

Appendix 5 - Full Monitoring Reports & Visits



Appendix 5.

The full diary of events and background information whilst conducting both Phases of the Trial at Great Dixter, including staff Mat Reece, Andy Hughes and Dawn Brickwood.

WMI - Single Species - Monitoring/Progress Report

Period: Oct 2004 - June 2006

Phase 1 Procedure	Dates completed	No. Hrs.	Comments & Notes of event
Site preparation Spraying	8/10/04	3	The replicates were sprayed with 45 litres of Glyphosate (Trade Name Gallop 360) at a rate of 320ml/20L.
Seed sowing into pots	8/10/04.	4	The seed was sown evenly over the entire surface of the pot to ascertain how 'good' or viable the seed was and to help with cotyledon identification in the field. Half the seed was then covered with compost to a depth of 3mm to see if this had an effect on the germination. By sowing the seed thickly one would expect 100% seedling cover over the pot surface from good seed, and less of a percentage coverage from poor seed. The seed was sown in to John Innes No.1 compost, in to 4" black plastic pots. All of the pots were then placed in to a double frame for two weeks to promote germination, after which they were moved outside to allow frost to act on those seeds that need vernalisation. See Table 1 page 29. <i>By mid November Devils' bit Scabious and Burnet Saxifrage are showing no signs of germination. Dyers Greenweed is very poor and this and a couple of other species should benefit from vernalisation.</i>
Seed sown in pots, watering and maintenance	8/10/2004 - 24/11/2004	2	Watering and monitoring of pots in nursery. By 22/11/2004 no subsequent germination in any of the pots).
SEED SOWING Phase 1 27/10/2004 - completed by MR, AH and DB			
Trial - Initial plot marking out	29/09/2004	4	On the 29 September 2004 MR and AH marked out most of the trials area.
Trial - final marking out	27/10/2004	22	The final grassland area dividing each row of plots was staked out by MR (8.5hrs) AH (6.5) and DB (7) in preparation on the 27/10/2004.
Individual Plot preparation			Each single species will be sown into 4 plots. Plot 1 will have each species sown in order 1-10 and the other 3 replicates will have a randomised format. For example species 1 is Bird's-foot Trefoil and was sown in plot 1, 17, 24 and 32.
Seed rate		7	DB sourced seed, which was supplied in kind by Agrifactors Southern LTD (including WNOS & commercial grass seed). This support will be acknowledged as part of the site interpretation. The seed rates were revised as part of the hand sowing process. The rates are still considered high (as we would

Phase 1 Procedure	Dates completed	No. Hrs.	Comments & Notes of event
Plot 10 – Dexter Mixer			like to see all species germinating and hand sowing & human variation requires a higher seed rate) For Plot 10: the aim is to see if we can introduce meadow plants into an area by using the clippings from the meadows at Dexter. Therefore these randomised plots were strewn with the meadow mixture cut from the topiary lawn at Great Dexter. The topiary meadow has been meadow for 8 years before which it was a formal lawn, most plants have found their own way in to the meadow apart from the Yellow Rattle, which was introduced. The grass was cut using a reciprocating scythe in October, the clippings were then stored on Hessian until plot 10 was later prepared, and then on the seed-sowing day it was forked onto the area. The thickness of the clippings was approximately 90mm-110mm.
MONITORING OF SPECIES GERMINATING IN THE PLOTS – by Great Dexter Including emergence dates of each species and photographic record – of important events or on a weekly basis depending on the time of the year			
Crop maintenance and monitoring.	27/10/2004 – 24/11/2004	15	3 hours per week Walking the crop daily to check on seed germination and weed growth. Weeding out broadleaf weeds particularly <i>Rumex</i> sp (dock) and <i>Ranunculus</i> sp (buttercup). Though it is expected weed growth should slow considerably, even cease, unless we have a mild winter.
Site meeting	23/11/2004	5.5	DB (travel and meeting = 2.5hours) with Perry (1.5) and Matt (1.5) and admin update on report/invoice
Crop maintenance, monitoring, photography	24/11/2004 – 28/2/2005	22	13 weeks of walking the crop, checking for germination, pest and diseases and weeds. Taking photographs of significant events and features. Weed growth still not significant. Note. Badger and fox droppings found on the trial site.
Application of slug pellets to whole crop	30/11/2004	2	Slug damage occurred on broadleaved weeds and grasses and after consultation with Andy, slug pellets were applied to the whole area as a proactive measure against damage to the crop. Rate 7-15kg / hectare.
Spot application of weed killer to broadleaved weeds	18/12/2004	3	Gallop 360 at double strength 640ml / 20L
Rewriting Plot labels	19/12/2004	2	Labels have become faded and need redefining
Labour for report writing/admin	13-14/12/2004	4	Updating progress report and producing table for germination dates.
Reapplication of slug pellets	2/1/2005 & 4/2/05	2	As the slug pellets are eaten and become weathered, they need to be replaced. Rate 7-15kg / hectare Weathering prompted reapplication, as the slug pellets are eaten and become weathered, they need to be replaced. Rate 7-15kg / hectare
Labour for report writing, admin.	6/1/05 & 21/2/2005	5	Mat time for updating progress report and invoice

