Revised Calculation of Livestock Units for Higher Level Stewardship Agreements

This Technical Advice Note describes livestock unit equivalents for domestic grazing livestock. It is designed primarily to provide accurate information to advisers negotiating agreements for the restoration and maintenance of natural and semi-natural vegetation to set stocking rates appropriate to the species and breed of livestock used. It may also be used to set stocking rates for agreements to restore or maintain other vegetation types.

Livestock Units

The use of livestock units (LU) to describe grazing livestock came about some years ago to help determine overall grazing pressure on farms. Originally they were intended for ruminants only, but their application has been extended to include horses, pigs, and even poultry.

The existing way of describing types of livestock in terms of LU as defined by the European Commission (EC) can be seen at Table 1. To comply with EC regulations the figures in Table 1 should be used when setting Article 13 requirements, they are also quoted for ESA agreements, but this is not consistent across agri-environment schemes and can result in confusion, or unsuitable stocking rates being agreed. Although they are the officially accepted LUs, they are generalised and take no account of the different sizes of individual breeds.

Different breeds of animals of the same species have different mature liveweights, which, in turn will affect the amount of forage they require.

Feed intake (or appetite) plays a key part in the calculation of LU, and is also crucial when considering suitable grazing management on any piece of ground.

Table 1. European Commission LU equivalents

Livestock	Livestock Equivalents
Cattle over 2 years of age	1.0
Cattle 6 months – 2 years	0.6
Sheep	0.15
Equines	1.0

As a result, a more systematic way of calculating LUs has been produced, which takes into consideration those LUs used in the classic agri-environment schemes and by the EC. It is based on available research data on grazing animal food intake and performance, although it is acknowledged that this is poor in places.

Revised LU figures for livestock, as detailed in this TAN, have been used in the Average Stocking Rate Calculator in the Technical pages on the RDS intranet, to enable an accurate annual average stocking rate to be determined for grazing units.

Domestic livestock

Table 2 classifies the three main types of domestic livestock into small, medium or large, dependent on

Second Edition
Published June 2006

Rural Development Service

the average mature liveweight that might be expected for any particular breed.

Table 2. Animal weight categories

Animal	Liveweight (kg)		
	Small	Medium	Large
Ovine - Sheep	< 50	50 - 70	>70
Bovine – Cattle	<500	500-700	>700
Equine – Horses	<300	300-600	>600

Table 3 gives LU values for the different categories of domestic livestock in table 2. The 'baseline' for Table 3 is a 650kg cow – equivalent to 1 LU. Values for other livestock have been calculated to be consistent with this 'baseline' value (for example, a 65 kg sheep will be equivalent to a tenth of a 650 kg cow, therefore, 0.1 LU).

The calculation for equines is slightly different, because they are not ruminants and their digestive system is less efficient in converting food to energy.

Table 4 (below) details the liveweight categories for most common breeds of sheep and cattle used in this country.

It is generally accepted that cross bred animals have mature liveweights which are the average of those of the parents (some common crossbreds are included in the lists already). Inevitably there are breeds which are not mentioned, and some animals will be smaller or larger than the norm. The lists should be used as a guide, and not as a regulation.

Table 3. Livestock unit values for grazing livestock of different weights

Animal	Liveweight (kg)		
	Small	Medium	Large
Ewe (including lambs at foot)	0.08	0.1	0.15
Ewe followers and store lambs	0.06	0.08	0.1
Dairy cow	0.8	1.0	1.1
Suckler cow (including calf at foot)	0.7	0.9	1.1
Other cattle >24months	0.6	0.7	1.0
Weaned cattle <24 months	0.5	0.6	0.7
Equine	0.8	1.0	1.2
Other ruminants	lwt/650	lwt/650	Lwt/650

Rates for rams and bulls should be as for mature females.

Values for young animals before weaning are included with their dams. After weaning, they should be calculated separately.

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Table 4. Liveweight categories for common domestic grazing livestock

Type	Breeds
Large ewe (>70 kg)	Bluefaced Leicester, Border Leicester, Cambridge, Charollais, Dorset Horn, Dorset Down, Greyface, Hampshire Down, Lleyn, Masham, Mule, NC Cheviot, Oxford, Scotch Halfbred, Suffolk, Texel, Lincoln longwool, Leicester longwool, Devon and Cornwall longwool, Dartmoor Greyface, Romney, Wiltshire Horn, Cotswold
Medium ewe (50 kg – 70 kg)	*Cheviot, Hill Radnor, Whitefaced Woodland,* Devon Closewool, Jacob, Southdown, *Beulah Speckled Face*, Derbyshire Gritstone, Whitefaced Dartmoor, Norfolk Horn, Ryeland, *Lonk*, Kerry Hill, Llanwenog, *Scottish Blackface, Brecknock Hill Cheviot*, Clun Forest, *Rough Fell*, *Welsh Hill Speckleface*
Small/Hill ewe (>50 kg)	*Dalesbred,* Exmoor Horn, *Herdwick, Swaledale, Welsh Mountain,* Portland, *Balwen, Badger Faced Welsh, Hebridean, Hill Radnor, Manx Loghtan, North Ronaldsay, Shetland, Soay, Black Welsh Mountain*
Large Dairy cow (> 700 kg)	Holstein, Friesian, Ayrshire, Dairy Shorthorn
Medium Dairy Cow (500 kg – 700 kg)	Guernsey
Small Dairy Cow (< 500 kg)	Jersey
Large beef cow (>700 kg)	South Devon, *Salers*, Limousin, Simmental, Charolais, Sussex, Beef shorthorn, Lincoln, Hereford (regular)
Medium beef cow (500 kg – 700 kg)	Hereford (traditional), Gloucester, North (Ruby) Devon, Whitebred Shorthorn, A Angus (ordinary), Longhorn, Luing, Sussex, Welsh Black, *Blue-Grey*
Small beef cow (< 500 kg)	*Galloway*, Dexter, *Highland, Belted Galloway*, Aberdeen Angus (original), Irish Moiled, Shetland

Hill breeds are listed in italics

Equines have not been included in this table due to the lack of reliable data on comparative breed sizes.