	-	+	-	++	-	-	-	-
MH1	LP	Marblehall		-	-	-	-	-	-	-	-	-	-	-
MH2	LP	Marblehall		-	-	-	-	++	+	-	-	-	-	-
MH3	LP	Marblehall	Wild <i>Ipomoea</i>	-	-	-	-	-	-	-	-	-	-	-
MH4	LP	Marblehall		++	-	-	-	+	-	-	-	-	-	-
MH7	LP	Marblehall		-	-	-	-	-	+	-	-	-	-	-
MH8	LP	Marblehall		-	-	-	-	-	+	-	-	-	-	-
MH9	LP	Marblehall		+	-	-	-	-	-	-	-	-	-	-
MHB 9	LP	Marblehall	Chlrs	-	-	-	-	++	+	-	-	++	-	-
MHB1	LP	Marblehall		++	-	-	-	++	++	-	-	-	-	-
MHB10	LP	Marblehall	S, Chlrs, VC, LD	++	-	-	-	++	++	++	-	++	-	-
MHB11	LP	Marblehall	CS	-	-	-	-	++	+	+	-	-	-	-
MHB12	LP	Marblehall	CS	-	-	-	-	++	++	+	-	+	-	-

Isolates	Province	Region/sub region	Symptoms on sweet potato	SPCSVEA	SPCSVWA	SPMM V6F11	SPFMV1C 4	SPFMV 46B	SPF MV C CIP	SPV II	SPLV CIP	SPV G	SPMSV	SPCFV
MHB13	LP	Marblehall	M, LD and VC	-	+	-	-	++	+	+	-	++	-	-
MHB14	LP	Marblehall	LC, CS, VC	-	-	-	-	+	+	-	-	-	-	-
MHB15	LP	Marblehall	LC	-	-	-	-	-	-	-	-	-	-	-
MHB16	LP	Marblehall	Volunteer weed	-	-	-	-	++	++	-	-	++	-	-
MHB2	LP	Marblehall		-	++	-	-	++	++	++	-	++	-	-
MHB3	LP	Marblehall	VC, LD, Chlrs	-	+	-	-	++	++	++	-	++	-	-
MHB4	LP	Marblehall	LC	-	+	-	-	++	++	-	-	-	-	-
MHB5	LP	Marblehall	Chl, CSD, M, Chlrs	-	-	-	-	++	++	+	-	++	-	-
MHB6	LP	Marblehall		-	+	-	-	++	++	+	-	++	-	-
MHB7	LP	Marblehall		-	++	-	-	++	++	-	-	-	-	-
MHB8	LP	Marblehall	VC	-	+	-	-	++	+	+	-	++	-	-
NA1	MP	Numbi		-	-	-	-	+	-	-	-	++	-	-
NA2	MP	Numbi		-	-	-	-	-	-	-	-	+	-	-
NA3	MP	Numbi		-	-	-	-	++	-	++	-	+	-	-
NA4	MP	Numbi		-	-	-	-	-	-	++	-	+	-	-
NB1	MP	Numbi		-	-	-	-	++	++	+	-	++	-	++
NB2	MP	Numbi	weed	-	-	-	-	-	-	-	-	-	-	-
NB3	MP	Numbi		-	-	-	-	-	-	-	-	+	-	-

Symptoms→VC=vein clearing, CS=chlorotic spots, LC=leaf curl, LP=leaf puckering, VB=vein banding, DM=diffuse mottle, LD=leaf distortion, M=Mosaic, S=stunting, Chlrs=chlorosis & N=no symptoms
+=Virus detected, ++=highly positive, -=Virus not detected, ?=Faint reaction

