



Hybu Cig Cymru

Meat Promotion Wales

[www.hccmpw.org.uk](http://www.hccmpw.org.uk)

Ymgynghorydd Glaswelltir

**Chris Duller**

Grassland Adviser

# Why is the grass greener on the other side?



# What makes a good, high quality, productive sward?

## Location

Soil type  
Soil depth  
Altitude  
Topography  
Weather

## Soil management

Soil chemistry  
Soil structure  
Soil biology  
Drainage  
Inputs – fert/muck

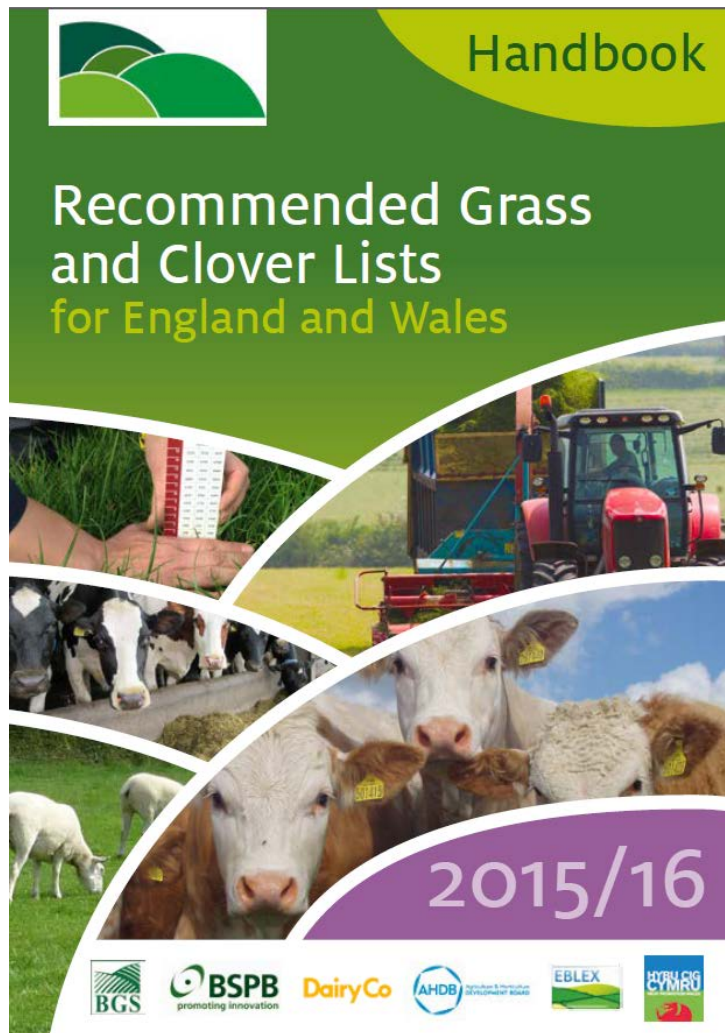
## Sward management

Grazing management  
Silage system  
Stocking rate/pressure  
Weed control

## Reseeding policy

Seeding frequency  
Establishment  
Mixture selection  
Variety choice

# Seed mixture selection and variety choice.....



The list is now funded by the levy bodies rather than through the seed merchants

# What is the list?

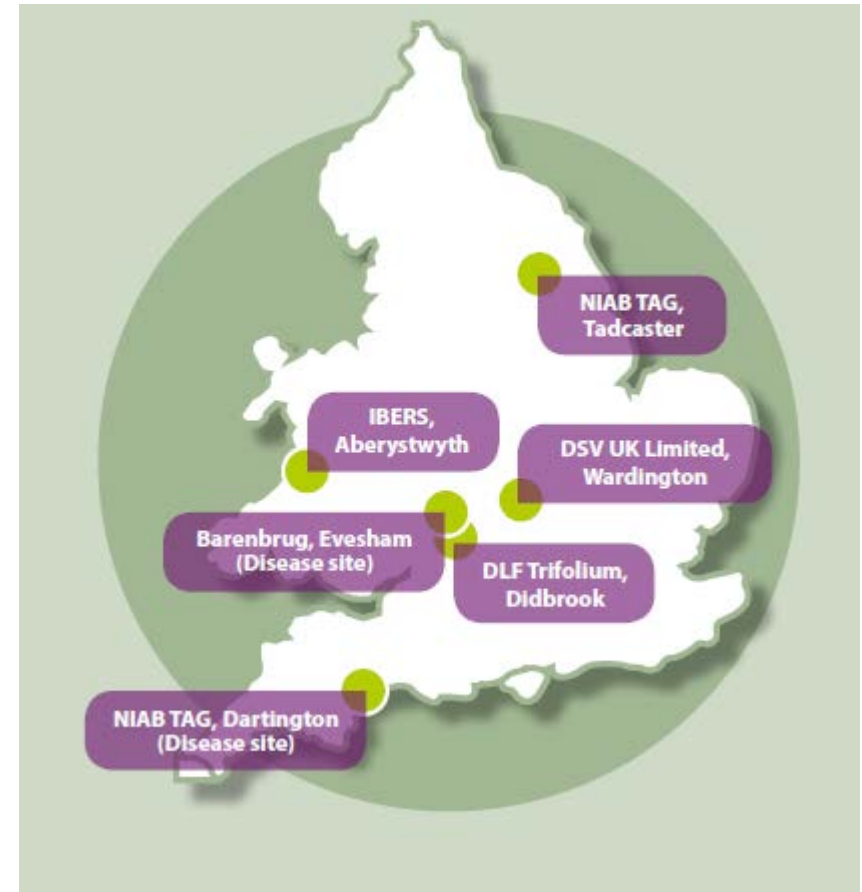
Independent data collected on the performance of varieties of grass and clover

From a range of sites across England and Wales

Over a number of years

Yield data, quality data and agronomic data such as disease susceptibility

Italian ryegrass,  
Perennial ryegrass,  
Hybrid ryegrass,  
White clover,  
Red clover,  
Lucerne,  
Timothy,  
Cocksfoot





The list contains only the best performing grasses

Grass breeders often take 10 years to develop a variety  
– before it is submitted to the National List (NL) trials

After 3 years of National List trials – if successful the variety will gain list status  
(G,S,PG,PS)

Only 1 in 20 of the varieties submitted to the NL trials will gain status

All varieties are assessed for distinctiveness, uniformity and stability (DUS)

# How do you use the list?

The list is designed so you can identify varieties that are most suited to your system

But ...what is your system?.....what do you want from your grass varieties?

