

# Bravo™ Apple Quality Specification – 2019 Season

The following minimum quality specifications must be met for ANABP 01<sup>(1)</sup> apples to be sold under the Bravo™ apple brand. These specifications apply for the 2019 season.

The aim of the minimum quality specifications is to ensure both retailers and consumers are provided quality Bravo™ apples meeting at least these minimum standards.

## General

All ANABP 01<sup>(1)</sup> apples must be treated with 1-Methylcyclopropene (SmartFresh™) within 7 days after picking.

The use of DPA is **not permitted**.

Waxing of ANABP 01<sup>(1)</sup> apples must be authorised in advance and in writing, by WA Farm Direct as the sole Licensed Marketer of all ANABP 01 fruit.

All apples meeting the Bravo™ specification must be stickered with a FWCL approved bar-coded Bravo™ PLU sticker for 2019.

## Harvest Maturity Indices

Maturity Indices	Requirement	Interpretation
Flesh firmness	Average greater than 8.0kg at harvest. (minimum 7.5kg)	
Sugar content(TSS)*Brix	No fruit less than 13 Brix	Average ≥13.5 Brix at harvest

## Quality Parameters After Packing

Fruit Quality Characteristics	Requirement	Tolerance	Interpretation
Eating characteristic	Free from foreign taints	Nil	Crisp, sweet, firm, juicy.
Fruit appearance & shape	No misshaped / malformed fruit, milky coating or surface residue	Nil	Generally round. Fruit to be free from residue.
Skin colour	At least 70% of the surface area to be black/dark burgundy colour	Nil	70% of the surface area to be black/dark burgundy colour. No more than 30% may include light red, orange or cream colour.

## Apple Sizing

Description	Apple Count	Carton/kg	Fruit Diameter mm
<b>X-Large</b>	44	12	88-90
	50	12	85-87
	54	12	82-84
<b>Large (Market preferred)</b>	60	12	79-81
	65	12	78
<b>Medium (Market preferred)</b>	70	12	75-77
	76	12	72-74
<b>Small</b>	82	12	69-71
	90	12	66-68
<b>X-Small *</b>	102	12	62-65

\*X-Small (only to be packed under instruction from the licensed marketer).

## Quality: Defect Assessment

### Major Defects

Total defects in this category must not exceed 2% i.e. maximum 2 defective apples per 100

Defect	Allowable level	Interpretation
Insects	Nil	No live or dead insects
Diseases	Nil	Fungal or bacterial diseases / decay
Physiological Disorders	Nil	Bitter pit/ Tree pit, lenticel breakdown
Bruising	One bruise less than 1sq. cm. per apple	Permanent or discoloured bruising
Physical /Mechanical Damage	Nil	Unhealed stem punctures, cuts, cracks or insect damage
Chemical Burn	Nil	
Sunburn	No more than 2% with minor colour bleaching	Greater than 2sq. cm. of surface area
Storage disorders	No more than 2%	Shrivel, scald, flesh browning or temperature damage

### Minor Defects

The total of minor defects listed must not exceed 10% i.e. 10 defective apples per 100.

Defect	Allowable level	Interpretation
Foreign Matter	Nil	Dirt, dust or leaf litter
Hail Marks	No more than 10%	healed injuries less than 1sq. cm. in total
Greasiness	No more than 10%	
Skin Blemish	Blemish no more than 2sq. cm of surface area	Blemish doesn't detract from the overall appearance of the fruit
Russet	No more than 10%	Area from stem to shoulder should be less than 15mm diameter (diameter of 20c coin) and not extend over the shoulder
Cracks (Healed)	One crack 5mm or less per apple	Cracks may include calloused calyx or healed stalk cavity splitting
Superficial Bruising	One bruise less than 1sq. cm. per apple	Light flattening of skin surface

**The total of major and minor defects listed must not exceed 10% i.e. 10 defective apples per 100 with maximum of 2 of the 10 apples having a Major Defect.**

# Glossary of terms

**Bruising** – skin marks and possible indentation of the fruit resulting from pressure; as

- **Superficial bruising** – temporary marks (not discoloured) that disappear when removed from packaging; or
- **Discoloured bruising** – dark coloured obvious indentions resulting in permanent flesh and appearance damage.

**Cracks (unhealed)** – any unhealed fruit or skin splitting which exposes the flesh.

**Cuts** – break of the skin exposing the flesh.

**Defect** – a permanent abnormal development of the fruit, either external or internal, caused by physiological or physical factors that impact on any stage of fruit development including at harvest and during storage.

**Flesh firmness** – the pressure required, measured in kilograms, to depress the flesh of the fruit (with skin removed) using an 11mm penetrometer probe.

**Greasiness** – greasy/oily feel of the skin resulting from fruit being picked too late; with maturities too advanced or retarded.

**Insect damage** – any damage or defect to the external or internal parts of the fruit, caused by an insect.

**Bacterial / Fungal Diseases** – includes Black Spot, Fusicadium and Bulls Eye Rot.

**Lenticels** – the small dots (pores) on the skin of fruit whereby apples breathe and transpire. Apple lenticels can be distinctive and decorative and appear as raised circular or elongated areas.

**Puncture** – break of the skin exposing the flesh.

**Russet** – any brown skin marks at the stem end.

**Skin blemish** – a superficial skin mark including mechanical injury, healed superficial skin damage or healed insect damage that will not affect storage quality of the fruit or detract from the appearance.

**Storage disorders** – any abnormal physiological condition which affects skin or flesh e.g. skin shrivel (wrinkling of the skin because of dehydration in storage) scald or flesh browning.

**Sugar content** – is the measure of the percentage of total soluble solids (%TSS) of juice extracted from the fruit using a refractometer.

**Sunburn** – where the fruit surface is permanently discoloured as a bronze, burnt brown or scalded white appearance; which may lead to flesh discoloration and reduce shelf life.

**Residue** – milky white coating that may or may not be attributed to harvest sprays and dipping

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