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# The Use of Feed Supplements for Grazing Sheep

Produced for the CRC for Premium Quality Wool undergraduate program by;  
Prof. James Rowe, The University of New England.



# Needs of the manager and animal

- Define the economic objectives and understand the costs of feeding
  - from what aspects of supplementary feeding will you actually make money?
  - What are all of the costs?
- Define the limits in terms of animal welfare
  - animals sick and dying just not acceptable

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# Selection of supplement

- Price per unit of first limiting nutrient
- Other factors
  - weeds
  - storage
  - tradability
  - feeding out - ease and frequency
  - safety for livestock
  - residues
  - confidence & experience

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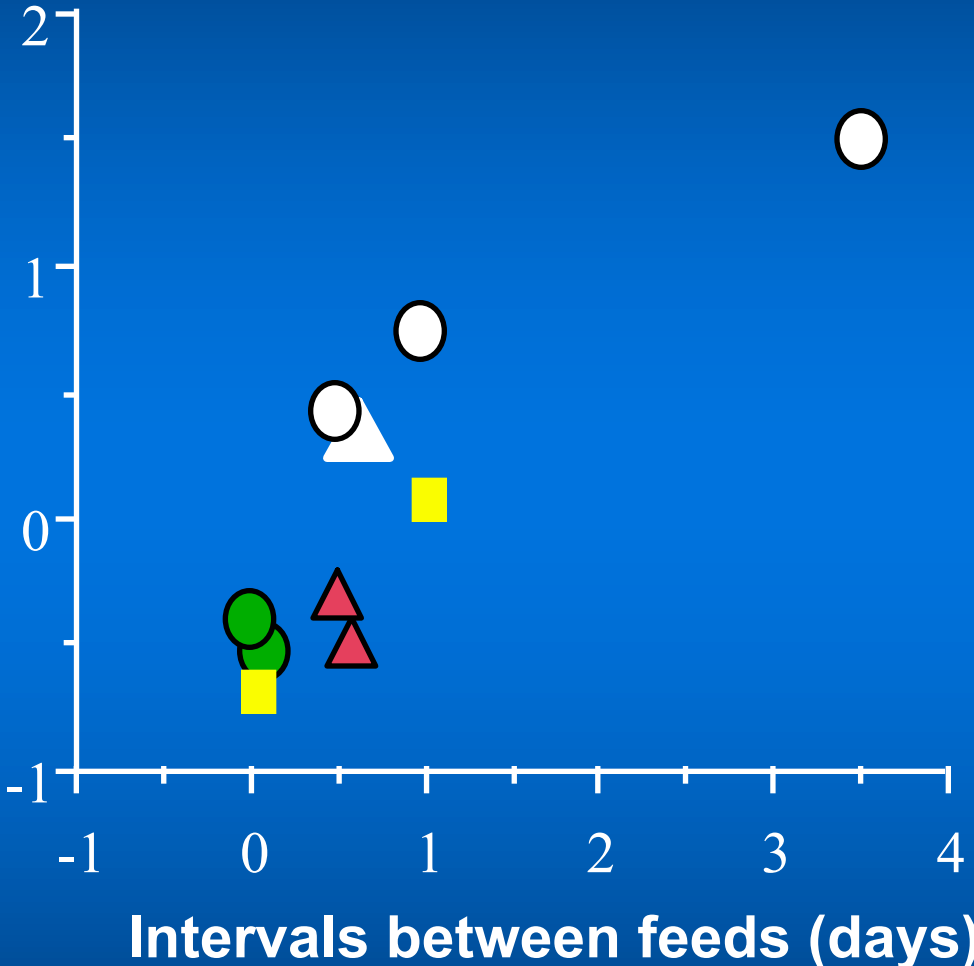
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# Interval of feeding and substitution