* After they have been grafted to *I. setosa*

Isolates name	Province	Region/Subregion	Symp on I.set	Sympon SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCAV WA
GWA 1	MP	Gutjwa	VC/CS	VC	+	-	-	-	-	-	-	-	++	++	-	-
GWA 6	MP	Gutjwa	VC/DM	N	+	-	+	-	-	-	-	-	-	?	-	-
GWA 4	MP	Gutjwa	VC/CS	N	?	-	-	-	-	-	-	-	-	++	-	-
GWA 5	MP	Gutjwa	VC/DM	CS	+	-	-	-	-	-	-	-	++	++	-	-
GWA 7	MP	Gutjwa	VC/CS	VC	+	-	-	-	-	-	-	-	++	++	-	-
GWA 10	MP	Gutjwa	VC/CS/DM	N	+	-	-	-	-	-	-	-	++	++	-	-
GWA 11	MP	Gutjwa	VC/DM	VC	+	-	-	-	-	-	-	-	++	++	-	-
GWA 8	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	+	+	-	-
GWA 3	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
GWA 2	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	+	+	-	-
GWA 12	MP	Gutjwa	VC/CS	N	+	-	-	+	-	-	-	-	+	+	-	-
GWB 6	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	++	++	+	-
GWB 16	MP	Gutjwa	VC/DM/CS	N	+	-	+	-	-	-	-	-	++	++	-	-
GWB 10	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	-	++	-	-
GWB 11	MP	Gutjwa	VC/chlrs	N	+	-	-	-	-	-	-	-	++	++	-	-
GWB 8	MP	Gutjwa	VC	N	+	-	-	-	-	-	-	-	++	++	-	-
GWB 1	MP	Gutjwa	VC/DM	N	+	-	-	-	-	-	-	-	-	+	-	-
GWC 1	MP	Gutjwa	LD/CS-severe	N	+	-	-	-	-	-	-	-	+	++	-	-
GWC 2	MP	Gutjwa	VC/DM	VC	+	-	-	-	-	-	-	-	++	-	-	-
GWC 3	MP	Gutjwa	VC/DM	N	-	-	-	-	-	-	-	-	++	-	-	-
GWC 4	MP	Gutjwa	DM/CS	N	+	-	-	-	-	-	-	-	-	++	-	-
GWC 6	MP	Gutjwa	DM	N	+	-	-	-	-	-	-	-	-	++	-	-
GWC 5	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	++	-	-
HVA 4	MP	Gutjwa	VC/CS	N	+	-	-	-	-	-	-	-	+	+	-	-
HVA 2	MP	Hazyview	VC	CS	+	-	-	-	-	-	-	-	+	++	-	-
HVA 1	MP	Hazyview	VC	N	+	-	-	-	-	-	-	-	+	++	-	-
HVB 1	MP	Hazyview	VC/CS	VC	-	-	-	-	-	-	-	-	-	-	-	-
HVB 2	MP	Hazyview	VC/DM	N	+	-	-	-	-	-	-	-	++	-	-	-
HVB 14	MP	Hazyview	VC	N	+	-	-	-	-	-	-	-	-	+	-	-
HVB 5	MP	Hazyview	VC	CS	+	-	+	-	-	-	-	-	+	+	-	-
HVB 4	MP	Hazyview	VC/DM	N	+	-	-	-	-	-	-	-	+	++	-	-
HVC 6	MP	Hazyview	VC/chlrs	N	+	-	-	-	-	-	-	-	+	++	-	-

Isolates name	Province	Region/Subregion	Symp on I.set	Sympon SP	SPFMV	SPMMV	SPLV	SPCFV	C-6	CaLV	SPMSV	CMV	SPVII	SPVG	SPCSV EA	SPCAV WA
NA1	MP	Numbi	VC	N	+	-	-	-	-	-	-	-	-	+	-	-
NA3	MP	Numbi	VC/CS	N	-	-	-	-	-	-	-	-	+	-	-	-
NA4	MP	Numbi	VC	N	+	-	-	-	-	-	-	-	-	++	-	-
NB 3	MP	Numbi	DM/CS	N	+	-	-	-	-	-	-	-	-	++	-	-
NB1	MP	Numbi	DM/VC	N	+	-	-	-	-	-	-	-	-	-	-	-
MH 7	L.P	Marblehall	VC	N	+	-	-	-	-	-	-	-	+	-	-	-
MHB 9	L.P	Marblehall	DM	N	+	-	-	-	-	-	-	-	-	+	-	-

Symptoms → VC=vein clearing, CS=chlorotic spots, DM=diffuse mottle, LD=leaf distortion & N=no symptoms
 +=Virus detected, ++=highly positive, -=Virus not detected, ?=Faint reaction.

