

```
1 define real stocking_rate = 10.0 ! wethers/ha
2 define real cfa_years = 5.0
3
4 ! Replacement
5
6 define real no_to_buy
7 define real group_count
8 define integer g
9
10 each 1 Jan
11 {
12   for g = 1 to stock.no_groups
13     stock.sell group=g, number=0.25*stock.number[g]
14
15     set g = stock.no_groups + 1
16     set no_to_buy = stocking_rate * paddock1.area - stock.number_all
17     stock.buy genotype='Small Merino', number=no_to_buy, sex='wethers', age=12.0, weight=45.0
18   }
19 }
```

AusFarm: custom simulations

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Simulation purpose

Decide on the question you are asking

- Do you require animals, crops?
- What is the interaction between enterprises?
- Is it a long term question?
- Are financial summaries required?

Can the base model be validated?

- How much data is available for validation?

Base scenario: focussing its structure

Is your analysis about *understanding* or *prediction*?

Eliminate details that are of little importance

Physical resources

- How many soil types are really needed?
- How many paddocks are absolutely required?

Management systems

- Crop rotations – what is the minimal complexity required?
- Which animal enterprises are required?
- Animal grazing – what type of rotations are needed?
- What activities within each enterprise are key to modelling the system?

Re-use material where possible

- Pre-existing descriptions of land resources
- Example script fragments from the tutorial document
- Higher-level design concepts from example simulations
- Develop a consistent scripting style

- Design with the *analysis* in mind from the beginning
 - Planning for the factors to be used in the analysis can significantly reduce redundant paddocks, management code etc

Document your work!

Simplifies development of management scripts

- Better structure in the short term
- More re-use in the long term

Helps you to clarify the key parts of the simulation design

Techniques:

- Comments in management scripts
- “Self-documenting” scripts: use of meaningful variable names, constants
- Notes tab for higher-level descriptions