

PART 10

# NEW ZEALAND MARKET GUIDELINES

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## 1.0 GENERAL

New Zealand is a key market for all avocado growers. The value returned from sales of avocados in New Zealand impacts all growers and consequently the packers, harvesters, marketers and contractors who support and represent them.

Best practice guidelines included in sections 1-9 of NZ Avocado Quality Manual are intended for use as best practice in the New Zealand market. The purpose of this section of NZ Avocado Quality Manual is to consolidate existing industry best practice guidelines that are specific to the New Zealand market so that they can easily be referenced. These best practice guidelines cover, grade standards, maturity and New Zealand market weight bands.

The guidelines have been created by New Zealand market stakeholders including growers, packers, and marketer suppliers, to support the growth of value for avocados sold in the New Zealand market.

## 2.0 FOOD SAFETY

**Please refer to Part 2 Grower and Part 9 Food Safety**

New Zealand Market Food Safety

- Growers must register their business the New Zealand Food Act 2014, this is a requirement for those working with food products and supplying the New Zealand market. Growers will need to have a Food Control Plan and have this verified by an independent third party such as the Local District Council or and IVA (AsureQuality and SGS).
- Once verified a New Zealand market Grower can register compliance with the Food Act vis MPI or through an MPI approved food control plan template covered by **NZGAP, GLOBALGAP** and will be issued with a Registration Number.

## 3.0 NEW ZEALAND MARKET MATURITY

NZ Avocado working with the NZ Marketer Group, Avocado Packers Forum and NZ Avocado Quality Standards Consultative Group, has agreed a maturity standard for the New Zealand market. The NZ Avocado early start programme for the New Zealand market is established to ensure that the quality of early season fruit entering the New Zealand market is of an acceptable standard. This programme will only operate until such time as adequate volumes of fruit that meets the normal maturity requirements are available. It is not designed as a de facto lowering of the maturity standard, nor is it intended to encourage supply of early season product. The focus of the programme is to ensure that the demand for early season fruit is met by product that will generate market and consumer confidence. NZ Avocado, Avocado Packers Forum and the NZ Marketer Group will review the success of this approach each season.

**NZ Avocado will cover the collection and testing cost of all New Zealand market maturity clearance samples that pass the New Zealand market clearance criteria for the period 1 May 1 through to 30 July annually. The cost of samples that fail will be recouped by NZ Avocado by way of invoice back to the Grower via the packhouse.**

## 4.0 MINIMUM MATURITY REQUIREMENTS

### 4.1 Domestic Early Start

By default, the Domestic Early Start programme will operate on a regional basis until such time as the regional average based on the monitor orchards reaches 24% dry matter content. The criteria for the Domestic Early Start Programme are:

- The average dry matter content across the fruit sampled **meets or exceeds** 23%
- A minimum 20 fruit sample per maturity clearance area is required for local market clearance
- A maximum maturity clearance area applies and area and associated sample size is notated in **Section 7.2**.
- A minimum of 18 out of 20 of number of fruit sampled must **meet or exceed** 20.8% dry matter.
- Clearance must be collected and verified by an Independent Third Party.
- All fruit to be ethylene ripened using NZ Avocado Ethylene Ripening Protocol.
- All fruit must be test ripened to ensure confidence in product.
- A copy of the verified maturity test must accompany the consignment.

### 4.2 Blanket Dispensation for Maturity Testing

At such time as NZ Avocado grants an industry wide or regional dispensation for maturity testing for export fruit, the maturity testing requirement for the New Zealand market will also be lifted. **NO MATURITY TESTING AFTER THIS DATE IS REQUIRED.**

### 4.3 New Zealand Market Marginal Fail Criteria

In order to minimise the cost of failed maturity tests, marginal fail criteria have been implemented. For any test where fruit fail to meet the industry standards for maturity and either:

- Average dry matter **meets or exceeds** 22.8%DM (provided 18 out of the 20 fruit **meets or exceeds** 20.8%DM) OR
- 17 out of 20 **meets or exceeds** 20.8%DM (provided the average dry matter exceeds 23%DM)

**A marginal failure will be issued with an automatic clearance date on the marginal failure result certificate sent out at the time of initial notification of the test result.**

## 5.0 INDEPENDENT VERIFICATION

All maturity tests must be collected and verified by an independent third party.

- The independent third party must be someone who does not have a vested interest in the outcome of the maturity test.