Phase 1 Procedure	Dates completed	No. Hrs.	Comments & Notes of event
Interpretation research and script	19/1/2005 - 10/2/2005	7	Editing and researching site interpretation - internet.
Site meeting	17/2/2005	4	Meeting with DB (2hrs) to discuss interpretation, progress report and evaluate project.
Labour for meeting with Andy	14/2/2005	1	Monitoring germination, weeding, and pest. Note. Rabbit damage and droppings present.
SPRING WEED CONTROL / PROGRESS (photographs)			
Reapplication of slug pellets	18/3/2005	1	As the slug pellets are eaten and become weathered, they need to be replaced. Rate 7-15kg / hectare
Writing and positioning wooden labels	10/4/05	1	New labels to replace those that became faded.
Labour for report writing, admin.	10/4/05	3	Mat time for updating progress report and invoice
Labour for meeting with Andy	11/4/05	1	Monitoring germination, weeding, and pest. Note. Rabbit damage and droppings present.
Mowing and weeding plots	13-14/4/05	2.5	Weeding worst affected plots.
Labour for writing report and sourcing photographs	14/4/05	4	Mat time for updating progress report and invoice, sourcing photographs.
Labour for meeting with Andy	22/4/05	1	Monitoring germination, weeding, and pest. Note.
Mowing	25/4/05	1	Mowing grass-paths surrounding plots
Labour for meeting with Andy	29/4/05	1	Monitoring germination, weeding, and pest. Note. Rabbit damage and droppings present.
Mowing	6/5/05	1	Mowing grass-paths surrounding plots
Labour for meeting	12/5/05	5	Meeting with Sandhurst Farm team and DB (2.5 hrs) to discuss Phase 2 of the SS project.
Spraying plots	16/5/05	3	Sprayed plots with fusillade max, graminocide, to kill grass weeds, couch and yorkshire fog.
Mowing	20/5/05	1	Mowing grass-paths surrounding plots
Weed-wiping and monitoring Phase 1	27/5/05	4	Weed-wiped, mayweed, docks, buttercups, and sow thistle weeds in the plots. (see Phase 2 - ATV sprayed)
Mowing	1/6/05	1	Mowing grass paths that surround the plots.
Labour for report writing, admin.	1/6/05	1	Mat time for updating progress report and invoice.
Weeding plots.	2-16/6/05	22	Hand weeded mayweed intermingled with the crop from plots that couldn't be weed-wipe. Carried out by Jean-Michael, Mat in the States.
Meeting with Andy	17/6/05	1	Walking the meadow area assessing the crop, and weeds, and action to be taken maintaining the project.
Mowing	20/6/05	1	Mowing grass paths that surround the plots.
	17/06/05	0	Oxeye starting to flower.
Weeding plots.	20/6/04	3	Weeding mayweed intermingled with the crop from plots that couldn't be weed-wipe with Andy.
Weeding & monitoring crop	28/6/05	2	Weeding mayweed and monitoring the crop. Yarrow and birds foot trefoil, starting to flower.
Labour for writing reports, admin.	28/6/05	1	Keeping reports up to date.

Phase 1 Procedure	Dates completed	No. Hrs.	Comments & Notes of event
Meeting with Robert Hayales, regarding the cultivation of the soil for the next phase of the project	8/7/05	0.5	Robert suggested Disc harrowing or rotavating the soil as this would break up the grass and help incorporate it in to the soil, better than a disc-harrow might – for example.
Spoke to Tim Featherfield re: star discing.	9/7/05	0.5	Discussed machinery that would be suitable for cultivating the top few inches of soil, he recommends using a disc or star harrow, as this would sufficiently cultivate the soil, he was opposed to using a rotivator, he concluded it would pan the clay soil.
Weeding plots	12-15/7/05	50	Luke and Mat weeding all plots of mayweed and docks before it sets seed.
Mowing	13/7/05	2	Mowing grass paths that surround the plots. Note: grass spread slightly into plots.
Meeting with PR DB and AH	14/7/05	4	Meeting to discuss extension of meadows project.
Plant counting	19/7/05	12	Counting plants to in the plots with Andy and Dawn (4hrs each).
Labour for report writing, admin.	26/7/05	3	Mat time for updating progress report and invoice
Mowing plots	27/7/05	1	Mowing plantain seed heads off knapweed and devil's-bit scabious plots.
Met Andy on plots	3/8/05	1	Looked over plots and discussed relevant maintenance issues
Weeded plots	10/8/05	3	Hand weeded flowering annuals from the whole project, mostly mayweed.
Weed plots	14/8/05	2	Weed annual weeds from plots, mayweed and scarlet pimpernel.
Mowed plots	14/8/05	2	Mowing grass paths that surround the plots.
Mowed plots	28/8/05	2	Mowing grass paths that surround the plots.
Mowed plots	14/9/05	2	Mowing grass paths that surround the plots.
Meeting with Perry, Dawn and Andy	15/9/05	4	Meeting to discuss extension of meadows project.
Mowed plots	25/9/05	2	Mowing grass paths that surround the plots.
Cut long grass areas and some of the plots (Sweet Vernal Grass, Crested Dogs tail, and Dexter Mix) with Track Master and mower.	1-2/10/05	14	Cut the long grass area in front of the trial area and trail plots. The area was given an initial cut using the Track Master machine, which has reciprocating teeth that cuts the grass to within 20cm of the surface. The grass is then raked into mounds, forked into the trailer and dumped. Sward mown to a height of 5cm (clippings composted). Exactly the same process was carried out on the trail plots.
Weeded plots	9/10/05	4	Weeded annual and perennial weeds from the trails area. Pulled weeds that were in flower over the whole of the meadow area.
Updating progress report.	12/10/05	1	Mat time for updating progress report and invoice.
Updating report and invoice	19/10/05	1	Mat time for updating progress report and invoice.

