

BUSINESS MANAGEMENT FACT SHEET

PUT A POLICY AROUND MACHINERY PURCHASES

Machinery in cropping enterprises can be up to 30 per cent of a business's total asset value, land being the other main asset. Better machinery replacement decisions can be made through careful planning and can increase profitability and ensure capital is available for other investments such as land purchases or off-farm investment.

KEY POINTS

A written machinery replacement policy can:

- ▶ Provide a framework to set priorities while remaining flexible – it helps keep machinery costs to within guidelines and targets, leading to more effective use of available capital.
- ▶ Communicate rationale and intentions to the business partners before decisions are taken – this can reduce uninformed or emotional influences.
- ▶ Improve business planning and governance by being aligned with other policies, such as workplace health and safety.
- ▶ Ensure profits are allocated to achieve overall business and personal goals.

Background

Income volatility complicates planning for large capital allocations, and emotions associated with special offers or seasonal needs can sometimes cloud sound decisions.

Having a written replacement policy, such as that outlined in Figure 1, reduces the emotions involved and helps determine appropriate purchases.

A machinery replacement schedule is a product of the policy. An example schedule is given in Table 1.



PHOTO: MELISSA POWELL

A machinery replacement policy and schedule helps farm businesses make informed decisions about the purchase, leasing or contracting of equipment.

A replacement policy and subsequent schedule sets priorities so machinery purchases can be spread across years to even out cash flow.

A machinery replacement schedule provides clarity for growers, the family, their advisers and staff. It facilitates discussion before a decision to purchase is made.

Key considerations

A machinery replacement policy recognises that there will be a different rationale and strategy applied depending on the importance of the equipment in question and the cost. Core equipment that is critical for effective and timely operations will be assessed differently to non-core equipment.

A policy can involve a blend of the following approaches¹:

- ▶ **Replace regularly at predetermined usage milestones:** this can reduce the risk of breakdowns and costly repairs. Milestones can be flexible to accommodate particular circumstances, such as special offers or market fluctuations.
- ▶ **Replace some machinery each year:** this helps avoid large outlays in any one year. However, it may lead to higher overall machinery replacement costs. It is best suited to businesses with a reasonably stable income.
- ▶ **Replace when cash income is higher than average:** this can keep purchases from cutting into funds needed for other things. However, it is hard to predict and can lead to older machinery that may break down and become costly to maintain.
- ▶ **Keep forever:** run machinery until it won't run any longer. This may be suitable for some items that do not need to be the latest technology, or are relegated to less critical uses. Would suit individuals or businesses with the skills, patience and facilities to do repairs.

Figure 1 An example machinery replacement policy.

MACHINERY REPLACEMENT POLICY

DATE: March 2016

REVIEW DATE: March 2017

PURPOSE

To provide background information to make informed decisions about replacing core farm machinery. The subsequent machinery replacement schedule provides an indication of the preferred timing for change-over.

POLICY POINTS

- The five-year machinery replacement schedule will be reviewed annually, with capital purchases defined in the annual budget.
- Total capital value of machinery acquisitions each year should be between eight and 14 per cent of the average farm income for the past five years.
- Machinery acquisitions in excess of \$20,000 require a comparison of at least three quotations.
- Proposed acquisitions outside the annual budget require a feasibility study. This includes a comparison of alternative options and recognising the opportunity cost of not having capital invested in other assets.
- The Purchasing Machinery and Equipment checklist issued by Worksafe must be completed before any acquisition.

Capital allocation guidelines

A rule of thumb is to allocate the equivalent of 12 per cent of average annual farm income to machinery acquisition. This includes the capital repayment component of existing finance repayments.

The guidelines will differ between businesses, but for cropping enterprises it typically ranges from eight to 14 per cent of average gross income.

Therefore, a business with an average annual farm income of \$1 million may plan to spend an average of \$80,000 to \$140,000 per year on machinery capital replacement.

Guidelines should also reflect the lifecycle of the business, as well as profit allocation priorities and planning. These are all unique to each business, as explained in the Fact Sheet *Using profit to manage volatile business performance*².

Integrate farm policies

A farm machinery replacement policy should be linked to other strategies and policies. These include budgeting, farming system policies, succession and retirement planning, and business and personal goals.

For example, as shown in Table 1, the business may take a strategic decision to alter its farming system to include controlled-traffic farming.

