Case Study in Orchard Efficiency

Comparison of labour costs between Buckeye Gala and Rosy Glow apples in Lenswood, South Australia

Prepared by Apple & Pear Growers Association of South Australia Inc, March 2016.
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Introduction

Labour is one of the biggest costs in apple production. Understanding how those costs can vary between management of different varieties can assist growers in making informed management decisions.

This case study compares the labour costs associated with growing the Buckeye strain of Gala and Rosy Glow strain of Cripps Pink apples in Lenswood, South Australia, which are both considered "high colour" strains. Cripps Pink and Gala are among the most common apple varieties grown in Lenswood.

The Orchard

The two comparison blocks are on neighbouring orchards under the same management. The orchards are typical for the Adelaide Hills region on sloping sites. Trees are irrigated with under-tree sprinklers with a grassy swarth maintained in the mid-row.

In the comparison blocks the trees are are approximately 11 years old, planted on M26 rootstock at 3.7m row spacing x 1m tree spacing.

The trellis system is supported by wooden posts with tree heights of approximately 4 metres for Buckeye Gala and 3.5 metres for Rosy Glow; the maximum that can be supported by this trellis system. The Buckeye Gala is grown in what is considered by the grower to be a more favourable site with regards to soil type and aspect.

Buckeye Gala

Management

Both blocks receive a fairly detailed winter prune, with close attention to meeting target bud numbers. As they are harvested at different times of the year there are some differences in the management strategies for both varieties.

The Buckeye Gala, which are harvested in February, are thinned early (timing 3rd week November) with a light summer prune and receive early irrigation and fertilizer applications with a goal to achieve early fruit growth to boost size and tonnages.

Rosy Glow

The Buckeye Gala receive an extra 2 applications of fertilizer in comparison to the Rosy Glow. They also may receive an extra 2-3 sprays early in the season, and some blocks receive 1-2 applications of ReTain®. The Rosy Glow, which are harvested in mid to late April, receive additional irrigation in autumn and an additional 4-5 sprays after the Buckeye Gala are harvested. They also can receive a light summer prune.

Of the two blocks being considered in this case study, the average yields are as follows:

- Buckeye Gala – 39 tonnes / ha
- Rosy Glow – 59 tonnes / ha

Costs

For the purpose of this case study we are looking at three of the major labour-based cost activities - pruning, thinning and picking. There are some significant differences in the costs of these three activities between the two varieties.

Working on an average of 370 kg of fruit for a bin of Buckeye Gala and 350 kg of fruit for a bin of Rosy Glow, a cost per bin rate has been calculated for each strain, as well as a cost per hectare.

	Cost per bin ($)		Cost per ha ($)	
	Buckeye Gala	Rosy Glow	Buckeye Gala	Rosy Glow
Pruning	30	20	3,162	3,371
Thinning	35	25	3,689	4,214
Picking	65	40	6,851	6,743
Total	130	85	13,703	14,329

NOTE: These are average costs over the past three growing seasons, with some variability between seasons, but consistent trends.

For these three major activities, looking at costs per hectare, costs for the Buckeye Gala were slightly lower than for Rosy Glow. However for the purpose of this case study, we are consider cost per bin, as it relates more directly to what the grower is being paid for.

The cost per bin was significantly higher for Buckeye Gala than for Rosy Glow. On average, for pruning, thinning and picking, the Buckeye Gala was $45 per bin more expensive to grow than Rosy Glow.

Analysis of Costs

According to Hillview Fruits, Buckeye Gala is a more challenging variety to grow in Lenswood than is Rosy Glow. Buckeye Gala develops and matures through the warm, dry summer months, with a relatively short growing season. The yields are consistently lower and there is also more variation in colour.

These are the two main factors that attribute to the higher cost per bin of production. The lower yields mean that costs such as pruning and thinning are amortized over less bins of fruit per hectare, while the colour variation also means that the picking costs are higher. The Buckeye Gala generally requires 3 picks whereas the Rosy Glow only requires 2 picks.

Attention to detail is also critical with Buckeye Gala. Being an early variety, fruit growth must happen quickly and there is little room for error, with not a lot of time during the growing season to correct mistakes made early on. More time is spent looking at the trees to make decisions with this variety. It is also the first variety to prune and thin.

Hillview Fruits have also noticed that impacts from scrub growing near the edges of the orchard are more pronounced in the Buckeye Gala than in the Rosy Glow, due to the competition for moisture during the driest part of the growing season.

Rosy Glow on the other hand has a longer growing season, with more time to correct mistakes and more opportunity to make up fruit size.

Returns

Over the past few years average returns have consistenly been $50 per bin higher for the Buckeye Gala than for the Rosy Glow.

This has compensated for the higher cost of production making the overall net returns for the 2 varieties similar.

There has also been a difference in pack-outs, which also should be factored into the equation. Average packouts are:

- Buckeye Gala – 83%
- Rosy Glow – 88%

The poorer packouts for Buckeye Gala can largely be attributed to sun damage on the fruit, to which the earlier variety is more susceptible.

Buckeye Gala

Rosy Glow

Summary

This comparison shows that Buckeye Gala grown in Lenswood cost more per bin to grow than Rosy Glow. Hillview Fruits report that this is a consistent trend when making this comparison between different blocks of Buckeye Gala and Rosy Glow, although the differences can be more or less between blocks, depending on soil types, location etc.

Returns however, are currently sufficiently higher to compensate for the higher cost structure. Regardless of what varieties are grown, understanding gross margins for each variety is helpful in making informed decisions around which varieties are profitable.

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Apple and Pear Growers Association of SA. Inc.

Horticulture Innovation Australia