Phase 1 Procedure	Dates completed	No. Hrs.	Comments & Notes of event
Correspondence with Dawn.	24/11/05	1	Writing reports, phone calls, and emails to Dawn
Stapling interpretation to boards	28/11/05	1	Stapling the interpretation signs to the wooden boards at the foot of each species on the first row of replicates.
Weeding the plots of perennial weeds	27/11 - 19/12/05	15	Weeding out the annual and perennial weeds from the plots. Mostly plants like <i>Anagalis</i> (scarlet pimpernel), plantain, dock and knapweed. Rabbit activity noted Oct 2005. Rabbits still feeding on the plot though not a major problem.

Phase 2 Procedures and Phase 1 Maintenance

Phase 2 Procedure & 1 Maintenance	Dates completed	No. Hrs.	Comments
Phase 2 - Labour - and external contractor (Weeds)	27/05/2005	4	Monitoring the spraying of the meadow area to be used in the next phase (2) of the project. The area was sprayed with glyphosate, at a rate of 320ml/20L to tackle general pasture flora. Work carried out by Paul Davies Sandhurst Fm , travel with ATV (chemical supplied by Great D)
Phase 2: Labour: Mowing	16-17/7/05	16	Mowed area phase 2 area to make disc harrowing more effective.
Phase 2: Labour for collecting machine	11/8/05	5	Driving to and from Beckley to collect & hire the turbo tiller.
Phase 2: Labour (ground prep)	13-14/8/05	13	Turbo tillering the ground. - cultivating the top few inches of soil to promote weed growth and establish a stale seed bed for the second phase of the project.
Phase 2: Contractor Spraying ATV	10/10/05	4	Paul Davis from Sandhurst Fm approx 3-4 hrs Glyphosate spray travel and supply ATV and sprayer (chemical from Great D)
Phase 2: Monitoring (of spraying)	10/10/05	1	The area was sprayed with glyphosate, at a rate of 320ml/20L to tackle weed regeneration, particularly docks using the ATV mounted spraying unit. Mat time spent, monitoring the spraying of the meadow area to be used in the next phase of the project.
Phase 2: Meeting	18/10/05	5	Mat with DB and AH discussed design of the trail and ground preparations. (DB did 1hr of phase 1 seed harvesting with Andy Hughes)
Phase 2: Labour (Strewing)	20/10/05	3	Cut and raked the clippings from the topiary lawn and wheel-barrowed them to the meadow area. The clippings were then strewn lightly (at a 1:1 rate) to cover designated area.
Phase 2: Correspondence	20/10/05	1	Writing reports and emails to Dawn.
Phase 2: Meeting	25/10/05	5	Mat with DB (3 hrs) & AH Further discussions about the layout of the phase two of the trail designs. Also decided that the remaining Docks should be sprayed with gramoxone. Also, erected platform for interpretation, at the front of each species on the first row.
Phase 2: Labour	26/10/05	2	Mat, knapsack spraying the dock area with gramoxone

