

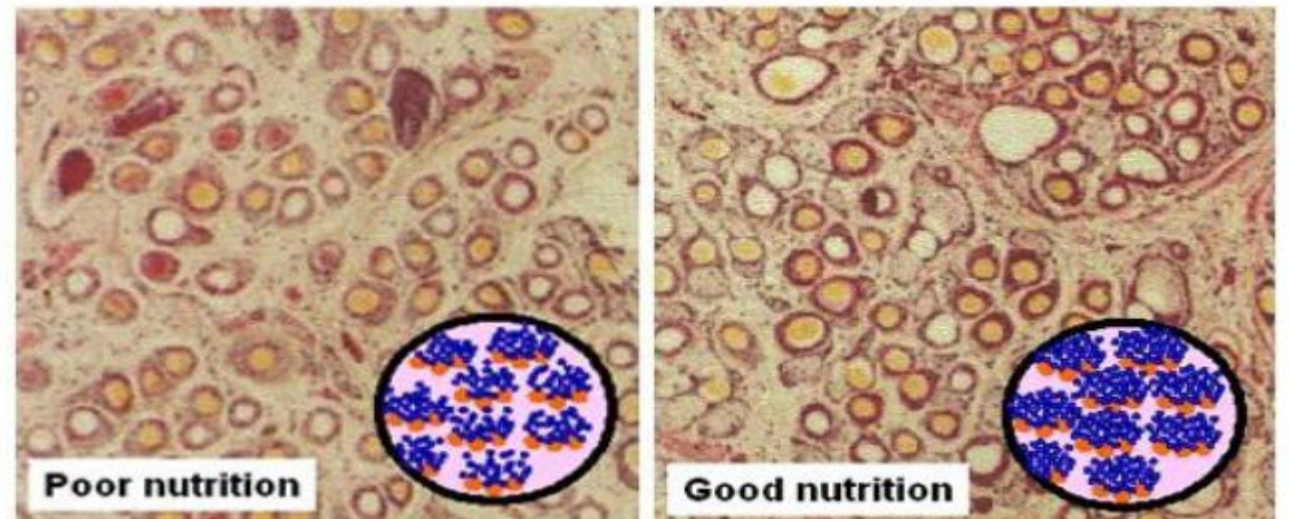
Grazing systems

- Set stocking
- Rotational grazing
- Various other terms e.g. time controlled grazing etc

Nutrition through pregnancy

- Important to maintain condition to ensure enough energy is available for dam and progeny
- For Merino sheep if lack of nutrition reduces development of secondary fibres and long term wool
- Birthweight
- Differential feeding

From <http://www.lifetimewool.com.au/Ewe%20Management/progenyperf.aspx>



The young lamb

- Needs colostrum in first twelve hours (can be stored frozen) – can tube lambs with colostrum if not suckling
- If lambs/kids disowned by dam can be fostered if spare dam available
- Can be reared on lamb milk replacer (happens in dairy system but can part feed on dam also in some systems)



Milk components

- Dairy sheep nutrition, Pullina and Bencini, CABI

	Sheep	Goat	Cow
Water (%)	82.5	87	87.5
Total solids (%)	17.5	13	12.5
Fat (%)	6.5	3.5	3.5
Total nitrogen (%)	5.5	3.5	3.2
Casein (%)	4.5	2.8	2.6
Lactose (%)	4.8	4.8	4.7
Serum protein (%)	1	0.7	0.6
Ca (mg/l)	193	134	119
Energy (kcal/l)	1050	650	700
pH	6.65	6.6	6.5

Breed	Fat (%)	Total nitrogen
Aragat	5.7	5.49
Awassi	6.7	6.05
Chios	6.6	6
Comisana	7.5-10.6	5.9-10.4
Delle Langhe	6.75	5.95
Frisona dell'est	6.64	6.21
Karagouniki	8.7	6.6
Lacaune	7.14	5.81
Leccese	7.93-8.38	5.81-6.3
Manchega	9.07	5.43
Massese	6.79-7.44	5.48-5.96
Merino	8.48	4.85

Managing supplementary feed

- Very different feed availability year to year in extensive production systems (see DookieVR sheep resource)



