



KNOW YOUR BIGBUCKS

Know Your 'Bigbucks' (revised 22.11.2021)

1. General Information

Discovery: 18 January 2011

Owner: Pink Vein (Pty) Ltd.

RSA: Licenced to SAPO Trust

Worldwide: Licenced to ABC_z Belgium

Trademark: Flash Gala™



2. Identifying 'Bigbucks'

All budwood used for producing 'Bigbucks' trees is selected according to three main characteristics of the variety:

i. Fruit

The fruit should be full red viz. wine red or cherry red at harvest. There should be no stripes. Budwood is normally cut as close as possible to the fruit as described above. The fruit has a typical Gala flavour and texture.



Royal Gala vs. Bigbucks (Bigbucks on right)

ii. Leaves

From approximately the end of February a typical Bigbucks leaf should have a distinct pink-red central vein as in the photo below. Before this time this characteristic is not very pronounced. BY autumn this characteristic should not be used as a means of identification as other varieties could also show this central red vein later in the season.



iii. Flowers

Directly after petal drop, the base of the 'Bigbucks' blossom is deep crimson in colour. The fruitlets, 7-10 days after petal drop, are dark red compared to standard Royal Gala.

We recommend that growers who have planted 'Bigbucks' trees should use the above means of identification to ensure that their trees are true to type. A good time of identification is at the end of February of the first leaf. Check whether every tree has the typical pink or red central vein. If it has not, it is not 'Bigbucks.'



3. Notes on planting and cross-pollination

Rootstock and planting distance/orchard system choice is as with 'Royal Gala.' Aim to plant with magnetic north as row direction. If this is not possible, aim to stay between true north and 30° west of true north.

Use 'Granny Smith' or 'NIVV Golden Delicious' as cross pollinators. Some seasons 'NIVV Golden Delicious' flower too late in the EGVV, therefore 'Granny Smith' is the better option for the area. Cross-pollinators should ideally be at full bloom when the main variety is at 50% blossom. Either 1 in 10 (10%) or 1 in 9 (11.1%; every third tree, every third row) should suffice for most commonly used orchard designs.

4. Notes on the use of GA₄₊₇+6-BA (i.e. Promalin, Perlan, Gibbalin, etc.) and GA₄₊₇ (i.e. Regulex)

Trial work on 'Bigbucks' has indicated that a 125ml/100lit GA_{4/7}+6-BA (i.e. Promalin or similar) application at 40% of TRV between full blossom and three days after full blossom is beneficial to fruit shape. The application has led to attractive slightly elongated fruit without excessive typiness. Experience indicated that a second application of GA_{4/7}+6-BA did not have additional beneficial effects.

Remember than an early GA_{4/7}+6-BA application may have a thinning effect. On vigorous trees, or young trees carrying their first commercial crop, or in orchards with a high population of lateral fruit on 1 year old wood, use a lower dose of 62.5ml/100lit GA_{4/7}+6-BA at 40% of TRV between full blossom and three days after full blossom. Multiple applications of the half-rate can also be considered (viz. two to three applications 7 to 14 days apart). Be careful under conditions conducive to fruit thinning viz. warm to hot weather especially with warm nights and cloudy conditions; excessive vigour, etc. Note that GA₄₊₇ (i.e. Regulex) can be used at 10g/100lit. as a substitute for half-rate GA_{4/7}+6-BA, also at 40% of TRV.

5. Notes on thinning and crop load management

Experience on the chemical thinning of 'Bigbucks' will grow over time. Thinning decisions should be similar to that of 'Royal Gala'. Note that an early GA4/7+6-BA application as described above may have some thinning effect in itself.

6-BA (i.e. Maxcel, Excillis or similar) can be used at ± 8 mm fruit size to thin within bunches. This may be followed by an application of carbaryl (i.e. Sevin XLR or similar).

Chemical thinning lowers the number of generations of fruit on the tree and has a positive effect on in-tree variation in harvest maturity.

Do not overcrop your 'Bigbucks.' A healthy leaf to fruit ratio is conducive to excellent quality and buffers the tree and fruit to environmental stresses.

6. Notes on Retain[®] and Harvista[™] use

Philagro SA conducted research regarding the use of Retain[®] (AVG) on 'Bigbucks' during the 2018/19, 2019/20, and 2020/21 seasons. All treatments had a marked positive effect on fruit pressure. Earlier applications caused a more pronounced delay in starch breakdown than late applications.