Substitution rate



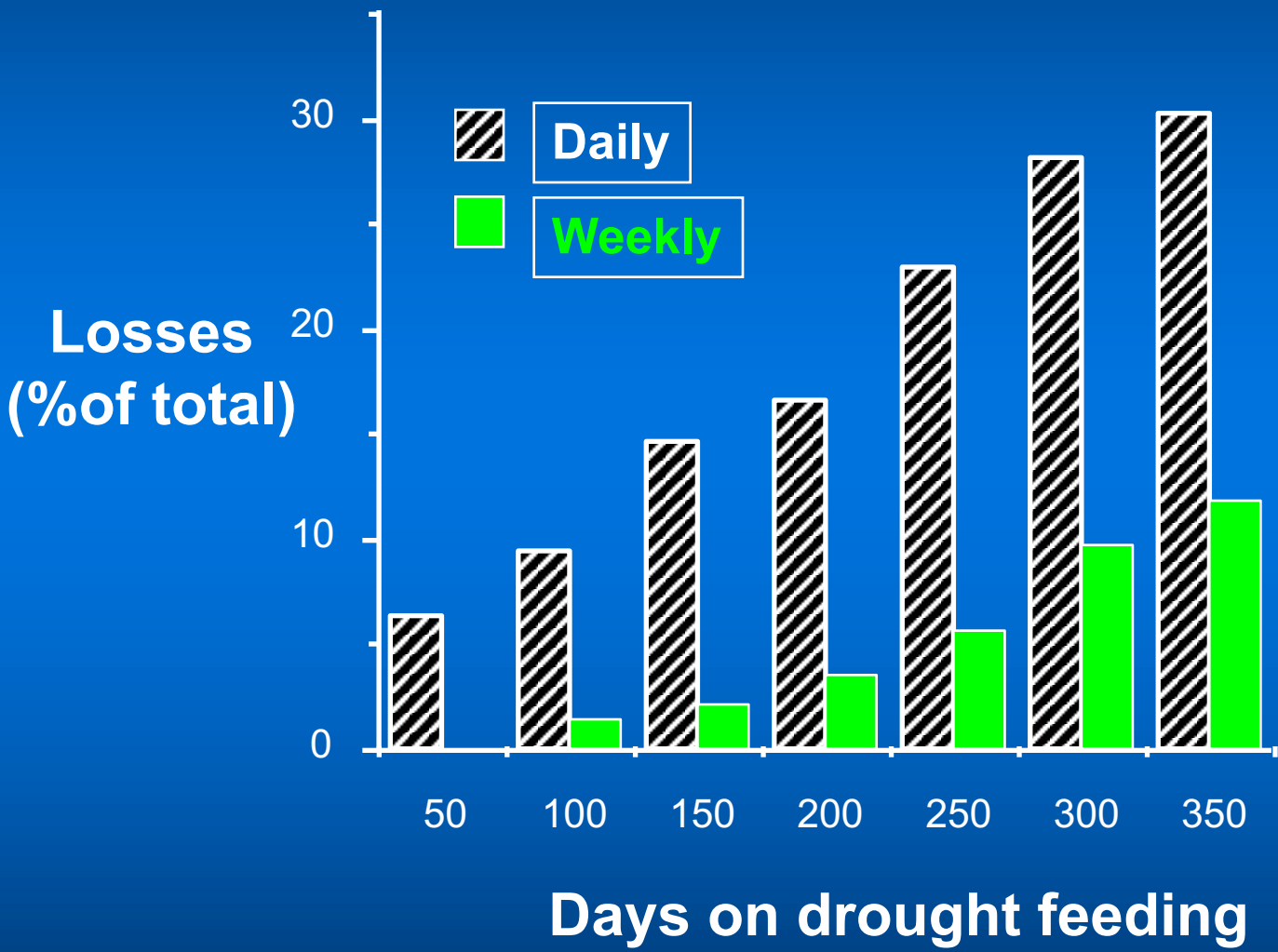
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Source: Rowe et al. (1991)