Appendix 5.2 Sweet potato plants that were grafted on *I. setosa* and showed no symptoms

Isolates name	Province	Region/Subregion	Isolates name	Province	Region/Subregion	Isolates name	Province	Region/Subregion
2 MIW 1	L.P	Mianzwi	E1-2	W. Cape	Ebenezer	VK 6	KZN	Mvundleni
2 MIW 2	L.P	Mianzwi	E2-5	W. Cape	Ebenezer	VK 7	KZN	Mvundleni
2 MIW 5	L.P	Mianzwi	E3-5	W. Cape	Ebenezer	VK 10	KZN	Mvundleni
T MIW 3	L.P	Mianzwi	FH1-13	W. Cape	Friemmersheim	VK 1	KZN	Mvundleni
Tshidane 1/9	L.P	Tshidane	GT1-11	W. Cape	Goedverwacht	VK 4	KZN	Mvundleni
Tshidane 1/31	L.P	Tshidane	GT1-10	W. Cape	Goedverwacht	VK 5	KZN	Mvundleni
Tshidane 1/43	L.P	Tshidane	GT1-9	W. Cape	Goedverwacht	VK 26	KZN	Mvundleni
Tshidane 1/32	L.P	Tshidane	GT1-2	W. Cape	Goedverwacht	VK 27	KZN	Mvundleni
Tshidane 1/26	L.P	Tshidane	PD1-12	W. Cape	Pacalsdorp	VK 28	KZN	Mvundleni
1 Tshiombo 1/14	L.P	Tshiombo	PD1-2	W. Cape	Pacalsdorp	VK 29	KZN	Mvundleni
1 Tshiombo 1/6	L.P	Tshiombo	PD1-14	W. Cape	Pacalsdorp	VK 21	KZN	Mvundleni
1 Tshiombo 1/11	L.P	Tshiombo	PD1-9	W. Cape	Pacalsdorp	VK 22	KZN	Mvundleni
1 Tshiombo 1/7	L.P	Tshiombo	S1-1	W. Cape	Saron	VK 23	KZN	Mvundleni
Tshiombo 1/12	L.P	Tshiombo	S1-2	W. Cape	Saron			
B1-2	MP	Beverbreed	S1-8	W. Cape	Saron			
B2-2	MP	Beverbreed	S1-10	W. Cape	Saron			
B2-1	MP	Beverbreed	S1-9	W. Cape	Saron			
B2-5	MP	Beverbreed	S3-2	W. Cape	Saron			
B2-3	MP	Beverbreed	BT1-1	E. Cape	Burthust			
B3-9	MP	Schuzendal	BT1-2	E. Cape	Burthust			
B3-1	MP	Schuzendal	BT1-5	E. Cape	Burthust			
B3-4	MP	Schuzendal	LM2-4	E. Cape	Lower Mpako			
B3-3	MP	Schuzendal	LM2-3	E. Cape	Lower Mpako			
B4-2	MP	Beverbreed	LM2-2	E. Cape	Lower Mpako			
B4-5	MP	Beverbreed	LM2-1	E. Cape	Lower Mpako			
B6-3	MP	Beverbreed	MP1-5	E. Cape	Mpako			
B6-6	MP	Beverbreed	MP2-3	E. Cape	Mpako			
GW 1-8	MP	Beverbreed	MP2-1	E. Cape	Mpako			
GW1-7	MP	Gutjwa	NC1	E. Cape	Ncambelana (Umtata)			
GW5-4	MP	Gutjwa	NC1-1	E. Cape	Ncambelana (Umtata)			