- The sample for maturity testing must be collected by an independent third party using the procedure outlined in **Section 3.0**. This need not be the same person performing the maturity test.
- Testing of the sample for dry matter content must be done according to the protocol in **Section 8.0**. Again, the testing procedure must be performed by a person who does not have a vested interest in the outcome.
- Those responsible for collecting and testing of the maturity sample must be named and sign the maturity test form. Some local marketers have indicated that they may insist on sighting these forms.

## 6.0 RECORDS

The Packer must retain test records (i.e. Copies of Dry Matter Assessment Sheets) for inspection by local marketers. Proof of maturity may be asked for by appropriate marketing agencies, NZ Avocado or the Avocado Packers Forum to verify questions from the market.

## 7.0 MATURITY SAMPLE COLLECTION PROCEDURE

The sample should be representative in terms of tree age and fruit size of the blocks to be harvested. The maturity clearance will only apply to fruit of that particular maturity area included in the sample.

Moisture loss can significantly corrupt results of a dry matter test. It is essential fruit is tested promptly and not subjected to drying or hot conditions.

### 7.1 Maturity Clearance Area

Where there is considerable variation in tree age between blocks these should be sampled as separate maturity areas. The maturity clearance will only apply to fruit of that particular maturity area included in the sample.

A Maturity Clearance Area (MCA) is defined as an area that is to be cleared by a single maturity test. This area may consist of more than one block. Each MCA should be clearly identified by name and location. The MCA may be defined by tree age e.g. a separate fruit maturity sample for each age band. If, however, a defined maturity area is to include different age trees then the sample should include, proportionately, fruit from all tree ages.

Normally young trees 2 to 3 years of age at set will be up to six weeks ahead of mature trees with 4 to 5-year-old trees somewhere in between. It is important that this difference be incorporated into the sample selection to avoid bias.

A map should be available outlining the boundaries of the MCA's. These maps need to be provided to the person collecting the samples. These maps will also need to be used by the harvesting gangs so they know where to pick.

## 7.2 Minimum fruit sample per Maturity Clearance Area

The minimum fruit sample per maturity clearance area is equivalent to that for export avocados. Minimum fruit sample per maturity collection area size is shown in the table below.

- Maturity areas should be representative in terms of tree age and fruit size of the blocks to be harvested.
- Where there is considerable variation in tree age between blocks these should be defined as separate maturity areas.
- The maturity clearance will only apply to fruit in blocks defined under a particular maturity area.

Minimum fruit sample per maturity clearance areas are as follows:

Orchard size (ha)	Minimum number of Maturity Clearance Areas (MCA)	Number of maturity clearance samples	Fruit sample number
0 – 5ha	1	1	20
5.1 – 10.0ha	2	2	20
Greater than 10.1ha	3	3	20

A Grower can divide the orchard into more maturity clearance areas – the above is the minimum requirement for an orchard.

## 7.3 Fruit Collection

1. Clearly label bags for collecting fruit (using permanent marker) with growers PPIN and/or name. Bags should also be labeled with the date time of sampling and the name of the sampler.
2. Select one fruit from 10 - 15 trees ensuring fruit is free of sunburn and/or wounds. Fruit that is ridged or has minor blemishes is acceptable.
2. Walking diagonally across the MCA collect fruit from the North-East side of the trees, using a compass.
3. Select fruit at random between 1.5m and 4m above the ground. Take no more than one fruit per tree. In the case of mature trees where the majority of fruit is above 4m fruit can be selected up to 6m.
4. If the Maturity Clearance Area has trees of mixed ages the sample must be taken in proportion to the age classes represented e.g. If the MCA is made contains 75% of 8-year-old trees and 25% of 3-year-old

trees the sample to be analysed must have 8 fruit from the 8-year-old trees and 2 fruit from the 3-year-old trees.

4. The size of the sampled fruit should be representative of those to be harvested. No individual fruit to weigh less than 162g.
5. Fruit must be snipped from the trees. Cut stalks short and square to prevent them puncturing plastic bags.
6. Fruit must be placed immediately into labelled plastic bags and sealed to ensure minimal water loss. Place damp paper towels in the plastic bag to maintain humidity ensuring there is no free water in the plastic bags.
7. If samples are not to be processed immediately place the sealed plastic bag with the samples into a chilly bin. Between picking and testing samples must be kept under conditions which will minimise water loss.
8. Samples must be processed within 12 hours of picking.
9. Sampling wet fruit  
Although sampling dry fruit is ideal it will at times be necessary to sample wet fruit. When this situation arises any wet fruit collected should be dried immediately with a paper towel and then treated as per normal sampling procedure. The fact that the fruit were wet when sampled should be noted, and recorded with the sample results.

