

Australian Herd Classification Guidelines; Measure and manage herd performance more effectively with better data.

Prepared by Bush AgriBusiness Pty Ltd

Executive Summary

The Problem

- A lack of clear and consistent livestock classifications for extensive cattle businesses contributes to an imprecise understanding of herd numbers and herd performance.
- Not having accurate, or easily reconcilable, herd numbers limits understanding of herd performance, particularly long-term reproduction rate, mortality rates and herd numbers generally.
- We need to get better at this as an industry. Not having accurate and reconciled herd numbers means that herd productivity estimates are not accurate and usually overestimated.
- It is challenging for producers to accurately reconcile their stock numbers over time. Not getting clean musters, fence crawlers and unknown deaths are contributing factors to this. The problem is exacerbated by inconsistent and ambiguous herd classifications.
- Class names are useful for managing animals, although they can add to confusion when reconciling numbers as animals have to be transferred through classes annually. There is also inconsistency as to what the class names are and when animals move from one class to the next.

The Solution

- These guidelines detail three primary attributes for classifying animals;
 - AgeYear; the financial or calendar year of median birth month, as chosen by producers. Typically, financial year of birth is applied in northern Australia and calendar year in southern Australia. These guidelines can accommodate either approach.
 - Sex; female, castrate or bull.
 - Reproductive Status; Females will be categorised as reproducing or non-reproducing based on whether they are intended for reproduction (i.e. breeding females or heifers that will be joined) or not intended for reproduction (cull females or heifers that will be grown out for sale). Bulls will also be distinguished on the basis of reproduction to separate young males that are kept as Entires for sale (e.g. for live export) and any grown cleanskin bulls which are mustered.
- Distinguishing animals using less ambiguous attributes than class names will make it easier to record and track animals through their life. The first two attributes are constant throughout an animal's life (post castration) and the third should only change once, if at all (i.e. reproducing female to non-reproducing female).
- A median birth month (i.e. the month in which half of calves are born during/ before and during/ after) is used to estimate the age of all animals within an AgeYear group at any point in time.
- These guidelines formalise what many in the industry are currently doing, thereby standardising the process to facilitate consistent application across the industry.

Table of Contents

Executive Summary.....	1
The Problem.....	1
The Solution	1
Table of Contents.....	2
Copyright notice.....	2
Background	3
Primary attributes for classifying animals.....	4
AgeYear	4
Median birth month.....	4
Sex.....	6
Reproductive Status.....	6
Secondary attributes for classifying animals	6
Management groups.....	6
Animal class names	6
Applying these guidelines	7
Appendix One: Default class names: 3yo calving	8
Appendix Two: Default class names: 2yo calving	9
Appendix Three: Example reconciled herd	10

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Background

Not having accurate data on herd numbers and herd performance is a major challenge and impediment for many beef producers. A contributing cause to this problem has been the lack of clear and consistent herd classification guidelines for extensive cattle businesses.

The issue may not always be obvious, as most producers have confidence in what animals of which classes they should have in each particular paddock at a point in time. However, this confidence can quickly fade when producers are asked to produce a reconciled stockflow of their numbers for a period, for business analysis, bank finance or other purposes. A reconciled stockflow requires details of how many animals were in each class at the start of the year, what the movements were throughout the year (purchases, natural increase, class transfers, sales and deaths), and what the numbers were on hand at the end of the year. This stockflow has to reconcile by class and in total (opening + purchases + natural increase +/- transfers in/out – sales – deaths = closing) and the opening and closing numbers should (very closely) match the numbers on hand at that time.

Having accurate herd information is also made difficult by incomplete musters, fence crawlers, multiple branding and weaning events, unknown deaths and many other factors. However, these challenges are compounded by a lack of clarity and consistency on herd classes, e.g. when a weaner becomes a heifer, and what one producer calls a heifer, another calls a joiner or breeder etc. Having clear and consistent classes and age groups will make keeping track of animals through their life, and reconciling herd numbers over time easier.

