

STARCH CONVERSION GUIDE



## **BRAVO® APPLE COLOUR RANGE**



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ANABP 01<sup>(b)</sup> fruit tend to ripen towards the end of the apple harvest season, about 21 days before Cripps Pink. The actual harvest time is dependent upon seasonal conditions and can vary between years.

Quality specifications for ANABP 01<sup>(b)</sup> apples to be sold under the BRAVO<sup>®</sup> brand are set. Growers should refer to the quality specifications throughout the year and prior to harvest, to determine management practices that will allow fruit to be marketed under the BRAVO<sup>®</sup> brand.



This information was extracted from the technical documents available on **https://fruitwest.com/anabp01technical.htm** All advice is general in nature and your own orchard environment should be taken into consideration.

PRESSURE (KG)	SKIN GREASINESS
>9	Not greasy
8–9	Not greasy
7–8	Not greasy
7–8	Not greasy
6–7	Greasiness becoming apparent

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## STORAGE

Measurement of air quality in cool stores is important for the delivery of high quality fruit after storage. Sensors should be installed in cool rooms to measure humidity, carbon dioxide  $(CO_2)$  and oxygen  $(O_2)$ . Measurement of ethylene levels may offer greater insight into storage conditions.

The maximum duration of the storage time for ANABP 01<sup> $(\phi)$ </sup> is yet to be determined. ANABP 01<sup> $(\phi)$ </sup> responds to good temperature and storage management. Step cooling of fruit after harvest to 2–4°C is recommended. Optimum storage temperature is 0.5–3°C. When using controlled atmosphere storage, oxygen should be between 1.5–2.5% and carbon dioxide below 1%, unless ultra low oxygen (ULO) is being used.

It is important to apply pre-harvest on-tree fungicide at the correct time to reduce the risk of rot development in cool storage.

### HUMIDITY

Relative humidity in cool rooms used to store ANABP  $01^{\circ}$  should be 85% to 95%. Low relative humidity (e.g. 70% and below) has been associated with skin shrivel in ANABP  $01^{\circ}$ .

### ETHYLENE

ANABP 01<sup>(b)</sup> produces a greater amount of ethylene compared to the apple varieties Gala and Cripps Pink.

Gala and Cripps Pink varieties are considered to be moderate ethylene producing varieties. In contrast the apple variety Granny Smith is a low producer of ethylene. ANABP 01<sup>(b)</sup> responds well to the use of SmartFresh<sup>™</sup>, which must be applied no later than 7 days after harvest.

#### OZONE

Ozone treatment using commercial ozone generators may extend storage time and manage volatiles, including ethylene, in cool rooms. Ozone reduces the development and spread of rots on fruit as it effects the growth of spores that cause rots. Excessive ozone concentrations can damage fruit in short term storage. Ozone is ineffective when applied at the same time as controlled atmosphere (CA).

#### **SMARTFRESH<sup>™</sup> APPLICATION**

SmartFresh<sup>™</sup> application must be applied no later than 7 days after harvest. The greatest benefit from the application of SmartFresh<sup>™</sup> occurs when ANABP 01<sup>Φ</sup> fruit is treated close to harvest. SmartFresh<sup>™</sup> is used for both air stored and controlled atmosphere stored fruit.

# **PREMIUM GRADE SPECIFICATIONS**

**Shape:** Fruit shape should be generally round, with no misshaped/malformed fruit.

**Size:** The ideal fruit size should be medium to large (72mm to 81mm diameter).

Flesh firmness: Harvest at a pressure of no less than 8.0kg.

**Taste:** The eating characteristic of the fruit should be crisp, sweet, firm and juicy and free from foreign taints.

Sugar content: Total Soluble Solids (°Brix): Fruit must have a minimum of 13°Brix at harvest.

**Colour:** At least 60% of the surface area should be dark burgundy in colour.

**Treatment:** All ANABP 01<sup>(b)</sup> fruit must be treated with 1-methylcyclopropene (SmartFresh<sup>™</sup>) within 7 days after harvest.

**Residues:** There must be no milky coating or surface residues on the fruit.

**Defects:** Specifications for major and minor defects are available. Total defects (major and minor) must not exceed 10% (i.e. 10 defective apples per 100). Of the total defects, defects classed as major must not exceed 2%.

**Chemical:** The use of diphenylamine (DPA) is not permitted.

Wax: Waxing is not permitted unless written authorisation is gained in advance from WA Farm Direct, the licensed marketer of all ANABP 01<sup>(b)</sup> fruit.

**Sticker:** All apples meeting the premium specification must have an approved sticker with minimum 85% coverage.

**More information:** Further information on ANABP 01<sup>(b)</sup> production is available in the: *Technical Information Dossier for Australia: Apple Variety ANABP 01*<sup>(b)</sup> Department of Agriculture and Food, Western Australia. (July 2014, updated January 2017) www.fruitwest.com.au/index\_htm\_files/31-01-17%20ANABP%2001%20Technical%20Dossier%20Final.pdf

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