

LeaderBrand Produce squash fruit symptoms – interim report to Tim Geuze

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Introduction

LeaderBrand Produce are concerned about the widespread incidence of blemishes on harvest squash fruit in the Gisborne and Tolaga Bay districts. The presence of these blemishes is giving rise to unacceptable levels of rejected fruit at the pack house. LeaderBrand wish to know the identity/nature and cause of these fruit symptoms, and if they can be avoided in future growing seasons. Also of concern were the identity of leaf –spotting symptoms, attributed to angular leaf-spot and how this may be controlled.

Crop visit February 28

The pack house and a number of crops (11) at different ages and stages were each visited, fruit at each site were examined and an estimate of fruit damage incidence recorded. (Table 1). Other field observations were also made and recorded.

It became apparent that two major symptoms, with slight variations, were present in most, but not all crops examined. The descriptions relate to those outlined in the current Grade Standard and illustrated on pack house posters.

The symptoms can be described as:

- 1) Oedema – blister-like growths or protrusions have formed on the fruit surface. These are usually pointed, up to 2 cm or more in height, and exceed the GS size requirement. In practice these appear to be easily damaged thus downgrading the fruit. There may be one or more of these on the fruit surface. At times the tip of the blister may also show slight damage indicating a secondary fungal infection. In younger fruit blisters appear to form as sharp points on the skin surface. This fruit damage is not usually related to ground spot (soil contact) damage, although at times they can occasionally occur together. These fruit symptoms are not the same as the blister associated with virus infections caused by ZYMV or WMV2.
- 2) Field spot – sometimes called pin rot. In mature fruit a light or dark flat or raised scab-like symptom ranging in size from a few mm to about a cm across. These lesions may scattered singly over the surface or clustered in groups. In younger fruit lesions appear lighter on colour and less developed. At times they appear to have caused distortion or miss-shaping of part of the fruit surface. This damage is not usually related to ground spot damage although at times they can occur together. Earlier research (Braithwaite & Ganey 1993) has attributed these spots to fungal infections of Fusarium, Phoma, Rhizoctonia and other species.

Action currently underway

Samples were sorted and a number of photos were taken as a record. Specimens of field spot, particularly young fruit, have been given to Mark Braithwaite (MAF NPPRL, Lincoln) to examine and try to isolate causal organisms.

Specimens have been sent to Dr LH Cheah (pathologist, Crop & Food, Palmerston North) and Bruce Bycroft (fruit physiologist, Crop & Food, Palmerston North). Cheah will similarly focus on field spot while Bruce will determine if oedema is present.

I am also trying to contact Nick Clark who has had experience in the past with oedema damage in South Auckland crops.

Reference:

Braithwaite, M.; Ganev, S. 1993: An investigation into the cause of "pin rot" in New Zealand squash. Report by MAF Quality Management, Sept 1993.

Table 1 Incidence of fruit skin symptoms and other field observations on buttercup squash in Gisborne crops, February 28 2002..

Crop	Growth stage	Oedema	Skin spot	Overall estimated incidence	Mildew	Aphids	Mosaic virus	Leaf spot
Racecourse	mature	+ (17%)	+ (60%)	77%	+	-	-	
Kents, Bell Rd	mid	+	+	60-70%	-	-	-	
Ladelli, Jackson Rd	young	+	+	70%	-	-	-	
Beasley	Young	+	+	40%	+	Whitefly	-	+
Grieves, Awapuni Rd	mid	+	+	40%	+	-	-	+
Sisterson, McDonald Rd cv 1.	mid	+	+	70%	+	+	-	+
Sisterson, McDonald Rd cv 2	mid	+	+	60%	+	+	-	+
Judd, McDonald Rd	mid	+	+	30%	+	-	-	-
Watson (Mecca)	mature	-(30%)	+	30%	+	-	-	-
Te Karaka	mid	-	+(30%)	30%	-	-	-	-
Tangihanga Stn	Mature	+	+	60%	+	-	-	-