## 8.0 DRY MATTER TESTING METHOD

8.1 See Part 8: Export Maturity







## 9.0 NEW ZEALAND MARKET WEIGHT BANDS

Single layer tray	5.5kgs	47 litre crate 3.35 TEQ	Combined Count
		Nominal weight 18.5kgs	
10 count	504 gm +	40 count	11
12 count	425 – 503 gm		
14 count	368 – 424 gm	50 count	15
16 count	325 – 367 gm		
18 count	290 – 324 gm	65 count	19
20 count	257 – 289 gm		
23 count	229 – 256 gm	80 count	24
25 count	208 – 228 gm		
28 count	184 – 207 gm	100 count	30
32 count	162 – 183 gm		
36 count	142 – 161 gm	120 count	39
42 count	123 – 141 gm		
48 count	108 – 122 gm	140 count	51
54 count	96 – 107 gm		

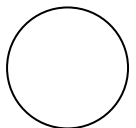
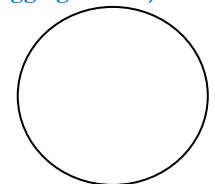
## 10.0 GRADE STANDARDS



Major Defects (with an AQL tolerance of 2%)

Defect Type	Class 1	Class 2	Class 3	Class 4	Description or Comment
Cuts & punctures	Nil	Nil	Nil	Nil	Unhealed crack, cut, puncture or insect or pest damage that penetrates into and/or exposes flesh.
Clipper cuts - penetrating flesh  - not penetrating flesh	Nil  Allowable	Nil  Allowable	Nil  Allowable	Nil  Allowable	Unhealed surface cuts around the stem button that penetrate into the flesh. Peel may or may not be damaged. Small unhealed surface cuts around the stem button that do not penetrate into the flesh. Peel may or may not be removed.
Soft fruit (at packing)	Nil	Nil	Nil	Nil	Fruit that is soft to the touch. Pre-ripened fruit is exempt.
Spray deposits - Copper spray  - Other spray deposits	Surface “bloom” or small trace around stem pedicle or base of fruit Nil	Surface “bloom” or small trace around stem pedicle or base of fruit Nil	Surface “bloom” or small trace around stem pedicle or base of fruit Nil	Allowable	Fruit may be harvested with spray deposits providing these can be removed during the packing process.
Surface deposits	A small trace of dust around the stem pedicle is allowable	A small trace of dust around the stem pedicle is allowable	A small trace of dust around the stem pedicle is allowable	Allowable	Grease, bird droppings or other foreign matter. Fruit may be harvested with surface deposits providing these can be removed during the packing process.
Pollen	A small trace allowable	A small trace allowable	A small trace allowable	Allowable	Yellow surface deposit usually found at the basal end of the fruit. Fruit may be harvested with pollen deposits providing these can be removed during the packing process.
Anthracoese	Nil	Nil	Nil	Nil	Brown to blackish spots with no underlying green colour on fruit surface. Spots have defined edges (not jagged) and are slightly sunken. In cases of severe/advanced infection, pinky-white spores may be present on spots.
Ridging Height	No ridge will be more than 2mm high.	No ridge will be more than 2mm high	No ridge will be more than 2mm high	Allowable	Ridging is easily damaged in the handling process and contributes to rot development after packing. A protuberance ceases to be a protuberance and becomes a ridge when it exceeds 10mm in any one lateral plane.

Defect Type	Class 1	Class 2	Class 3	Class 4	Description or Comment
Protuberance	No protuberance will be more than 3mm high.	No protuberance will be more than 3mm high.	No protuberance will be more than 3mm high.	Allowable	A small, singular, pimple-like structure on the peel of the fruit. It does not include bumps that are the result of nutritional malformation. A protuberance ceases to be a protuberance and becomes a ridge when it exceeds 10mm in any one lateral plane.
Bruising	Less than 0.25cm <sup>2</sup> 	Less than 0.25cm <sup>2</sup> 	Less than 0.25cm <sup>2</sup> 	Allowable	A bruise is an area of damaged peel resulting from pressure. This includes flattened and compressed areas. Bruising is normally dark coloured but may not be if the damage is recent. Any bruise of less than 0.25cm <sup>2</sup> is allowed.
Colour - Matt black - Red - Yellow  - Blue black  - Reddish/Brown - Yellow/Green	Less than 0.5cm <sup>2</sup>   Allowable where colour has a green background and/or where lenticels are green.  Allowable where colour has a green background.	Less than 0.5cm <sup>2</sup>   Allowable where colour has a green background and/or where lenticels are green.  Allowable where colour has a green background.	Less than 0.5cm <sup>2</sup>   {<10% {<20% (in any one view)  Allowable  Allowable where colour has a green background.	Allowable  Allowable Allowable  Allowable	Yellow, red, black due to sun exposure – this may be general or very localized.  Blue black due to maturity.
Sunburn Lesion	Nil	Nil	Nil	Allowable	Black/brown sunken lesion caused by sun exposure.
Stems missing	Nil	Nil	Nil	Nil	Stems totally missing. These allow for possible pathogen entry and may indicate windfall fruit.