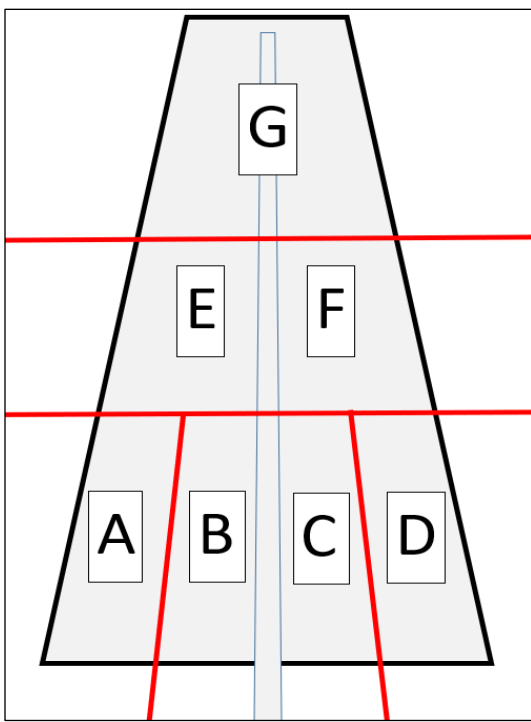
Unlike with poor colouring sports of 'Royal Gala' where Retain[®] is applied 8-10 days before anticipated harvest, current indications are that the optimum application time of Retain[®] on 'Bigbucks' is approximately 21-28 days before anticipated harvest.

The use of Harvista[™] (1-MCP) on 'Bigbucks' was investigated for the first time during the 2020/21 season. The Harvista[™] protocol for 'Bigbucks' must still be fine tuned, but expectations are for a positive result. Trials are again planned for the coming season (2023/24).

7. Determining 'Bigbucks' Harvest Protocol

'Bigbucks' apples are already full red 2-3 weeks before optimum maturity. Due to its full red colour, the background colour is virtually invisible and growers can make the mistake of harvesting too early. In striped Galas the background colour is a useful indicator of maturity; not so with 'Bigbucks.'

Starting 14 days before anticipated harvest, the fruit maturity and extent of variation within the orchard should be assessed through iodine testing of starch breakdown. Select and mark representative trees within the orchard; if it is a large orchard or one that lacks uniformity, more trees should be selected. On fully grown trees, collect seven fruit samples from each tree according to the spatial categories A-G as displayed in the figure below. On young trees less categories will suffice.



A cross section of a full grown tree with letters denoting seven spatial categories for maturity indexing (left), with an example on the right.

Once samples have reached 8/10 within the 20%-30% starch breakdown range, commence harvest of fruit located in those categories. In orchards with good light distribution it is possible to strip pick 'Bigbucks'. In orchards with sub-optimal light distribution through the canopy one can expect two harvest events. Areas with comparable light distribution are expected to have comparable physiological maturity. Prohexadione-Ca (i.e. Regalis or Kudos) and judicious summer pruning can be used to assist in maintaining a uniform light environment throughout the canopy.

Background colour may be visible in the calyx of the fruit. In many cases harvest-ready fruit are either red in the calyx or indicate colour break from green to cream in the calyx (as with standard RGL). Green colour in the calyx is often associated with horticulturally immature fruit. Verify this for every harvest in every orchard through maturity indexing.

Importantly, with older Gala strains the decision whether to pick or not is, in essence, left to each picker. They have to decide themselves whether an apple is harvest ready or not, based on background colour. This leaves massive room for error. In the case of 'Bigbucks' the pickers can focus on picking the fruit correctly and carefully. The owner/manager/advisor must make the call on when to pick which fruit. If this responsibility is handled correctly, one can expect fewer maturity issues with 'Bigbucks' than older strains.

8. Harvesting and Post-harvest handling

At harvest, discard any obviously immature (green) fruit that were picked by accident for processing. The use of wetted hessian to cover harvested bins is advisable as the well coloured fruit can heat up significantly in the bins.

It is recommended that 'Bigbucks' should be handled post-harvest in a similar way as normal 'Royal Gala.' The use of 1-MCP (Smartfresh) is strongly recommended as per the 'Royal Gala' protocol.

If environmental stresses or adverse conditions i.e. drought or a heat wave occurred during the harvest window, it is recommended to delay packing by 14 days from date of harvest. Due to its superior colour, 'Bigbucks' can hide blemishes at harvest, therefore delaying packing will allow any defects i.e. heat damage to show more clearly.

It is strongly recommended that fruit from 1st crop young orchards (mostly strip-picked) should not be marketed to sensitive (Middle or Far-Eastern) markets. Focus the marketing of such fruit on South Africa and the larger Africa.