Feeding small ruminants

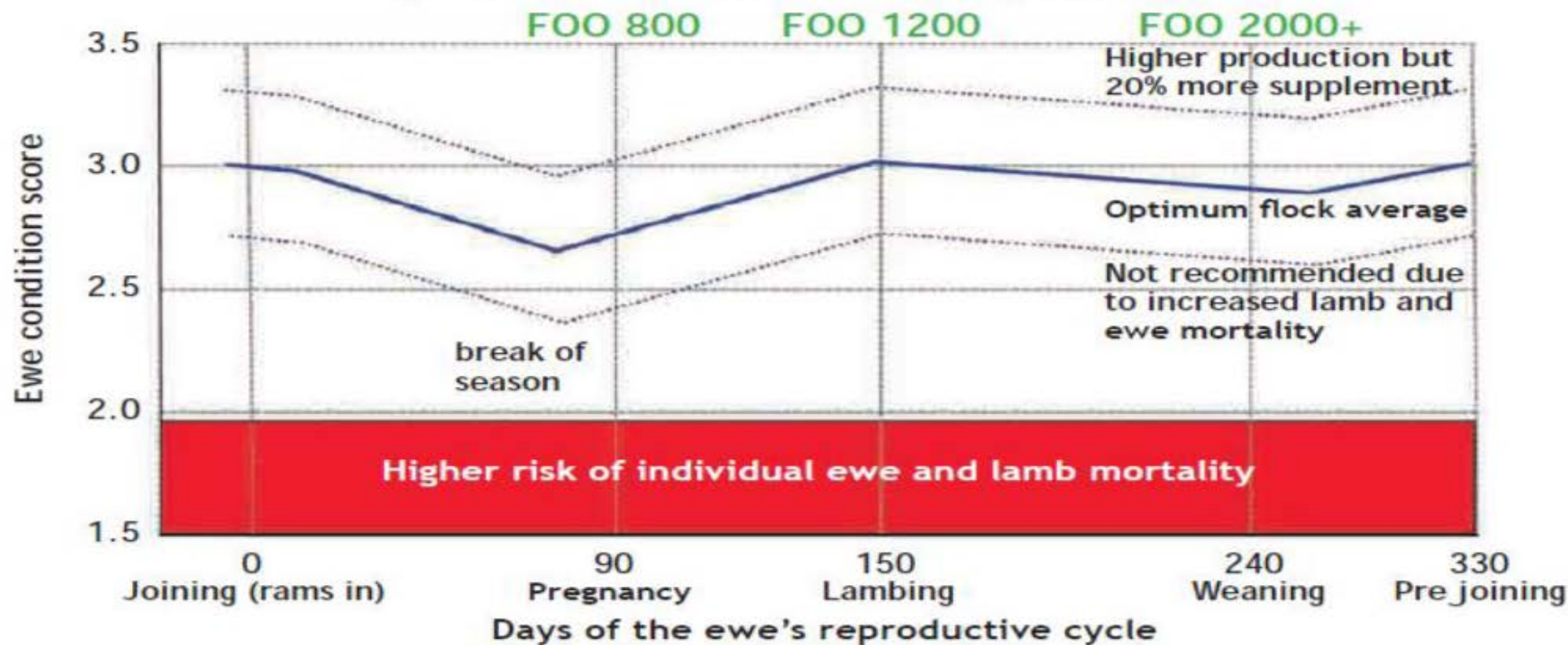
- Where FOO doesn't meet small ruminant requirement
- Supplementary feed – grains, hay, silage, straw & other
- What to choose?
 - Cost per MJ
 - Feedtest needed, and consider costs of transport
 - Compare to other options – agist, lease, sell
 - Monitor using CS and weight change – assess if estimation is correct over time
 - Trace elements – blood or tissue test



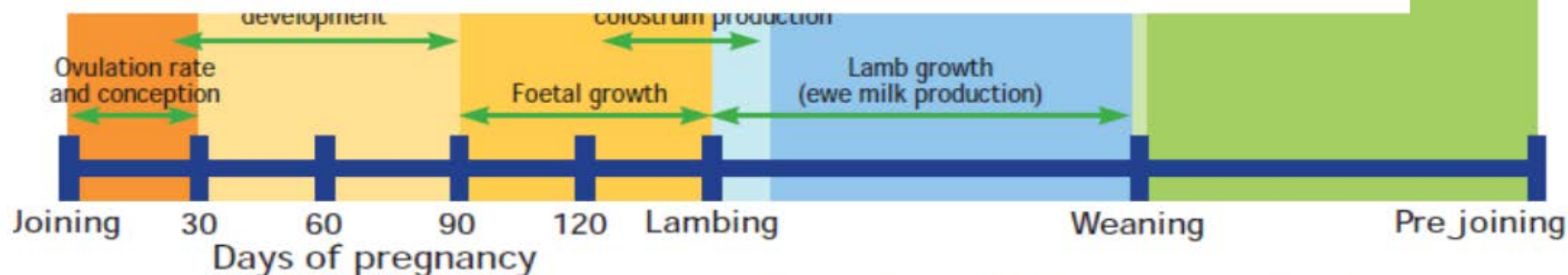


Optimum condition score profile

(for Merino ewes, late winter-spring lambing)



e cycle



Data from lifetime ewe project

Sheep and goat dairies

- Many now operating cut and carry feeding ie. Kept in a large shed, fodder brought to them, mixture of freshly cut grass, silage, grain, straw etc
- Discussed more in intensive systems



Goat nutrition

- Similar figures apply to goats, however challenge is parasites
- If goats graze at sheep height tend to see increased internal parasite challenges given goats more suited to browse type diet
- Goats often used as weed control (some herds used to clean up week issues)
- Overgrazing if overstocked
- One reason why dairy goats brought into sheds is to manage parasite numbers as this breaks up nematode lifecycle



From https://www.nuffieldscholar.org/sites/default/files/reports/2010_AU_Christine-Ferguson_The-Australian-Rangeland-Goat-Management-And-Opportunities.pdf

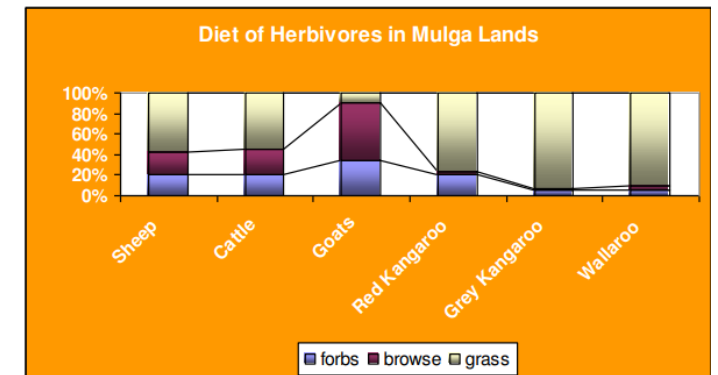


Figure 2. Dietary preference for animals grazing in the Mulga Lands during a good season when feed type was not limiting. Adapted from Ferguson, 2012 p.12.