

# Developing Alternative Legume Mixes – The Farmer's Perspective

John Newman

- Trial plot sown alongside our usual white clover mix:

3kg Premium PRG

6kg Orion PRG – organic

4.9 kg Foxtrot PRG – organic

4.9kg Dolina Timothy – organic

1.8kg Alice White Clover

1.82kg Tribute White Clover

1.24kg Birdsfoot Trefoil San

1.24kg Chicory

25.8kg/ha – 65% organic

# Establishment

- Ploughed – 10.03.09
- 3 cultivations in April and 2 in June 09 – weed strikes
- Drilled 12.06.09 – Horsch drill (drill carried above ground – ASM difficult to calibrate)
- Flat rolled

Both the usual ley mix and the ASM were planted at the same time.

Previous cropping 4 years arable – high levels of weeds particularly docks

Initially ASM did not look as good as our usual mix

# The Researcher/Scientist's Perspective

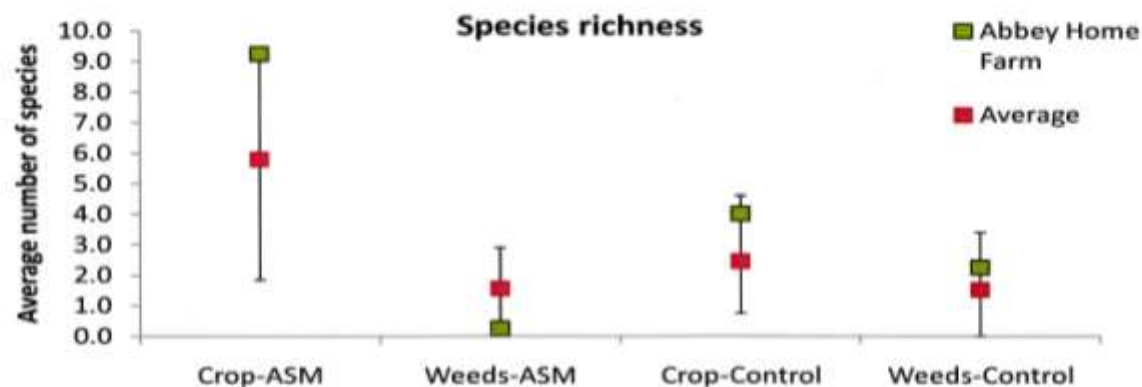
**Legume LINK: Report for Abbey Home Farm – March 2011**  
**Crop species in All Species Mix (ASM) and control ley in 2009 and 2010**

The table below shows the average ground cover (measured in four 0.25m<sup>2</sup> quadrats) of the ASM and control ley and each of their component species. The ASM has fared well in comparison to the control which is already quite species rich, and most of the species are still present one year after sowing. As the graph on page 2 displays, the species richness of the ASM is above average on Abbey Home Farm.

I have also included some soil results that we collected in Spring 2009 at the start of the trial. We will collect soil samples from the plots again this year, and I will forward the results to you when the samples have been analyzed.

Crop Cover (%)	Treatment	Species	Common name	Average Cover %	
				2009	2010
	<b>ASM</b>	<b>Total ground cover</b>	-	<b>11</b>	<b>94</b>
	ASM	Trifolium incarnatum	Crimson Clover	2	1
	ASM	Trifolium repens	White Clover	2	38
	ASM	Lolium spec.	Ryegrass	1	12
	ASM	Lotus corniculatus	Bird's-foot Trefoil	1	2
	ASM	Lotus pedunculatus	Greater Bird's-foot Trefoil	1	2
	ASM	Medicago lupulina	Black Medic	1	11
	ASM	Medicago sativa	Lucerne	0	2
	ASM	Onobrychis viciifolia	Sainfoin	1	2
	ASM	Trifolium hybridum	Alsike Clover	1	3
	ASM	Trifolium pratense	Red Clover	2	15
	ASM	Festuca pratensis	Meadow fescue	0	5
	<b>Control</b>	<b>Total ground cover</b>	-	<b>32</b>	<b>102</b>
	Control	Festuca pratensis	Meadow fescue	0	4
	Control	Lolium spec.	Ryegrass	9	38
	Control	Lotus corniculatus	Bird's-foot Trefoil	2	2
	Control	Lotus pedunculatus	Greater Bird's-foot Trefoil	0	2
	Control	Trifolium repens	White Clover	21	56

### Species richness of the ASM and control ley



### Average ground cover by weed species in 2009 and 2010 in the ASM and the control ley

#### Abbey Home Farm

#### Weed Cover (%)

Species	Common name	2009 ASM	2009 Control	2010 ASM	2010 Control
<b>Total weed cover</b>	-	<b>28.7</b>	<b>24.4</b>	<b>0.8</b>	<b>14.1</b>
Anagallis arvensis	Scarlet pimpernel	0.2	1.3		
Cerastium spec.	Mouse-ear				0.4
Chenopodium album	Fat hen		0.2		
Fallopia convolvulus	Black-bindweed		3.8		
Kickxia elatine	Sharpleaf cancerwort	0.2	0.2		
Lamium purpureum	Red dead nettle		0.6		
Myosotis arvensis	Forget-me-not	0.2			
Poa annua	Annual meadow grass	0.6			
Polygonum aviculare	Common knotgrass	1.1	4.7		
Rumex obtusifolius	Broad-leaved dock	5.4	0.4		
Rumex spec.	Dock			0.8	8.3
Sonchus arvensis	Sow-thistle	0.4			
Stellaria media	Chickweed		0.2		0.9
Taraxacum officinale	Dandelion		1.1		4.5
Veronica persica	Common field speedwell	20.6	12.0		

# Field operations

- 2010  
Hay crop taken followed by grazing with sheep
- 2011  
2 cuts of silage followed by grazing with sheep

# The Farmer's Perspective

- The trial strip has retained it's diversity
- Assessment of the strip v the rest of the field by eye shows greater height and volume of forage (cocksfoot/lucerne and red clover grew particularly well)
- Recorded yields of forage have been higher by 50%
- Both ewes and lambs have preferentially grazed the strip
- Weed levels now appear lower than the usual ley mix



# Farm Outcomes

- Increased use of lucerne on farm  
9.4 kg Marshall lucerne/9kg Milvus/8.6kg Polim
- Introduced cocksfoot into our ley mixture  
3kg Premium PRG/5kg Orion PRG/5kg  
TwystarPRG/5kg Cocksfoot Prairial/2kg Ragnor  
Timothy/2kg Alice WC/2kg Aran WC/0.75kg Birds  
Foot Trefoil/0.75kg Chicory/05kg Trefoil Virgo  
Pajberg