# Cumulative losses in sheep fed daily or weekly



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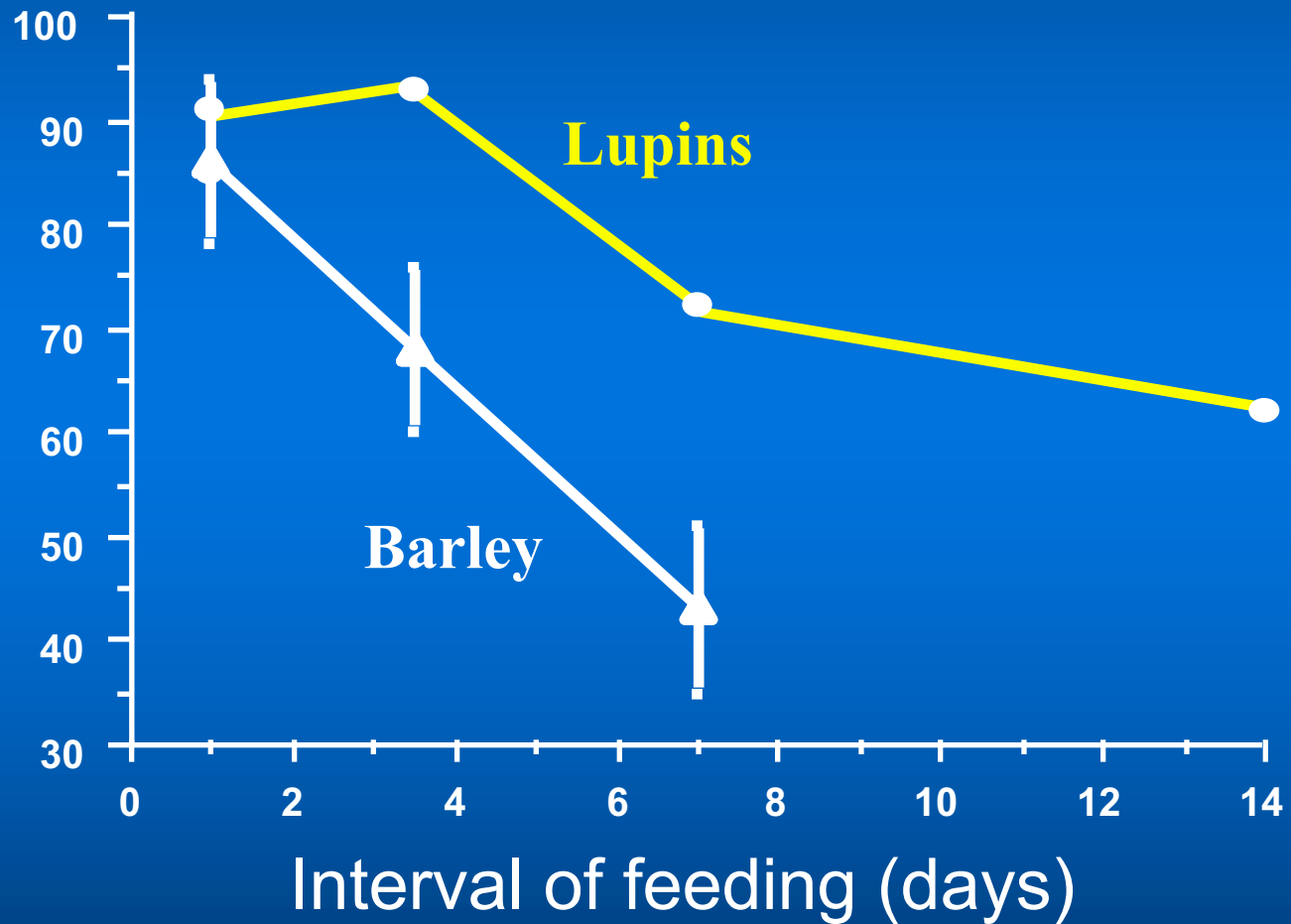
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Source: Franklin (1952)