In our experience from working with hundreds of extensive cattle businesses, many businesses find it quite challenging to produce a reconciled stockflow. It is usually different for corporate businesses or where there is an employed manager, as there are usually processes in place and accountability for livestock numbers. Some corporate businesses use a system with age brands, consistent with what is proposed here, others use a system with class names, which usually works effectively although there can be ambiguity on the age of each class at a point in time.

There are the [National Bovine Livestock Language Guidelines](#) which are comprehensive, particularly with regard to physical attributes, however they do not clearly identify what class an age group of animals would be in at a point in time and/or how to track animals or age groups over time within a grazing business.

Where possible, these guidelines have been developed to be consistent with, and complementary to, the national guidelines. These guidelines are consistent with and are based on, how many producers currently keep track of livestock numbers. The purpose of these guidelines is to standardise the process to facilitate consistent application across the industry, by formalising what many are currently doing and is largely working for them.

[Bush AgriBusiness](#) has developed these guidelines to address this industry issue. This has been done independently to improve how we collect and analyse herd data, now and into the future. Industry feedback on the guidelines was obtained through a separate project and funding from Meat & Livestock Australia Limited - www.mla.com.au is acknowledged.

The application of the guidelines will be unique to each business. They have been developed primarily for breeding herds, but can also be applied to growing or trading businesses.

Primary attributes for classifying animals

AgeYear

Primarily recording and tracking animals by their AgeYear overcomes the issue that class names are inconsistently defined and applied, and change throughout an animal's life. AgeYear remains a constant attribute throughout an animal's life.

The AgeYear applied to animals (brand number and/or tag colour corresponding to year) is a common way of recording separate age groups. There are inconsistencies though in how AgeYear is applied, which these guidelines accommodate.

In northern Australia, AgeYear typically applies to which financial year a calf is born in, for example, if a station has an age group of calves born primarily between October 2023 to January 2024, these will be identified as #24 calves (black tags). This accommodates the calving period occurring across two calendar years.

In southern Australia, the AgeYear typically refers to the calendar year in which a calf is born, as the calving period is usually tighter and falls within a calendar year. For example, if a property has an age group of calves born primarily in August and September 2023, these calves will be identified as blue tags (#23 calves).

Age branding (single digit AgeYear, e.g. '4' applied with fire brand) is typical in the north, often with tag colours as well, whereas just tag colours are typically applied in the south, although there are exceptions to both. There are industry default tag colours for each year, which are recommended as part of these guidelines. The industry default is a cycle of eight colours applied in the order of Black, White, Orange, Green, Purple, Yellow, Red, Sky Blue and then back to Black, with 2024 AgeYear being Black.

In the seedstock industry, it is common to use letters (see 'Year Code' in National Bovine Livestock Language Guidelines) to identify AgeYear, which is typically also done on calendar year in south and financial year in north.

The reality of this is that animals' AgeYear can be different from its birth year, and that animals born in the same month but on different properties could have different AgeYears/ tag colours applied. This is unavoidable. As long as the approach used by individual businesses is clearly understood and consistent, then this can be accommodated.

Median birth month

An assumed birth month is required in order for animal ages to be estimated. In reality there is a spread in calving, ranging from 2-12 months, depending on location and management. Despite this range, a single assumed birth month is required which is the median birth month (i.e. the month in which half of calves are born during/ before and during/ after). By using the median birth month, those born earlier should be countered by those born later, meaning the median birth month is representative of the average of the age group. The Median birth month for a herd should only change where there is a change in calving time or pattern.

This approach is demonstrated in Table 1 and Table 2 below. Table 1 is a northern business, with AgeYear based on financial year of birth and a median birth month of November. Table 2 is a southern example with AgeYear based on calendar year of birth and a median birth month of September.

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The tables show which AgeYear and corresponding tag colour is applied to animals based on month of birth. The main calving period is shown by the tag colour (#23 blue, #24 black and #25 white), the AgeYear applied for out of season calves is also shown in the tables below. Out of season calves or 'earlies' and 'lates' can be identified and tracked for management purposes (e.g. brand in different spot, corner cut out of tag), however for ease of whole herd level record keeping, there should not be split AgeYears.