Phase 2 Procedure & 1 Maintenance	Dates completed	No. Hrs.	Comments
(Spraying)			(spot treating) that didn't quite die after the previous glyphosate treatments.
Phase 2: Meeting	17/11/05	3	Mat meeting DB (2 hrs) to analyse the state of the field surface to judge whether it is fit for cultivating and sowing.
Phase 2: Correspondence.	24/11/05	1	Writing reports, phone calls, and emails to Dawn
Phase 2: Labour (Cultivating)	24/11/05	3	Turbo tillering the top few inches of soil to promote weed growth and establish a stale seed bed for the second phase of the project.
Phase 2: Labour	30/11/05	5	Return the turbo tiller to Beckley
Phase 2: Labour (Sow)	30/11/05	2	PHASE 2 SEED SOWING: Mat assisted Paul Davies who brought tractor with adapted direct drill (from Sandhurst Farm, Lamberhurst) to Great D and met AH who assisted phase 2 single species sowing. Arrived am and persuasion required to go ahead with sowing as turbo tiller had not produced ideal surface to receive seed.
Phase 2: External contractor (Sowing)	30/11/05	7	Paul Davies - research machinery (develop) and time for parts calibration of seed rates and time for travel and machinery & Tractor Hire 7hrs
Maintenance:	27/11 - 19/12/2005	15	Weeding crop maintenance and observation. Weeding on Knapweed plots - determined that removing all plantain would be uneconomic and create large bare patches. Decision taken (AH & DB) to leave and brush with weed killer in Spring 2006 - under new contract.
Andy Hughes - March - June 2006 Lead Contractor (Jan-Feb - advisor)			
Site meeting - handover	19/01/06	0.5	AH Met up with Mat and discussed hand- over of trials Great Dixter- Mat Reece to Andy Hughes. Checked both trials Note: Limited Knapweed germination
Trial visit - hand weeding	30/01/06	0.5	AH checked trials. Carried out some hand weeding of patches of Groundsel especially in the Dixter mixture plot 1. Note: Limited grass germination in Grass species plots 7 & 8 & some rabbit activity in trial 1.
Trial visit - discussion	09/02/06	4	AH trial discussion with DB (3 hrs) on-site, plus some hand weeding. Especially Groundsel
	19/02/06	0	AH read through draft agreement between DB and Great Dixter and returned to DB with
Visit & data collation	22/02/06	0.5	AH Phase 1 & 2 Trial visit - Full assessment of Phase 1&2 trials carried out - See tabular report
Report No 12:	24/02/06	0.5	AH Phase 1 & 2 - report 12 compiled & emailed to DB
Trials visit & data collation	09/03/06	0.45	Some of the photo sheets on the display boards have come off - took photos and checked emergence
Data collation	12/03/06	0.2	Sent photos to DB via email
Trials visit - maintenance	23/03/06	3.75	Phase 1: 'Topped' all plots with scythe to remove dead flower heads, then raked plots to tidy them up. Mowed paths to tidy up used own motorised scythe and mower. Re-marked plot labels both phase 1 & 2 Phase 2: Checked for emergence of the dicot species, none noted

Phase 2 Procedure & 1 Maintenance	Dates completed	No. Hrs.	Comments
Trials visit - data collation	30/03/06	0.5	Display sheets (Phase 1) missing. Checked both trials. Growth stages noted. ++Mayweed now emerging.
Report No 13,	03/04/06	0.75	Prepared monthly (sent on the 4 th April to DB.)
Trials visit & maintenance (weeding)	05/04/06	2.66	Phase 2: Hoed out more Groundsel and some Mayweed Tried to hoe out Mayweed between rows 1&2 in plot 8. Placed markers around trial 2. Phase 1: Hoed out some weeds in trial 1 Paths need mowing soon.
Trials visit, meeting and maintenance (mowing)	06/04/06	4	Phase 1 Mowed out paths in. Site visit with DB (2) to discuss the Spring trials progress and plans for the next few weeks Check approach of herbicide 'painting' to check efficacy.
Trials visit & maintenance (hand weeding)	18/04/06	2.75	Phase 2: Hoed Groundsel and Mayweed west side of trial area. Hoed carefully in plots 7, 8,9 in trial 2. Hoed carefully plot 1 (Dixter mixture plot)
Trial visit for maintenance (mowing) and reporting	20/04/06	1	Mowed pathways. Telephoned DB
Labour off site equipment calibration	25/04/06	1	PHASE 1 Calibrated and checked equipment and rates of use for Touchdown (glyphosate) painted tomorrow Painting formula:- 6 (10mls) scoops of w/p paste .40mls Touchdown 2.5 litres water.
Trials visit & maintenance (chemical weeding)	26/04/06	5	Painted 'weeds' in PHASE 1 with DB. Checked and noted GS in both trials for monthly report. (see report 14) Most plots were being painted with chemical for control of Docks, Buttercup, non target broadleaves - such as plantain in knapweed and devils bit plots - detail of decision making for each plot will be detailed by AH following site meeting 12 May 2006
Trials visit & maintenance (mow)	02/05/06	1	Mowed pathways out. (am)
Trials visit, data collation & maintenance (weeding)	02/05/06	1.45	Hoed Burnet Saxifrage plot (Phase 2), around and in Dixter plot. Checked emergence and GS in phase2. (pm)
Trials visit for maintenance (chemical weeding)	03/05/06	1.25	Knapsacked phase 2 around plots 1, 2 and 7-15. Used Touchdown (glyphosate at 4 l/ha equivalent) at 300ml/15litres water.
Data collation	07/05/06	1.50	Report writing and time sheet. E-mailed to DB (pm)
Trials visit & maintenance	11/05/06	1.66	Mowed pathways and mowed off Groundsel in discard area. A lot of Ladybirds see on the Ox-eyed Daisy plots
Detailed trials visit	12/05/06	7.3	Phase 1 trial checked each plot for species purity and decided what needed to be done next: (DB 5hrs) Odd docks hand pulled, Ox-eye all well in flower, Knapweed tried weed out plantain, remove heads and Oxeye. Crested-dog's Tail - leave, no sign of Sweet Vernal Grass but removed docks and NB to keep an eye on Yorkshire Fog, Red Fescue and Buttercup remove. Decision top of Devil's-bit, Yarrow selected sp pulled, Burnet Saxifrage selected hand weed and mow