# Effect of starch on live weight gain in sheep fed barley or lupins

Live weight change (g/day)



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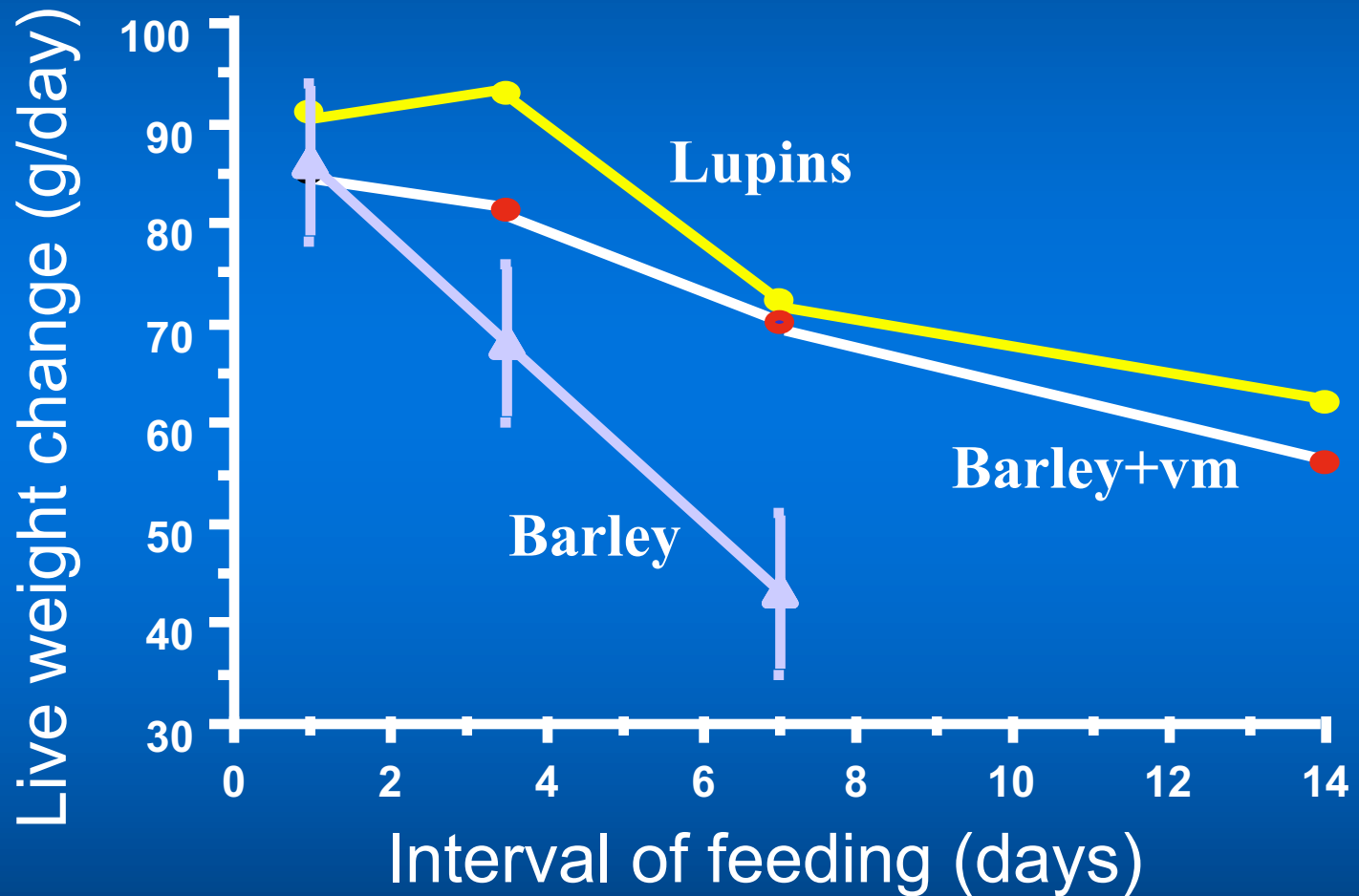