Where individual records are kept based on RFID, individual birth months could be entered and used (although AgeYear and birth year should be distinct and defined fields, as should actual birth date and median birth month). These guidelines have been developed to be mob based, but could be applied to individual records. Trading or Growing businesses should apply the AgeYear and median birth month that is most representative of where they source the majority of their cattle.

Table 1: Example application of AgeYear (north)*

Birth Year	Birth Month	AgeYear
2023	January	#23
2023	February	#23
2023	March	#23
2023	April	#23
2023	May	#23
2023	June	#23
2023	July	#24
2023	August	#24
2023	September	#24
2023	October	#24
2023	November	#24
2023	December	#24
2024	January	#24
2024	February	#24
2024	March	#24
2024	April	#24
2024	May	#24
2024	June	#24
2024	July	#25
2024	August	#25
2024	September	#25
2024	October	#25
2024	November	#25
2024	December	#25

Table 2: Example application of AgeYear (south)*

Birth Year	Birth Month	AgeYear
2023	January	#23
2023	February	#23
2023	March	#23
2023	April	#23
2023	May	#23
2023	June	#23
2023	July	#23
2023	August	#23
2023	September	#23
2023	October	#23
2023	November	#23
2023	December	#23
2024	January	#24
2024	February	#24
2024	March	#24
2024	April	#24
2024	May	#24
2024	June	#24
2024	July	#24
2024	August	#24
2024	September	#24
2024	October	#24
2024	November	#24
2024	December	#24

*Median birth month highlighted grey, main calving period highlighted with relevant tag colour, applied AgeYear shown for all months of birth.

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Using this approach, we can determine that in January 2025 the #24 or black tag animals:

- on the northern property example above average 14 months of age and,
- on the southern property example above average 4 months of age.

If individual beef grazing businesses identify their median birth month and whether the AgeYear they apply is the calendar year or financial year of the median birth month, then AgeYear can be reliably used as an unchanging attribute to categorise animals.

Sex

The sex categorisations are; female, castrate or bull. With the exception of bulls being moved to castrates, there should not be any movement between the categorisations.

Reproductive Status

Incorporating reproductive status as a third attribute of animal classification (as well as AgeYear and Sex) will help clarify classification of animals. With females, assigning animals as either reproducing (intended for reproduction) or non-reproducing (i.e. not intended for reproduction) will help distinguish breeding females from growing females. Young females intended for reproduction should be categorised as reproducing from weaning, and only re-categorised if they are culled from the breeding herd but retained to grow out prior to sale. Spayed females would be categorised as non-reproducing females. Any cleanskin females mustered would also be categorised as non-reproducing females unless they are retained for breeding.

Having a non-reproducing status for bulls will also allow young animals that are kept as Entire for sale (e.g. for live export markets) to be distinguished from young bulls intended for reproduction. It will also allow any cleanskin grown bulls that are mustered and sold to be recorded separately from herd bulls. All castrates have a reproductive status of non-reproducing.

Secondary attributes for classifying animals

Management groups

Management groups, such as 'Oct-Nov calving group' or '260-300kg backgrounder' can also be used to keep track of and manage animals at various stages of production. This would be a secondary classification of the animals though, with AgeYear, Sex and Reproductive status remaining the primary means of classification. Assigning a management group is an additional classification, and does not replace the primary classifications.

Animal class names

If groups of animals are identified by their AgeYear, sex and reproductive status, and it is clear what approach is used to apply AgeYear, then the recording of animals within a herd will be clearer, less ambiguous and more accurate. It also removes the need for animals to be transferred from class to class each year, the timing and process of which is a source of confusion in tracking and reconciling livestock numbers. Whilst it is unrealistic that there will ever be industry uniformity in animal class names, class names can still be useful for management purposes.