Phase 2 Procedure & 1 Maintenance	Dates completed	No. Hrs.	Comments
			RH side (Dyers Greenweed) and monitor, mixed selected hand weed and weed control Dixter mix. Phase 2 trial discussed. Showed DB the grass Scythe which will be used to keep the trial field tidy Grasses emerging well, Mayweed virulent and decision to wait to flower and top off. Ox-eye germinating well and good plant growth, top a little earlier for mayweed to prevent leaf damage, Yarrow as above, Knap germination slow but coming through. Finally external trial are top as and when – Clive Mills poss. for mechanical topping or Andy scythe .
Trials visit and maintenance.	16/05/06	9.0	Phase 1 with DB (4) trial took off certain flower heads of non-target species. Scythed off all Scabious plots. Tidied up paths with mower. Phase 2 trials Scythed and mowed all plots, discard areas to control Mayweed, Groundsel and grass.
Visit to Perry at Gt Dixter.	19/05/06	0.75	Received literature from DB and delivered to GT Dixter, saw Perry and discussed that the literature was very useful for their Study Day on the 22/05.
Trials visit	21/05/06	0.25	Tried to mow paths for the Dixter Study Day but too wet.
Trials visit	22/05/06	0.25	Tried to mow paths for the Dixter Study Day but again still too wet!
Trials visit maintenance	23/05/06	1.17	Mowed Phase1 trial paths. Some lodging of the Ox-eye Daisy plots due to very heavy rain and strong winds.
Trial visit maintenance	01/06/06	2.33	Phase 1 trial: mowed paths. Ox-eye Daisy in full flower Phase 2 trial: topped mayweed, mowed off plot 2 (no species sown).
Trial visit maintenance	05/06/06	4.0	Scythed off mayweed in the discard areas. Phase 2 trials: hand weeded part of plot 1 Burnet saxifrage. Phoned DB re Mayweed in Trefoil plots.
Trial visit for data collection and maintenance	07/06/06	1.75	Scythed off rest of plots and discard areas. Collected data for the May 06 report.
Monthly report	07/06/06	1.5	Monthly report and e-mailed to DB
Trials visit maintenance	12/06/06	2.0	Phase 1 trial: mowed the paths off. A lot of aphids in the Knapweed plot and therefore adult Ladybirds. Weather very hot and dry 29°C Continued to keep the mayweed in check!
Trials visit maintenance	19/06/06	3.25	Scythed off discard areas of Mayweed. 'Topped' Phase 2 trial of Mayweed (not Trefoil plots). Made a start on hand weeding Phase 1 trial
Trials visit and maintenance	20/06/06	2.0	Continued hand weeding Phase 1 trial rep 1, especially Yorkshire Fog (YF) and Plantain from Knapweed and multi-species plots.
Trials visit and hand weeding	21/06/06	2.25	Continued hand weeding Phase 1 trial rep 2, especially YF and Plantain.
Trial visit with DB and maintenance	23/06/06	7.0	Met up with DB (4hrs) to discuss project decided to scythe off Mayweed in Phase 2. Continued to hand-weed Phase 1 trial of non-target species.
Trial visit with DB	28/06/06	9	Met up DB (5) and continued hand weeding YF out of

Phase 2 Procedure & 1 Maintenance	Dates completed	No. Hrs.	Comments
and maintenance			the SVG plots in Phase 1. Seed collection of Ox-eye by hand in Phase 1 trial.
Trial visit and maintenance	29/06/06	2.33	Cleared/cut paths to remove 'trash'. Mowed off Mayweed in the phase 2 Trefoil plots and certain discard areas.
Trial visit.	30/06/06	6	DB (6hrs) AH - Watched the combine harvesting of the SVG and OED plots. Took photos of operation.

A. Hughes Trial Visit Reports Numbers 1-17. Autumn 2004 – Summer 2006

WMI Single Species Trials Visit 1

Date: 30th November 2004.

Phase 1. Initial germination following the sowing was seen in Plots 1 and 7 only. These were Bird's-foot Trefoil and Yarrow. Grass in the pathways is now emerging. Slug pellets were applied today (30/11/04). Suggested to MR that some broad leaved weeds (BLWs) should be 'paint-treated' with glyphosate soon to avoid weed competition in the future.