The first decisions are about finding the **right type** of grasses – then you can fine tune down to individual varieties

Mixture vs single varieties??



## Italian Ryegrass

Suited to multi-cut silage systems rather than grazing  
high yields, quick establishment  
multiple heading through the season  
likely to only last 2-3 years

## Perennial ryegrass

Produce a much denser sward than Italians  
Less high yielding – but much more persistent  
Single heading window  
– either early, intermediate or late.  
Lates tend to be more persistent, but less early growth  
Suited to both cutting and grazing

## Hybrid Ryegrass (Italian x Perennial)

Combine the characteristics of both parents  
More persistent than Italians (4-6 years)  
Less dense than perennials  
Can be used for cattle grazing – but primarily for silage  
Can be included with perennials in a mixture  
Often used for oversowing mixtures

## Tetraploid vs diploid

Diploids are less erect in habit and produce a denser sward, generally they are more persistent



# Getting the right balance in your mixture

Yield vs persistence vs quality.....always a trade off.....

Is it for cutting?



How often, when, how much

Italians  
Hybrids  
Perennials (mostly tetraploid 70%)  
Heading dates to match 1<sup>st</sup> cut  
– spread within a week  
+/- clover

Or cut and graze?



Is it for grazing?



Cattle? Sheep?..intensity?

Perennials (mostly diploids) 70%+  
Intermediates + lates  
+/- clover  
+ timothy?

The more you want it to do.....the more compromises you make

# Selecting individual varieties...and putting a mix together

Italian – hybrid or perennial...

Heading date and ploidy?  Early, inter, late....diploid or tetraploid

Timothy...clover?

Decision Time!!