As part of these guidelines, we've suggested default animal class names. Animals are transferred between classes at anniversary of birth (median birth month), with the whole age group being transferred at once. Class transfers occur automatically (e.g. weaner to heifer), and do not require users to transfer them from one to another (as AgeYear, sex and repro status are the primary means

Australian Herd Classification Guidelines (V25.3)

of categorising animals, not classes). Users can apply their own class names, providing they are clear on what age, sex and reproductive status they apply to and when transfers between classes occur.

Appendix One and Appendix Two below show the default class names, based on age, sex and reproductive status based on females calving for the first time at three years of age and two years of age respectively. A weaning age of six months is assumed in Appendix One and Appendix Two, when animals are recognised as weaners will depend on actual average weaning age.

It is recommended that animals be tracked in individual AgeYear groups throughout their life, if possible. This will require that all deaths, sales and transfers (e.g. from reproducing females to non-reproducing females) must be accurately apportioned to each AgeYear. Alternatively, once females and bulls are around three or four years or older, they are likely to be managed as a mature age group, so can be classified as such, which is shown below in Appendix Three.

Applying these guidelines

A suggested process for producers to apply these guidelines is;

- Identify your median birth month, weaning age and first joining age.
- Clearly define the AgeYear system applied to your herd (either financial year or calendar year of median birth month)
- Apply default tag colour system- or if default is not used then clearly define system used
- The AgeYear should be recorded in your record keeping as two digits with a hash (i.e. #25) even though only a single digit is applied to animals (if they are age branded).
- Record any movements between groups as they occur (e.g. moving cull females from reproducing to non-reproducing if they are retained to grow out).
- Distinguish animal groups using AgeYear, sex and reproductive status
 - o Record all sales, purchases and internal transfers (i.e. one property to another) by the AgeYear, sex and reproductive status of the animals.
 - o Track animal numbers (in paddock and in total) using primarily using AgeYear, sex and reproductive status.
- If using class names, clearly define animal classes used (whether they are default or custom) and when transfers occur from one class to next (which should be the median birth month). See Appendix One for default animal classes.

The application within software is going to be dependent on the software used and its functionality, in addition to the above points:

- There should be an 'AgeYear' field distinct from 'Birth Year' with the difference between the two clearly understood. Formatted as '#XX' with 'XX' being the last two digits of the year.
- 'AgeYear Type' also needs defining as either 'FY' or 'CY'.
- Median birth month should be uniform for the herd and separate to birth date, if recorded.
- AgeYear, sex & reproductive status should be the primary attributes for categorising animals.
- Class names should be applied as a function of these attributes, rather than the primary means of categorisation.

Appendix One: Default class names: 3yo calving

Age (from)	Age (to)	Sex	Reproductive Status	Class Name	Description
Weaning	12 months	Female	Reproducing	Weaner Heifer	Heifers (intended for joining) from weaning to 1 year old
12 months	24 months	Female	Reproducing	Replacement Heifer	Heifers (intended for joining as a 2yo to calve at 3yo) from 1yo-2yo.
24 months	36 months	Female	Reproducing	Joiner Heifer	Heifers in year of first joining, from 2yo to 3yo
36 months	48 months	Female	Reproducing	First Calf Female	Breeding females in year after their first calf is born, from 3yo to 4yo
48 months	Life	Female	Reproducing	Mature Breeder	Breeding females from second calving onwards
Weaning	12 months	Female	Non-Reproducing	Weaner Heifer (NR)	Heifers (not intended for reproduction) from weaning to 1 year old
12 months	24 months	Female	Non-Reproducing	Yearling Heifer (NR)	Heifers (not intended for reproduction) from 1yo to 2yo
24 months	36 months	Female	Non-Reproducing	Grown Heifer (NR)	Heifers (not intended for reproduction) from 2yo to 3yo
36 months	Life	Female	Non-Reproducing	Cow (NR)	Females (not intended for reproduction) from 3yo onwards
Weaning	12 months	Castrate	Non-Reproducing	Weaner Steer	Castrates from weaning to 1 year old
12 months	24 months	Castrate	Non-Reproducing	Yearling Steer	Castrates from 1yo to 2yo
24 months	36 months	Castrate	Non-Reproducing	Grown Steer	Castrates from 2yo to 3yo
36 months	Life	Castrate	Non-Reproducing	Bullock	Castrates from 3yo onwards
Weaning	12 months	Bull	Reproducing	Weaner Bull	Bulls (intended for joining) from weaning to 1 year old
12 months	24 months	Bull	Reproducing	Yearling Bull	Bulls (intended for joining) from 1yo to 2yo
24 months	Life	Bull	Reproducing	Grown Bull	Bulls (used for joining) from 2yo onwards
Weaning	12 months	Bull	Non-Reproducing	Weaner Bull (NR)	Bulls (not intended for reproduction) from weaning to 1 year old
12 months	24 months	Bull	Non-Reproducing	Yearling Bull (NR)	Bulls (not intended for reproduction) from 1yo to 2yo
24 months	Life	Bull	Non-Reproducing	Grown Bull (NR)	Bulls (not intended for reproduction) from 2yo onwards