WMI Single Species Trials Visit 2

Date: 14th February 2005.

Plot no	Species	Growth stage at 14/02/05	Comments	Single Species Seed Ref No:
1	Bird's-foot Trefoil	Cotyledon-1 st leaf	Good initial germination in the autumn, now very patchy with poor establishment.	39/03/A
2	Ox-eyed Daisy	Cotyledon-1 st leaf	Good germination but with a few gaps in the row.	33/02/A
3	Knapweed	Cotyledon only	Patchy germination so far	38/03/A
4	Crested Dog's-tail	1-6 leaf stage	Excellent germination and even across the plots	42/04/A extract CDT from mix
5	Sweet Vernal Grass	1-5 leaf stage	Rather patchy so far	25/99/A
6	Devil's-bit Scabious		No germination so far	21/02/A
7	Yarrow	Cotyledon-1 st leaf	Very patchy in the row so far	14/01/A
8	Burnet Saxifrage		No germination seen	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species (below) goes in 1 row across 4 reps:			
Left row	Musk Mallow		No germination seen so far	24/04/E Mallow DB by hand
Middle row	Dyers Greenweed		No germination seen so far	1/00/G
Right row	Meadow Vetchling	1-3 leaf stage	Very patchy germination so far	30/03 Meadows Vetchling
10	Great Dixter mix	Difficult to estimate because of old hay straw	Possibly some Crested Dog's-tail germination	From source (not fresh stored) Note: rabbit damage in these 4 plots only, because of the hay laying on the surface.

Pathways.

Pine Non Ryegrass Lawn Seed Mix Grass seed surrounding plots 10kg on 946m² (0.01kg or 11grams/m²) 50% Chopin (Creeping Red Fescue) 25% Rosita (Slender Creeping Red Fescue) 20% Darwin (Chewing fescue) 5% Vivaldi (Browntop). Germination and establishment of the pathways in and around each plot good.

General Points

- A lot of 'grass-weeds' in all the plots.
- Some couch present especially in the first replicate.
- Many plot tags are either missing or illegible they therefore need replacing with something more effective, ensuring the correct plot number and its corresponding species number is written on the tag.
- Slug pellets still present in all plots and are presumably doing the job of slug control, which is critical at this time of year and the plant growth stages in the trial.
- I understand from Mat that he is considering bringing in voluntary help to 'weed' the plots. From my experience this help needs to be carefully monitored/guided as to what they are 'weeding' as there is both monocot and dicot species in the trail.

Plot no	Species	Growth stage at 14/02/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	Cotyledon-2 nd leaf	The good initial germination in the autumn continues to be patchy, with improved establishment.	39/03/A
2	Ox-eyed Daisy	Cotyledon-2 nd leaf	Good germination with only a few gaps in the row.	33/02/A
3	Knapweed	Cotyledon-1 st leaf	Limited germination.	38/03/A
4	Crested Dog's-tail	3 rd leaf - 4 th tiller	Excellent germination and even across the plots	42/04/A extract CDT from mix
5	Sweet Vernal Grass	1-5 leaf stage	Rather patchy so far, with little growth since last visit.	25/99/A
6	Devil's-bit Scabious		No germination so far	21/02/A
7	Yarrow	Cotyledon-4 th leaf	Moderate germination so far	14/01/A
8	Burnet Saxifrage		No germination seen	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:- Left row Musk Mallow Centre row Dyers Greenweed Right row Meadow Vetchling		No germination seen so far Limited germination Limited germination so far	24/04/E Mallow DB by hand 1/00/G 30/03 Meadows Vetchling
10	Great Dixter mix	Some germination below the old hay straw	Some Crested Dog's-tail germination and other dicots species not identifiable yet.	From source (not fresh stored) Note: rabbit damage no worse than that seen in Feb visit.

General Points

- A lot of 'grass-weeds' in all the plots. This needs hand weeding out urgently. Mat indicated that this would be done within the next 14 days
- Nearly all plot tags continue to be missing or illegible and are to be replaced with white painted plot markers. MR will ensure plot and species numbers are written on them carefully.
- A final top-up of Slug pellets would be prudent at this time of year, to optimise establishment, especially as some of the plots might have poor germination.
- The grass paths should be mown soon to keep them tidy and help with flattening the clods.
- The weather has been cold with regular snowfall since my last visit in mid-February therefore it will take a few weeks for the soil temperature to rise sufficiently for good Spring growth to begin in earnest