Grazing ley for beef (April to September) and sheep (lamb finishing and early turnout)

– unlikely to be cut

– fairly dry field (will burn a bit in summer)

Want it to last 8-10 years – want clover

Mix of intermediates and lates – 70:30 diploid to tetraploid

Two intermediate diploids

One intermediate tetraploid

Two late diploids

White clover (medium/small leaf)

There are no bad varieties on the list....just some will be more suited to your system than others

# Recommended List of Intermediate Perennial Ryegrass Varieties 2015/2016

Variety Name	Heading Date	Simulated grazing management		Conservation management		Ground Cover	Crown Rust	Drechslera	Suitable for my farm
		Total Annual Yield <i>average = 100 at 10.43t DM/ha</i>	D-value Midsummer	Mean Total Annual Yield <i>average = 100 at 15.30t DM/ha</i>	D-value 2nd conservation cut				
<b>Diploids</b>									
Solomon	17 May	98	75.3	103	72.3	6.7	7	7	<input type="checkbox"/>
Boyne	20 May	101	75.0	106	70.1	7.2	7	6	<input type="checkbox"/>
Nifty	24 May	103	76.9	100	71.1	6.6	7	4	<input type="checkbox"/>
Moira	24 May	98	75.1	104	73.5	6.2	8	7	<input type="checkbox"/>
AberDart	24 May	99	77.2	98	74.4	7.4	6	4	<input type="checkbox"/>
Glenariff	26 May	101	74.6	102	72.7	6.6	9	6	<input type="checkbox"/>
AberStar	26 May	102	77.3	98	73.0	7.1	7	3	<input type="checkbox"/>
AberWolf	27 May	104	77.6	105	72.7	7.3	7	3	<input type="checkbox"/>
Rodrigo	27 May	96	76.2	98	74.1	7.0	5	5	<input type="checkbox"/>
Premium	27 May	96	75.3	98	72.6	6.7	6	7	<input type="checkbox"/>
Copeland	28 May	96	74.8	99	73.2	6.9	7	6	<input type="checkbox"/>
AberFarrell	28 May	98	77.0	97	75.7	6.5	7	6	<input type="checkbox"/>
AberMagic	28 May	104	76.8	100	72.3	6.6	7	5	<input type="checkbox"/>
Elyria	29 May	101	75.9	100	73.0	7.2	7	[6]	<input type="checkbox"/>
AberGreen	29 May	104	77.5	103	73.5	7.1	8	6	<input type="checkbox"/>

Which are highest yielding?  
 With good quality?  
 With good ground cover?  
 And disease resistant?




# Recommended List of Intermediate Perennial Ryegrass Diploid Varieties 2015/2016

	Mean of G varieties	Int. Diploid Mean	Solomon	Boyne	Nifty	Moira	AberDart	Glenariff	AberStar	AberWolf	Rodrigo	Premium	Copeland	AberFarrell	AberMagic	Elyria	AberGreen
Recommended List Status			G	S	PG	PS	G	PG	S	PS	PG	G	PS	S	G	PG	G
Heading date			17 May	20 May	24 May	24 May	24 May	26 May	26 May	27 May	27 May	27 May	28 May	28 May	28 May	29 May	29 May
<b>Grazing: Management</b>																	
Grazing Yield (% of 10.50t DM/ha)	100	100	98	101	103	98	99	101	102	104	96	96	96	98	104	101	104
Grazing D-value	76.1	76.1	75.3	75.0	76.9	75.1	77.2	74.6	77.3	77.6	76.2	75.3	74.8	77.0	76.8	75.9	77.5
<b>Grazing: Seasonal Growth</b>																	
Early Grazing Yield (% of 1.23t DM/ha)	100	105	108	106	96	104	116	101	107	104	99	100	102	96	95	100	99
Spring (% of 2.12t DM/ha)	100	103	109	107	101	103	107	97	104	108	101	102	103	95	95	98	102
Early Summer (% of 4.10t DM/ha)	100	94	90	97	99	90	93	97	96	95	93	92	91	93	99	97	101
Late Summer (% of 2.83t DM/ha)	100	100	98	101	106	99	98	106	101	107	95	96	96	102	109	104	105
Autumn (% of 1.45t DM/ha)	100	109	103	106	112	113	108	110	115	114	101	99	99	110	124	110	115