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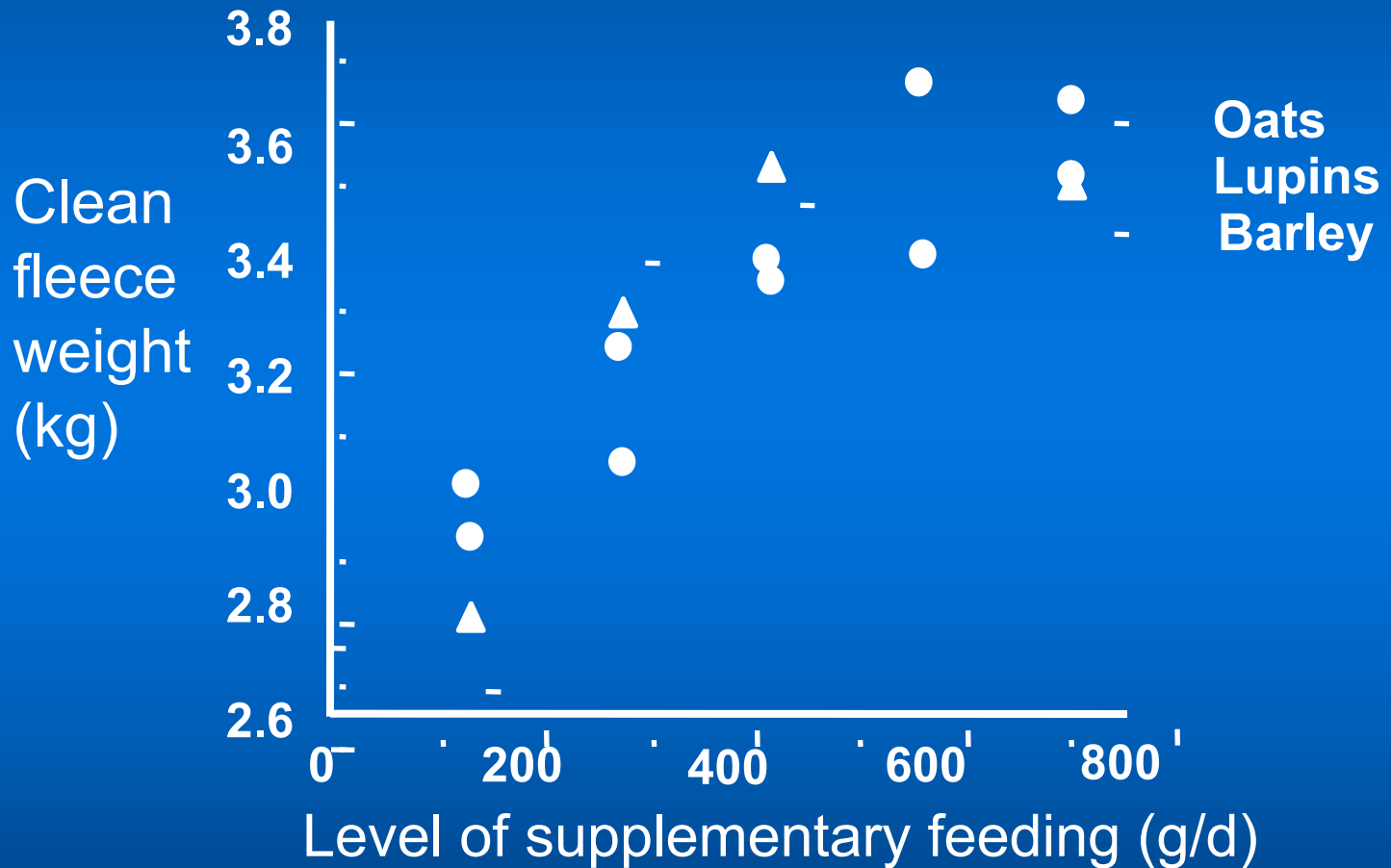
# Effect of starch/VM on live weight gain in sheep fed barley or lupins