In addition, a machinery replacement policy should make reference the necessity for adequately trained operators.

Likewise, the human resource policy should include a commitment to train staff to operate machinery efficiently and safely.

Developing a replacement schedule

Decisions about which machinery needs to be replaced and when, and under what financial arrangements, should be discussed by all key members of the business.

Scheduling must be planned for, altered and acted upon in line with the capital allocation guidelines stated in the policy. Forward scheduling for the next five years provides a fundamental 'big picture' tool that can be reviewed annually based on changing seasonal conditions, income and other factors.

Prioritising and then forward scheduling replacement also provides a guide to how much time and money will need to be allocated to maintenance.

Discussing and documenting reasons behind decisions has the advantage of reducing the risk of future impulsive or uninformed decisions. It can diffuse spur-of-the-moment decisions when particular seasonal needs arise or a dealer is offering a 'good deal'.

Just because the word 'replacement' is in the policy title does not mean that machinery has to be owned. The policy can also reference any machinery that is leased, contracted in, hired, syndicated or shared.

PHOTO: QUENTEN KNIGHT



Preferences for brands is understandable, however, the decision to purchase more expensive machinery and equipment must be justified and affordable.

How a policy may translate into a schedule

Table 1 An example machinery replacement schedule.

Item	Use per annum	Change-over policy	Current usage	Replacement cost	2015 value	Cost to budget	Year						
							2016	2017	2018	2019	2020	2021	
Harvester	250-300 hours	1600 hours	1600	\$600,000	\$250,000	\$350,000	\$350,000						
Boomspray	12,000ha	(3 years)	2000-2500 hours	\$190,000	\$60,000	\$130,000			\$130,000				
Airseeder	2400ha	Flexible	12,000ha	\$250,000	\$80,000	\$170,000							\$170,000
Tractor	700 hours	3000 hours	1600 hours	\$230,000	\$140,000	\$90,000		\$90,000					
Tractor	400-500 hours	5000-6000 hours	2500 hours	\$150,000	\$90,000	\$60,000					\$60,000		
Chaser bin	250-300 hours	4000 hours	2200 hours	\$90,000	\$40,000	\$50,000							\$50,000
Ute	35,000km	90,000km	65,000km	\$50,000	\$30,000	\$20,000	\$20,000						
Baler	50,000 bales	40,000 bales	25,000 bales	\$180,000	\$90,000	\$90,000				\$90,000			
Mower	500 hours	4000 hours	2000 hours	\$60,000	\$30,000	\$30,000							
Truck	15,000km	550,000km	35,000km	\$125,000	\$80,000	\$45,000							
Auger	60,000t	250,000t	18,000t	\$25,000	\$15,000	\$10,000			\$10,000				
Total				\$1,950,000	\$905,000	\$1,045,000	\$370,000	\$90,000	\$140,000	\$90,000	\$60,000	\$220,000	
Five-year average annual income					\$1,000,000								
Machinery replacement cost as percentage of average annual income							37%	9%	14%	9%	6%	22%	

Table 1 represents an example machinery replacement schedule for a 3000-hectare family farming business (2400ha cropped) that decided to introduce controlled-traffic farming.

In this example, the machinery replacement policy and subsequent schedule also reflect the business's strategic plan.

The family members have scheduled machinery replacement for the next six years, then confirmed this with their agronomist and accountant.

The schedule is reviewed annually after the annual on-farm income is known. Larger items such as the harvester, boomspray and airseeder exceed the annual capital expenditure target of 12 per cent due to their larger change-over cost. Therefore, these items can be financed to spread the annual capital cost. This business prefers to use five-year finance, which results in the annual capital finance repayments being part of the 12 per cent target for the five years. Other items, such as the ute, may be deferred in below-average income years or brought forward in good years.

Factors to balance when scheduling

When scheduling machinery replacement a number of factors need to be considered carefully, including:

- ▶ affordability;
- ▶ functionality;
- ▶ brand and image the business wants to portray;
- ▶ timeliness of operation;
- ▶ land management;
- ▶ workplace health and safety objectives;
- ▶ employee productivity;
- ▶ mechanical aptitude;
- ▶ task efficiency objectives;
- ▶ upgrade frequency;
- ▶ ease of employee use and understanding;
- ▶ business goals; and
- ▶ personal goals.