	Mean of G varieties	Int. Diploid Mean	Solomon	Boyne	Nifty	Moira	AberDart	Glenariff	AberStar	AberWolf	Rodrigo	Premium	Copeland	AberFarrell	AberMagic	Elyria	AberGreen
<b>Agronomic Characters</b>																	
Ground Cover % (2nd Harvest year)	60	62	60	66	60	58	67	63	65	63	64	62	62	60	58	64	64
Ground Cover % (3rd Harvest year)	56	61	61	62	59	56	63	55	61	65	60	59	61	59	60	63	63
Autumn Ground Cover (1-9, 1=poor 9=good)	6.3	6.9	6.7	7.2	6.6	6.2	7.4	6.6	7.1	7.3	7.0	6.7	6.9	6.5	6.6	7.2	7.1
Winter Hardiness (1-9, 1=poor 9=good)	6.6	6.5	6.4	6.4	6.4	6.4	6.8	6.4	6.8	6.7	6.7	6.3	6.8	6.6	6.5	6.8	6.6
<b>Disease Resistance</b>																	
Crown Rust (1-9, 1=poor 9=good)	6	6	7	7	7	8	6	9	7	7	5	6	7	7	7	7	8
Drechslera (1-9, 1=poor 9=good)	7	6	7	6	4	7	4	6	3	3	5	7	6	6	5	[6]	6
Mildew (1-9, 1=poor 9=good)	7	7	7	7	7	8	6	[8]	6	6	7	7	8	8	7	7	7
<b>Year First Listed</b>			2009	2010	2014	2014	1999	2012	2005	2014	2010	1998	2010	2009	2008	2015	2011
<b>Breeder</b>			Teagasc, Eire	DLF Trifolium, Denmark	DLF Trifolium, Denmark	AFBI, UK	IBERS, Aberystwyth	AFBI, UK	IBERS, Aberystwyth	IBERS, Aberystwyth	DSV, NL	Innoseeds, NL	AFBI, UK	IBERS, Aberystwyth	IBERS, Aberystwyth	DLF Trifolium, Denmark	IBERS, Aberystwyth
<b>UK Agent</b>			DLF Trifolium Ltd	DLF Trifolium Ltd	DLF Trifolium Ltd	Barenbrug UK Ltd	Germinal	Barenbrug UK Ltd	Germinal	Germinal	Germinal	DLF Trifolium Ltd	Barenbrug UK Ltd	Germinal	Germinal	Limagrain UK	Germinal
<b>Number of Trials for Yields</b>																	
1st Harvest Year			13	18	6	6	13	11	17	6	15	37	14	13	11	6	12
2nd Harvest Year			12	13	6	6	13	8	15	6	12	34	11	12	12	6	10
3rd Harvest Year			12	12	6	6	11	6	16	6	12	33	12	12	12	6	9

# Recommended List of Late Perennial Ryegrass Varieties 2015/2016

Variety Name	Heading Date	Simulated grazing management		Conservation management			Ground Cover	Crown Rust	Drechslera	Suitable for my farm 
		Total Annual Yield <i>average = 100 at 10.43t DM/ha</i>	D-value Midsummer	Mean Total Annual Yield <i>average = 100 at 15.30t DM/ha</i>	D-value 2nd conservation cut					
<b>Tetraploids</b>										
Bijou	1 Jun	100	75.7	(103)	(72.5)	5.9	8	8	<input type="checkbox"/>	
Drift	1 Jun	101	75.1	100	72.7	6.0	9	7	<input type="checkbox"/>	
Alfonso	1 Jun	99	76.4	100	74.7	5.8	8	6	<input type="checkbox"/>	
Elgon	1 Jun	99	76.1	96	73.8	5.2	5	7	<input type="checkbox"/>	
Meiduno	2 Jun	106	75.9	103	75.0	4.7	7	8	<input type="checkbox"/>	
Hurricane	2 Jun	101	76.7	104	74.0	5.7		[7]	<input type="checkbox"/>	
Dundrum	3 Jun	101	76.6	103	73.5	5.5	4	8	<input type="checkbox"/>	
Aspect	3 Jun	103	76.8	101	74.8	5.9	7	7	<input type="checkbox"/>	
Novello	4 Jun	104	76.3	98	74.1	5.8	8	8	<input type="checkbox"/>	
Polim	4 Jun	101	75.6	100	73.1	5.3	7	7	<input type="checkbox"/>	
Irondal	4 Jun	101	76.7	98	75.0	6.2	9	7	<input type="checkbox"/>	
AberGain	4 Jun	109	77.6	105	73.8	5.3	9	7	<input type="checkbox"/>	
AberBite	5 Jun	104	77.2	101	74.4	5.5	8	7	<input type="checkbox"/>	
Twymax	5 Jun	102	76.8	101	75.0	6.2	6	7	<input type="checkbox"/>	
AstonPrincess	6 Jun	103	76.7	99	75.2	5.9	6	7	<input type="checkbox"/>	
Youpi	6 Jun	104	76.5	100	74.6	5.8		[9]	<input type="checkbox"/>	
Xenon	6 Jun	104	76.6	96	74.7	6.4	6	7	<input type="checkbox"/>	
Herbal	6 Jun	102	76.5	98	75.2	6.5	6	7	<input type="checkbox"/>	
AberPlentiful	7 Jun	102	76.9	97	74.3	5.3	9	6	<input type="checkbox"/>	
Fornido	7 Jun	99	76.3	96	74.6	6.2	6	7	<input type="checkbox"/>	
Solas	8 Jun	104	76.3	102	74.5	5.8	6	[7]	<input type="checkbox"/>	
Ideal	9 Jun	99	77.1	97	75.5	6.3	7	7	<input type="checkbox"/>	
AstonAmber	10 Jun	101	76.9	93	75.2	5.8	9	7	<input type="checkbox"/>	