Minor Defects (with an AQL tolerance of 4%)

Defect Type	Class 1	Class 2	Class 3	Class 4	Description or Comment
Scale	Allowed are: Up to 4 scale on any view of fruit. Scale around the button	Allowed are: Up to 4 scale on any view of fruit. Scale around the button	Allowed are: Up to 4 scale on any view of fruit. Scale around the button	Allowed are: Up to 4 scale on any view of fruit. Scale around the button	Colour of scale may vary from oatmeal to dark brown. Juvenile scales less than 1mm are not counted.
Blemish	2cm <sup>2</sup> (block or aggregate area)  Total blemish area may not exceed 2cm <sup>2</sup>	4cm <sup>2</sup> (block or aggregate area)  Total blemish area may not exceed 4cm <sup>2</sup>	< 50% of the surface area of the fruit in any one view	Allowable	Superficial healed surface scar less than 2mm deep. Colour may be light brown to black. Scarring may be slight to solid blocks of scarred peel resulting from fruit rub, wind damage or superficial insect feeding damage. Any blemish deeper than 2mm is out of grade, regardless of size
Lenticel damage	Less than 25% of fruit surface may be affected in any one longitudinal view of fruit.	Less than 50% of fruit surface may be affected in any one longitudinal view of fruit.	Less than 50% of fruit surface may be affected in any one longitudinal view of fruit.	Allowable	Fresh lenticel damage is excluded from the blemish allowance and is the physical damage of nodules to remove part of the outer layer of peel (but no exposure of flesh) and resulting in localized damage restricted to the nodule.  Lenticel Damage includes any visible damage to the nodule, and is likely to fall under one of the following descriptions: <ul style="list-style-type: none"> <li>• Superficial damage to the nodules which are sunken and have turned black and glossy.</li> <li>• The tops of nodules have been damaged, removed or cut. Generally visible as superficial, corky-coloured wound.</li> </ul>

Defect Type	Class 1	Class 2	Class 3	Class 4	Description or Comment
Peel handling damage	Less than 25% of fruit surface may be affected in any one longitudinal view of fruit.  Block area of 0.25cm <sup>2</sup> is permitted	Less than 50% of fruit surface may be affected in any one longitudinal view of fruit.  Block area of 0.25cm <sup>2</sup> is permitted	Less than 50% of fruit surface may be affected in any one longitudinal view of fruit.	Allowable	A dark grey diffuse area spreading beyond individual nodules.  Any individual affected area of peel handling damage must not exceed 0.25 cm <sup>2</sup> .
Misshapen	Slight malformation providing it does not detract from the appearance of the fruit.	Slight malformation providing it does not detract from the appearance of the fruit.	Moderately well formed	Allowable	Malformation of fruit not consistent with variety. Includes extreme neckiness, totally round fruit, autumn fruit set and double embryo formation.
Long stems	Nil	Nil	Nil	Allowed	Stems longer than 5mm.
Mixed sizing	No more than 10% of the fruit to be below the count size individual minimum weight.	No more than 10% of the fruit to be below the count size individual minimum weight.	No more than 10% of the fruit to be below the count size individual minimum weight.	Allowable	Fruit that does not correctly meet the count size requirements of the package that it is contained in.
Chimeral Fruit	Nil	Nil	Allowable	Allowable	Genetic abnormality. A straight line of green/yellow/brown colour change restricted to the peel and running down the fruit.
Variety	Nil	Nil	Nil	Allowable	Will be typical of the variety being packed. Only one variety is to be packed per tray/consignment and is to be correctly identified on the label.
Ridging and Netted Area	Less than 25% of fruit surface may be ridged on any one longitudinal view of fruit.	Less than 50% of fruit surface may be ridged on any one longitudinal view of fruit.	Allowable	Allowable	Surface ridging and netted malformation of fruit peel that detracts from fruit appearance. Scarring may be slight surface scattered netting. Colour may be light brown to black.