Isolates name	Province	Region/Subregion	Isolates name	Province	Region/Subregion	Isolates name	Province	Region/Subregion
GW5-8	MP	Gutjwa	NC1-3	E. Cape	Ncamedlana (Umtata)			
G3-2	MP	Gutjwa	NC2-1	E. Cape	Ncamedlana (Umtata)			
G3-1	MP	Gutjwa	NC2-3	E. Cape	Ncamedlana (Umtata)			
G3-5	MP	Gutjwa	PA1-3	E. Cape	Port Alfred			
G6-6	MP	Gutjwa	PA2-2	E. Cape	Port Alfred			
G5-20	MP	Gutjwa	PA2-5	E. Cape	Port Alfred			
G5-19	MP	Gutjwa	TM1-2	E. Cape	Tombo			
G5-18	MP	Gutjwa	TM1-3	E. Cape	Thombo			
G5-11	MP	Gutjwa	TM2-2	E. Cape	Thombo			
HV1-5	MP	Hazyview	TM3-1	E. Cape	Thombo			
HV2-1	MP	Numbi	TM3-2	E. Cape	Thombo			
HV2-2	MP	Numbi	TM3-3	E. Cape	Thombo			
HV3-4	MP	Hazyview	VK 48	KZN	Mvundleni			
HV3-5	MP	Hazyview	VK 49	KZN	Mvundleni			
HV4-12	MP	Burgerhall	VK 50	KZN	Mvundleni			
HV4-11	MP	Burgerhall	VK 41	KZN	Mvundleni			
HV4-2	MP	Burgerhall	VK 42	KZN	Mvundleni			
HV4-8	MP	Burgerhall	VK 44	KZN	Mvundleni			
HV6-12	MP	Ntsikazi	VK 36	KZN	Mvundleni			
HV6-9	MP	Ntsikazi	VK 38	KZN	Mvundleni			
HV7-1	MP	Hazyview	VK 31	KZN	Mvundleni			
HV7-5	MP	Hazyview	VK 32	KZN	Mvundleni			
T2-1	MP	Tonga	VK 33	KZN	Mvundleni			
T2-5	MP	Tonga	VK 17	KZN	Mvundleni			
T2-6	MP	Tonga	VK 18	KZN	Mvundleni			
T3-2	MP	Tonga	VK 19	KZN	Mvundleni			
T3-1	MP	Tonga	VK 11	KZN	Mvundleni			
T3-6	MP	Tonga	VK 12	KZN	Mvundleni			
T3-10	MP	Tonga	VK 13	KZN	Mvundleni			
T3-7	MP	Tonga	VK 14	KZN	Mvundleni			

LP (Limpopo)=14, MP (Mpumalanga)=46, Western Cape=18, Eastern Cape=24 and KZN (Kwazulu Natal)=31

Appendix 5.3 Sweet potato samples that showed symptoms on *I. setosa*, but tested negative with serological analysis

Isolates	Province	Region	Symtoms on <i>I. setosa</i>
2miw 10	LP	Mianzwi	VC
2MIW 4	LP	Mianzwi	VC
Tshid 1/20	LP	Tshidani	VC/DM
Tshid 1/17	LP	Tshidani	VC
Tshid 1/25	LP	Tshidani	VC
B3-10	MP	Beverbreed	VC/DM
T2-6	MP	Tonga	VC/CS
FH1-9	W.C	Fremeshein	VC/DM
PD1-8	W.C	Pacalsdorp	VC
BT2-3	E.C	Burthust	VC
VK 37	KZN	Mvundleni	VC
MGL 16	N.W	Magolego	VC

LP=Limpopo, MP=Mpumalanga, W.C=Western Cape, E.C=Eastern Cape, KZN=Kwazulu Natal and N.W=North West provinces of South Africa.