( ) Data derived from intermediate trials. [ ] Limited data.

If you're looking for grasses that you are also for cutting

Yields and mid season D are reported in the handbook



# Recommended List of Late Perennial Ryegrass Tetraploid Varieties 2015/2016

	Mean of G Varieties	Late Tetraploid Mean	Bijou	Drift	Alfonso	Elgon	Meiduno	Hurricane	Dundrum	Aspect	Novello	Irondal	AberGain	AberBite	Twymax	Aston Princess	Youpi	Xenon	Herbal	AberPlentiful	Fornido	Solas	Ideal	AstonAmber
Recommended List Status			PG	PG	PS	G	PG	PS	S	G	G	PS	PG	G	G	G	PG	S	G	PG	G	PG	G	PS
Heading Date			1 Jun	1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	3 Jun	3 Jun	4 Jun	4 Jun	4 Jun	5 Jun	5 Jun	6 Jun	6 Jun	6 Jun	6 Jun	7 Jun	7 Jun	8 Jun	9 Jun	10 Jun
<b>Conservation: Management</b>																								
Total Yield: 1st Harvest Year (% of 17.45t DM/ha)	100	99	(104)	99	101	93	101	102	102	100	97	97	106	101	100	100	97	96	97	97	95	100	96	93
Total Yield: 3rd Harvest Year (% of 12.94t DM/ha)	100	100	(103)	102	98	98	104	106	104	101	98	100	104	102	102	99	103	97	100	99	98	104	99	92
Total Yield: Mean (% of 15.30t DM/ha)	100	100	(104)	100	100	96	103	104	103	101	98	98	105	101	101	99	100	96	98	97	96	102	97	93
<b>Conservation: Year 1: Seasonal Growth</b>																								
1st Cut (% of 7.00t DM/ha)	100	99	(103)	106	112	94	101	110	108	104	95	96	114	101	103	105	94	92	93	96	92	98	94	89
1st Cut D-value	72.0	73.6	(75.2)	71.4	71.8	72.2	74.4	70.8	71.7	73.7	73.0	72.5	72.0	72.7	73.3	73.7	73.9	73.2	74.7	73.2	74.9	73.3	74.3	74.6
2nd Cut (% of 4.12t DM/ha)	100	104	(110)	103	99	97	107	100	105	103	103	102	108	104	106	104	105	105	104	103	100	107	101	103
2nd Cut D-value	73.7	74.9	(72.5)	72.7	74.7	73.8	75.0	74	73.5	74.8	74.1	75.0	73.8	74.4	75.0	75.2	74.6	74.7	75.2	74.3	74.6	74.5	75.5	75.2
3rd Cut (% of 3.17t DM/ha)	100	97	(110)	89	89	89	100	98	96	97	97	98	96	96	97	96	98	98	98	94	96	99	94	93
4th+ Cut (% of 3.24t DM/ha)	100	92	(101)	86	90	90	92	88	90	89	93	91	93	99	87	87	91	90	95	90	91	96	92	89