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Source: Godfrey et al. (1993)



# Sheep grazing on stubbles: wool growth with different supplements



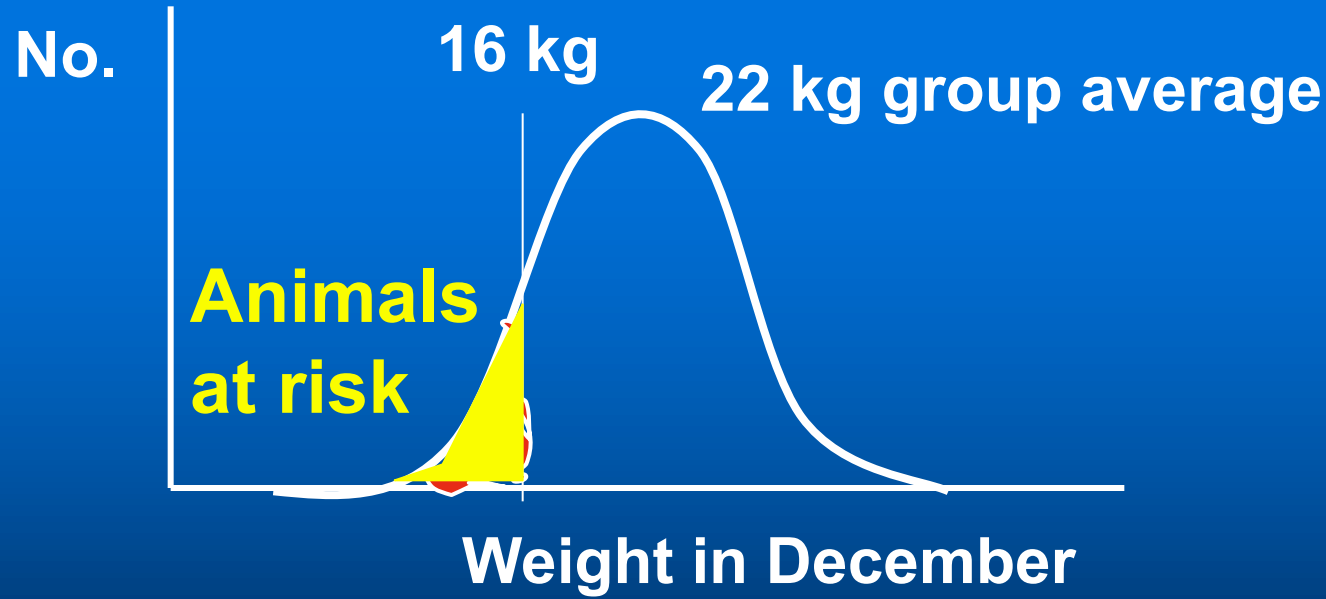
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Source: Rowe et al. (1987)





# Feeding for survival: target animals at risk

Spring born weaner lambs in Southern Australia.  
Minimum weight in December to ensure 70% survival over summer = 16 kg



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# Cereal stubbles: amount on offer (kg/ha)

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	Start (Jan)	End (May)
spilt grain	30	0
weeds	200	50
leaf and chaff	500	400
stem	1500	900

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# Cereal stubbles: digestibility (%)

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	Start (Jan)	End (May)
<b>spilt grain</b>	<b>81</b>	<b>-</b>
<b>weeds</b>	<b>39</b>	<b>48</b>
<b>leaf and chaff</b>	<b>58</b>	<b>49</b>
<b>stem</b>	<b>45</b>	<b>42</b>

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# Cereal stubbles: protein (%)

	Start (Jan)	End (May)
spilt grain	14	-
weeds	7	9
leaf and chaff	6	6
stem	3	3

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