Plot no	Species	Growth stage at 11/04/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	6-8 leaf to branching	The plants are now establishing well although still a bit patchy in the lines.	39/03/A
2	Ox-eyed Daisy	4-6 leaf and branching	Good establishment with just a few gaps in the row.	33/02/A
3	Knapweed	Cotyledon-6 leaf	A good Spring germination.	38/03/A
4	Crested Dog's-tail	3-4 tillers	Excellent germination with good Spring growth right across the plots	42/04/A extract CDT from mix
5	Sweet Vernal Grass	1leaf-3 tillers	Germination still thin and patchy. Spring growth under way.	25/99/A
6	Devil's-bit Scabious		Still no germination seen.	21/02/A
7	Yarrow	5-6 leaf	Good Spring germination	14/01/A
8	Burnet Saxifrage	Cot-1 leaf	Only limited germination seen thus far	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:- Left row Musk Mallow Centre row Dyers Greenweed Right row Meadow Vetchling			
		5-6 leaf	No germination seen so far Still only limited germination	24/04/E Mallow DB by hand 1/00/G
		6-8 leaf with branching	Still only limited germination so far	30/03 Meadows Vetchling
10	Great Dixter mix	Improved germination below the old hay straw	Seedling identification still a little difficult to confirm. Hay providing some moisture retention	From source (not fresh stored) Note: rabbit damage no worse than that seen in March visit.

General Points

- A lot of 'grass-weeds' in all the plots. Ideally this should have been hand weeding some weeks ago. These are now beginning to seriously compete with the young plants of the Single Species in the trial. Mat indicated that he might be able to arrange volunteers to hand weed on 12/13th April.
- Nearly all plot tags continue to be missing or illegible and have not been replaced with the white painted plot markers yet.
- The grass paths still need to be mown to keep them tidy and help with flattening the clods.

The weather has been typical spring weather since Mid-March blowing hot warm and cold but soil temperature are rising resulting in the spring growth.

Plot no	Species	Growth stage at 29/04/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	Branching	Plants now putting on good Spring growth & only a few gaps in the drill lines.	39/03/A
2	Ox-eyed Daisy	Branching	Good Spring growth with just a few gaps in the row.	33/02/A
3	Knapweed	4-10 leaf +	A good Spring germination and rapid growth.	38/03/A
4	Crested Dog's-tail	Tillering well	Excellent Spring germination & growth across the plots	42/04/A extract CDT from mix
5	Sweet Vernal Grass	1leaf-3 tillers	Germination still thin and patchy. Spring growth under way.	25/99/A
6	Devil's-bit Scabious		No germination seen.	21/02/A
7	Yarrow	5-10 leaf and branching	Good Spring germination and rapid growth	14/01/A
8	Burnet Saxifrage	Cot-3 leaf	Good Spring germination and growth	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:- Left row Musk Mallow Centre row Dyers Greenweed Right row Meadow Vetchling	> 10 leaf and branching 6-10 leaf	No germination. Good Spring growth but with limited establishment Still only limited Spring germination	24/04/E Mallow DB by hand 1/00/G 30/03 Meadows Vetchling
10	Great Dixter mix	Improved germination below the old hay straw	Seedling identification still difficult but numerous Nipplewort and some of the following species; Yellow Rattle, Clover, Vetch and Speedwell in some plots.	From source (not fresh stored) Note: rabbit damage now not an issue in the trial.

General Points

- Non-target weeds, notably perennial Grasses, Mayweed and Dock are present in the plots which continue to seriously compete with the young plants of the Single Species trial. Mat has tried hand weeding but clearly proved too time consuming.
- A 'Weed-wipe' approach with glyphosate is to be tried in the next day or so to control the grass weeds.
- Fusillade has been applied to the last metre of the 1st replicate to check BLW tolerance.
- New plot markers with Plot & Species nos. have been replaced at each plot centre.
- No establishment count was carried out, due to excessive grass weed growth.

Plot no	Species	Growth stage At 20/05/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	Branching	Plants continue to put on good Spring growth with few gaps in the drill lines.	39/03/A
2	Ox-eyed Daisy	Branching	Good Spring growth continues with the rows difficult to define.	33/02/A
3	Knapweed	4 to >20 leaves	Good Spring growth.	38/03/A
4	Crested Dog's-tail	Flag leaf showing	Excellent Spring growth with anthesis shortly	42/04/A extract CDT from mix
5	Sweet Vernal Grass		'Weed' grasses now obscuring target plant growth	25/99/A
6	Devil's-bit Scabious		No germination seen.	21/02/A
7	Yarrow	>10 leaves and branching	Excellent Spring emergence with rapid growth	14/01/A
8	Burnet Saxifrage	>3 leaves to branching	Good Spring emergence and subsequent growth	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left row	Musk Mallow	2-5 leaves	Limited germination but the few plants in the plot are growing well.	24/04/E Mallow DB by hand
Centre row	Dyers Greenweed	Branching	Good Spring growth but still with limited establishment	1/00/G
Right row	Meadow Vetchling	>10 leaves	Still limited Spring emergence	30/03 Meadows Vetchling
10	Great Dixter mix		Non-target grass 'weeds', Docks and Mayweed make observations difficult.	