The merchants list gives you a detailed breakdown of yield and quality

# Recommended List of White Clover Varieties 2015/2016

*Good for grazing and cutting.*

Variety Name	Leaf Area mm <sup>2</sup>	Total Yield of Clover		Total Yield of Grass + Clover		Autumn Ground Cover 1 = poor, 9 = good		Suitable for my farm 
		3rd harvest yr ave. = 100 at 3.84t DM/ha	3rd harvest yr ave. = 100 at 12.09t DM/ha	After Light Defoliation	After Hard Defoliation	After Light Defoliation	After Hard Defoliation	
AberAce	332	76	95	4.6	8.2	<input type="checkbox"/>		
Galway	521	79	94	4.3	7.7	<input type="checkbox"/>		
Aber S.184	590	74	96	4.6	7.7	<input type="checkbox"/>		
G Demand	677	91	98	6.2	7.3	<input type="checkbox"/>		
AberPearl	703	74	96	4.9	7.5	<input type="checkbox"/>		
Saracen	742	97	101	5.2	6.3	<input type="checkbox"/>		
Crusader	748	94	100	6.5	6.2	<input type="checkbox"/>		
AberHerald	749	121	102	7.7	6.0	<input type="checkbox"/>		
Iona	810	112	102	5.8	7.6	<input type="checkbox"/>		
G Bounty	815	106	100	6.6	7.5	<input type="checkbox"/>		
Avoca	822	93	101	5.8	7.3	<input type="checkbox"/>		
Buddy	829	110	104	6.4	8.1	<input type="checkbox"/>		
AberDai	833	112	102	6.4	6.7	<input type="checkbox"/>		
Violin	948	127	109	7.9	7.5	<input type="checkbox"/>		
Katy	1007	111	102	6.6	6.1	<input type="checkbox"/>		
Alice	1033	114	101	6.3	5.8	<input type="checkbox"/>		
Barblanca	1078	120	102	7.0	6.9	<input type="checkbox"/>		
Aran	1384	124	104	6.2	4.6	<input type="checkbox"/>		
Brianna	1544	120	103	6.1	6.0	<input type="checkbox"/>		



Sheep grazing

Mixed grazing – one or two cuts

Multi cut – or rotational cattle grazing



# Recommended List of White Clover Varieties 2015/2016

	Mean of G varieties	AberAce	Galway	Aber S.184	G Demand	AberPearl	Saracen	Crusader	AberHerald	Iona	G Bounty	Avoca	Buddy	AberDai	Violin	Katy	Alice	Barbianca	Aran	Brianna	
<b>Recommended List Status</b>		G	G	G	G	G	PG	G	G	G	G	G	PG	G	G	PG	G	G	G	PG	
<b>Leaf Area (length x breadth = mm<sup>2</sup>)</b>	801	332	521	590	677	703	742	748	749	810	815	822	829	833	948	1007	1033	1078	1384	1544	
<b>Light Defoliation (Cutting or rotational cattle grazing): 2nd Harvest year</b>																					
Total Clover Yield (% of 4.34t DM/ha) #	100	79	75	86	85	84	93	104	106	96	101	99	120	110	129	113	113	107	129	126	
Total Yield: Clover & Grass (% of 12.59t DM/ha) #	100	96	95	99	96	98	101	102	100	102	99	100	104	102	108	102	101	102	102	102	
% Clover in Sward	34	28	27	30	31	29	32	35	37	33	35	34	40	37	41	38	39	36	44	42	
Clover Yield: First cut (% of 0.61t DM/ha) #	100	78	85	83	82	103	96	112	96	104	97	108	143	113	120	96	111	101	128	97	
Clover Yield: Last cut (% of 0.46t DM/ha) #	100	65	60	76	95	61	101	123	107	89	105	93	94	105	127	108	120	142	139	120	
<b>3rd Harvest Year</b>																					
Total Clover Yield (% of 3.84t DM/ha) #	100	76	79	74	91	74	97	94	121	112	106	93	110	112	127	111	114	120	124	120	
Total Yield: Clover & Grass (% of 12.09t DM/ha) #	100	95	94	96	98	96	101	100	102	102	100	101	104	102	109	102	101	102	104	103	
% Clover in Sward	32	25	27	25	29	25	30	30	38	35	34	29	33	35	37	35	36	37	38	37	
Clover Yield: First cut (% of 0.48t DM/ha) #	100	71	72	61	79	78	103	106	120	110	116	104	117	118	114	108	123	134	128	118	
Clover Yield: Last cut (% of 0.35t DM/ha) #	100	68	69	73	91	66	112	98	120	101	110	86	86	106	126	77	114	142	141	125	
<b>Spring Ground Cover</b>																					
<b>Hard Defoliation</b>	% Cover 1st Harvest Year	40	48	37	44	41	37	38	45	38	43	40	46	45	40	34	39	39	39	34	44
	% Cover 2nd Harvest Year	58	67	60	67	60	59	48	52	56	62	62	58	67	59	65	57	55	51	47	43
	% Cover 3rd Harvest Year	53	61	64	57	56	59	47	41	52	56	58	52	61	54	51	46	48	49	42	41
	Overall (1-9, 1=poor 9=good)	7.4	8.7	8.4	8.3	7.7	7.8	5.6	5.6	6.9	7.8	8.0	7.1	8.7	7.3	7.7	6.5	6.4	6.1	5.1	6.1