The schedule should forecast the timing of key machinery purchases, but should recognise seasonal and market volatility by being flexible enough to adjust for below and above-average financial conditions.

There will be particularly profitable years that may enable certain items to be acquired earlier than planned.

For example, in Table 1 the chaser bin is a core item, but it is not essential that it be replaced quickly. However, a lucrative season may allow that purchase to be brought forward.

Personal goals are an important consideration. A grower may wish to be less hands-on and use contractors. This should be clearly outlined in the machinery replacement policy, including how the business will accommodate this goal.

Upgrade frequency should factor in technological change. For example, seeder technology is evolving quickly, which may influence the demand for and price of second-hand seeders. A machinery replacement policy should outline whether the business wants to regularly upgrade as new advances come onto the market. This philosophy is then reflected in the

replacement schedule, taking into account the associated costs.

Machinery as profit centre

Instead of being regarded as capital integrated with other farm assets, machinery should be considered as a stand-alone business entity, akin to a profit centre³. Classifying a suite of machinery as a business unit assists with measuring its investment and performance against key indicators such as timeliness of operations and return on capital.

A prudent target is a 1:1 ratio of investment in machinery (at market value) to average farm income³. Contracting and/or freight income is calculated separately and can justify higher machinery investment. That is, farm machinery should generate at least as much farm income as the current market value of the combined items.

The ratio will vary at times. Allow for a machinery investment to farm income (five-year average) ratio of between 0.7 and 1.2⁴.

FREQUENTLY ASKED QUESTIONS

Should a schedule be binding? For example, if a replacement schedule for a harvester is 1600 hours can it be replaced earlier?

Yes. There may be market fluctuations, such as exchange rate variations, or a business's income may influence a change to the schedule. Similarly, there may be circumstances where the recommended change-over milestone has to be extended.

A replacement policy would make allowances for changed circumstances provided a feasibility study was undertaken. Replacement policies should be updated annually and the scheduled replacement of items may be altered accordingly.

Can a replacement policy cater for a grower's preference for particular brands, even though they might be dearer?

Pride of ownership and preferences for brands is understandable and acceptable. There are sound business principles in support of projecting an image of being at the forefront. There are also good reasons to project a more middle-of-the-road image.

However, the decision to stick with one brand or buying more expensive equipment must be justified and affordable. A policy should require multiple quotations and a thorough comparison that recognises the opportunity cost of not having capital invested in other assets.

The reverse can be true. A policy may reduce the likelihood of the continual purchase of lower-quality machinery in order to save money in the short term, but can potentially result in additional cost over the longer term through extra maintenance and reduced re-sale value.

How can a machinery replacement policy reduce stress?

A family farm involves many people, some of whom will have different philosophies around business investment.

Some like to avoid spending money, while others are keen to have the latest equipment. Developing a machinery replacement policy can reduce future disagreements as it outlines an approach for the business as a whole, rather than an individual's preference.

A policy sets out a rationale and timelines for major purchases. Scheduling purchases spreads financial costs over a period of time and assists with planning to reduce the chance of unexpected costs arising.

Stress can be reduced by being informed, knowing when major purchases are to be made, and making decisions based on a pre-discussed and confirmed business policy. It makes it easier to see how one outlay will affect the timing and viability of others.

References

1. Edwards W. Replacement Strategies for Farm Machinery. In: *Ag Decision Maker*. Ames, Iowa: Iowa State University Extension and Outreach; 2015.
2. GRDC Business Management Fact Sheet: Using profit to manage volatile business performance. 2015. www.grdc.com.au/GRDC-FS-ProfitAllocation
3. Heinjus D. Making the best decisions about farm machinery. *Australian Grain*, November-December 2012.
4. GRDC Business Management Fact Sheet: Machinery investment and costs. 2014. www.grdc.com.au/FBM-MachineryInvestmentAndCosts

USEFUL RESOURCES

Machinery replacement decisions

GRDC *Ground Cover*, July-August 2013, p33

www.grdc.com.au/Media-Centre/Ground-Cover/Ground-Cover-Issue-105-July-August-2013/Machinery-replacement-decisions

Machinery investment and costs

GRDC Business Management Fact Sheet, March 2014

www.grdc.com.au/FBM-MachineryInvestmentAndCosts

MORE INFORMATION

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