ANIMAL CLASSES by sex, reproductive status and age (weaning at 6 months and females first joined at 27 months)

SEX	REPRODUCTIVE STATUS	CLASS NAME (by age)					
		0-6mths	6-12mths	1yo-2yo	2yo-3yo	3yo-4yo	4yo +
FEMALES	Reproducing	Calf	Weaner Heifer	Replacement Heifer	Joiner Heifer	First Calf Female	Mature Breeder
	Non-Reproducing	Calf	Weaner Heifer (NR)	Yearling Heifer (NR)	Grown Heifer (NR)	Cow (NR)	Cow (NR)
CASTRATES	Non-Reproducing	Calf	Weaner Steer	Yearling Steer	Grown Steer	Bullock	Bullock
BULLS	Reproducing	Calf	Weaner Bull	Yearling Bull	Grown Bull	Grown Bull	Grown Bull
	Non-Reproducing	Calf	Weaner Bull (NR)	Yearling Bull (NR)	Grown Bull (NR)	Grown Bull (NR)	Grown Bull (NR)

Appendix Two: Default class names: 2yo calving

Age (from)	Age (to)	Sex	Reproductive Status	Class Name	Description
Weaning	12 months	Female	Reproducing	Weaner Heifer	Heifers (intended for joining) from weaning to 1 year old
12 months	24 months	Female	Reproducing	Joiner Heifer	Heifers in year of first joining, from 1yo to 2yo
24 months	36 months	Female	Reproducing	First Calf Female	Breeding females in year after their first calf is born, from 2yo to 3yo
36 months	Life	Female	Reproducing	Mature Breeder	Breeding females from second calving onwards
Weaning	12 months	Female	Non-Reproducing	Weaner Heifer (NR)	Heifers (not intended for reproduction) from weaning to 1 year old
12 months	24 months	Female	Non-Reproducing	Yearling Heifer (NR)	Heifers (not intended for reproduction) from 1yo to 2yo
24 months	36 months	Female	Non-Reproducing	Grown Heifer (NR)	Heifers (not intended for reproduction) from 2yo to 3yo
36 months	Life	Female	Non-Reproducing	Cow (NR)	Females (not intended for reproduction) from 3yo onwards
Weaning	12 months	Castrate	Non-Reproducing	Weaner Steer	Castrates from weaning to 1 year old
12 months	24 months	Castrate	Non-Reproducing	Yearling Steer	Castrates from 1yo to 2yo
24 months	36 months	Castrate	Non-Reproducing	Grown Steer	Castrates from 2yo to 3yo
36 months	Life	Castrate	Non-Reproducing	Bullock	Castrates from 3yo onwards
Weaning	12 months	Bull	Reproducing	Weaner Bull	Bulls (intended for joining) from weaning to 1 year old
12 months	24 months	Bull	Reproducing	Yearling Bull	Bulls (intended for joining) from 1yo to 2yo
24 months	Life	Bull	Reproducing	Grown Bull	Bulls (used for joining) from 2yo onwards
Weaning	12 months	Bull	Non-Reproducing	Weaner Bull (NR)	Bulls (not intended for reproduction) from weaning to 1 year old
12 months	24 months	Bull	Non-Reproducing	Yearling Bull (NR)	Bulls (not intended for reproduction) from 1yo to 2yo
24 months	Life	Bull	Non-Reproducing	Grown Bull (NR)	Bulls (not intended for reproduction) from 2yo onwards