		Mean of G varieties	AberAce	Galway	Aber S.184	G Demand	AberPearl	Saracen	Crusader	AberHerald	Iona	G Bounty	Avoca	Buddy	AberDai	Violin	Katy	Alice	Barblanca	Aran	Brianna
Autumn Ground Cover																					
Light Defoliation	% Cover 1st Harvest Year	47	49	48	50	41	47	45	50	47	47	48	46	52	42	53	40	45	49	40	50
	% Cover 2nd Harvest Year	41	35	28	35	40	36	36	44	48	39	42	40	45	45	51	45	44	46	43	51
	% Cover 3rd Harvest Year	42	35	39	35	44	36	40	43	50	42	46	41	42	41	49	43	42	46	42	51
	Overall (1-9, 1=poor 9=good)	6.1	4.6	4.3	4.6	6.2	4.9	5.2	6.5	7.7	5.8	6.6	5.8	6.4	6.4	7.9	6.6	6.3	7.0	6.2	6.0
Hard Defoliation	% Cover 1st Harvest Year	54	58	57	60	58	52	51	57	49	59	57	57	60	53	58	56	52	51	45	31
	% Cover 2nd Harvest Year	55	62	58	61	57	58	54	54	52	59	58	58	60	54	57	53	51	55	43	53
	% Cover 3rd Harvest Year	56	63	62	59	58	59	51	50	51	59	60	57	63	54	61	50	49	56	44	49
	Overall (1-9, 1=poor 9=good)	7.1	8.2	7.7	7.7	7.3	7.5	6.3	6.2	6.0	7.6	7.5	7.3	8.1	6.7	7.5	6.1	5.8	6.9	4.6	6.3

**Use the list** - either to identify the grasses/clovers you want...and then go shopping

Or to check that a standard off the shelf mix will suit you...

Long term cut and graze mix

2.00 kg AberGain Late Tetraploid Perennial Ryegrass  
2.00 kg AberBite Late Tetraploid Perennial Ryegrass  
1.50 kg AberAvon Late Diploid Perennial Ryegrass  
4.50 kg Drumbo Late Diploid Perennial Ryegrass  
2.00 kg Bijou Late Tetraploid Perennial Ryegrass **New Variety**  
1.00 kg Presto Timothy  
0.50 kg AberPearl Small Leaf White Clover  
0.50 kg Crusader Medium Leaf White Clover  
**14.00 kg/acre**

Heading range = 5 days

AberGain – great yields and quality, especially early season – not the best ground cover

AberBite - great yields and quality – not that good for early season growth

AberAvon – top of class for quality and ground cover

Drumbo – good quality – not high yields under cutting – not the best for disease & ground cover

Bijou – good mid-season silage yields – but fairly low early season yields

Pearl and Crusader – probably not that suited to long conservation cuts.

My slight concern is that Drumbo is ½ of the mix...and probably the poorest variety of the 5  
.....cost???? .....pitched mid-range...

# Summary

There is a wealth of information in the list to help you make informed decisions about your business and your investment.

This is independent information – validated at many sites over many years

Any variety on the list is excellent....but they are all slightly different - and some will be more suitable for your system than others

The balance of the mixture and grass type are way more important than individual varieties – picking varieties is fine tuning

Your farm is one big experiment – don't be afraid to try new things