ANIMAL CLASSES by sex, reproductive status and age (weaning at 6 months and females first joined at 15 months)

SEX	REPRODUCTIVE STATUS	CLASS NAME (by age)					
		0-6mths	6-12mths	1yo-2yo	2yo-3yo	3yo-4yo	4yo +
FEMALES	Reproducing	Calf	Weaner Heifer	Joiner Heifer	First Calf Female	Mature Breeder	Mature Breeder
	Non-Reproducing	Calf	Weaner Heifer (NR)	Yearling Heifer (NR)	Grown Heifer (NR)	Cow (NR)	Cow (NR)
CASTRATES	Non-Reproducing	Calf	Weaner Steer	Yearling Steer	Grown Steer	Bullock	Bullock
BULLS	Reproducing	Calf	Weaner Bull	Yearling Bull	Grown Bull	Grown Bull	Grown Bull
	Non-Reproducing	Calf	Weaner Bull (NR)	Yearling Bull (NR)	Grown Bull (NR)	Grown Bull (NR)	Grown Bull (NR)

Appendix Three: Example reconciled herd

The application of these guidelines is demonstrated below with a reconciled year of herd data for the example northern property above for FY24 (3yo calving, median birth month November and weaning age of six months). It shows how sex, reproductive status and AgeYear are the attributes used to group animals, these attributes generally do not change through the year without reason, even though the class name which applies to the animal does.

Sex	Reproductive Status	Age Year	Opening Class	Age at Opening (months)	SOURCES			INTERNAL TRANSFERS		USES			Closing Class		
					Opening	Natural Increase	External Purchases	IN	OUT	External Sales	Deaths	Closing			
FEMALES	REPRODUCING	#19+	Mature Breeder	56+	697					224	21	452	Mature Breeder		
		#20+	First Calf Female	44	192					13	6	173	Mature Breeder		
		#21	Joiner Heifer	32	269					61	8	200	First Calf Female		
		#22	Replacement Heifer	20	277						102	8	167	Joiner Heifer	
		#23	Weaner Heifer	8	280							47	8	225	Replacement Heifer
		#24					324						9	315	Weaner Heifer
	NON-REPRODUCING	#20+	Cow (NR)	44+	58						57	1	0	Cow (NR)	
		#21	Grown Heifer (NR)	32									0	Cow (NR)	
		#22	Yearling Heifer (NR)	20	32				102		131	3	0	Grown Heifer (NR)	
		#23	Weaner Heifer (NR)	8					47			1	46	Yearling Heifer (NR)	
#24												0	Weaner Heifer (NR)		
CASTRATES	NON-REPRODUCING	#20+	Bullock	44+								0	Bullock		
		#21	Grown Steer	32									0	Bullock	
		#22	Yearling Steer	20	280						274	6	0	Grown Steer	
		#23	Weaner Steer	8	250					14	36	5	223	Yearling Steer	
		#24					290						5	285	Weaner Steer
BULLS	NON-REPRODUCING	#21+	Grown Bull (NR)	32+									0	Grown Bull (NR)	
		#22	Yearling Bull (NR)	20										0	Grown Bull (NR)
		#23	Weaner Bull (NR)	8										0	Yearling Bull (NR)
		#24												0	Weaner Bull (NR)
	REPRODUCING	#21+	Grown Bull	32+	23		6					2	27	Grown Bull	
		#22	Yearling Bull	20									0	Grown Bull	
		#23	Weaner Bull	8	28							14	2	12	Yearling Bull
#24					30				0		1	29	Weaner Bull		
					2,386	644	6	163	163	796	86	2,154			