General Points

- Non-target weeds, notably perennial Grasses and Docks, **and now Mayweed spp.** are present in the most plots. These continue to seriously compete with the plants of the Single Species trial.
- Fusillade (250 g/l fluazifop-P-butyl) was applied to the last metre of the 1st replicate and the target plants appeared to show tolerance.
- Mat has tried 'weed-wiping' with glyphosate, which has worked fairly well in plots 1, 5 and 6. However because of the serious grass weed problem Fusillade has been applied across all the trial plots with dicots, with initial control being seen. Fusillade is a graminicide and therefore will NOT control the Mayweed. Some level of hand weeding of the Mayweed would hopefully help to give some level of control.
- No establishment counts have been carried out, due to excessive grass weed growth.

Plot no	Species	Growth stage at 17/06/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	Multiple branching	Plants continue to put on good Spring growth, but no flowers showing.	39/03/A
2	Ox-eyed Daisy	Multiple branching	Excellent growth continues with the first flowers showing.	33/02/A
3	Knapweed	>15 leaves- some stem elongation.	Good growth down the rows, but variable replicates.	38/03/A
4	Crested Dog's-tail	Full anthesis	Excellent growth (see note below)	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Anthesis	Very limited establishment. Small number in flower	25/99/A
6	Devil's-bit Scabious		No germination seen.	21/02/A
7	Yarrow	Multiple branching	Excellent establishment	14/01/A
8	Burnet Saxifrage	>6 leaves to branching	Good establishment. Limited number of plants in the rows.	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:- Left row Musk Mallow Centre row Dyers Greenweed Right row Meadow Vetchling	5 leaves- stem elongation Branching >10 leaves	Limited establishment. The few plants are growing well. Good growth but with limited establishment Still Ltd emergence and establishment	24/04/E Mallow DB by hand 1/00/G 30/03 Meadows Vetchling
10	Great Dixter mix		Non-target grass 'weeds', Docks and Mayweed continue to make observations difficult.	

General Points

- Fusillade has worked well on the non-target grass weeds. The glyphosate, applied as a 'weed wipe' has also worked very well on the Mayweed spp, which were present in the most plots. The remaining few grass plots will be hand weeded on Monday (20/06/05).
- The pathways have been mown. The mowing width should be widened slightly next time mowing is carried out to prevent the grass in the pathways encroaching into the plots
- Although not critical, some sheep or deer damage has occurred, especially in the grass plots.
- The remaining field around the trial was treated with glyphosate a few weeks ago and has provided about 98% control of the vegetation. Some Yorkshire Fog and Docks still survive. A further treatment will be required in a month or so to prevent any flowering and subsequent seeding.

Plot no	Species	Growth stage at 14/07/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	Anthesis	Limited anthesis underway.	39/03/A
2	Ox-eyed Daisy	Anthesis and branching.	Excellent growth and anthesis underway.	33/02/A
3	Knapweed	Branching.	Good growth continues, ltd anthesis shortly but variable establishment between reps	38/03/A
4	Crested Dog's-tail	Seed shattered out of the flower head.	Excellent growth.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Anthesis completed. Seed ripening	Very limited establishment. Small number in flower	25/99/A
6	Devil's-bit Scabious		No germination seen.	21/02/A
7	Yarrow	Anthesis and multiple branching	Excellent Spring establishment with strong plants.	14/01/A
8	Burnet Saxifrage	>6 leaves to branching	Good establishment. Limited number of plants in the rows.	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left row	Musk Mallow	7 leaves-anthesis	Ltd establishment. The few plants present some in anthesis	24/04/E Mallow DB by hand
Centre row	Dyers Greenweed	Branching	Good growth but with limited establishment	1/00/G
Right row	Meadow Vetchling	>10 leaves	Still Ltd emergence and establishment	30/03 Meadows Vetchling
10	Great Dixter mix	Variable between species	Broad-leaved species continue to establish in the plots	

General Points

- The Mayweed infested plots were hand weeded on Monday (20/06/05) and this is continuing to keep on top of the weed.
- Establishment counts will be carried out on Tuesday (19/07/05)
- The pathways have now been mown a few times and the mowing width has been widened slightly.
- I suspect that some seed contamination at the time of sowing has resulted in some Plantain (slender-leaved) to show up in the Knapweed plots, and additional Yorkshire-fog in the Sweet Vernal plots.
- Due to excessive 'dead trash' in the field around the trial, Mat has agreed to clear as much as possible this weekend (16-17/07/05). This will make a 'stale seedbed' approach to weed control, in this area, more effective in the late summer/early autumn prior to proceeding with the Phase 2 of the project.
- The current hot and dry weather is beginning to slow down growth as plants show increasing signs of moisture stress. Should irrigation be considered?

Plot no	Species	Growth stage at 03/08/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	Anthesis	Full anthesis + some seed setting.	39/03/A
2	Ox-eyed Daisy	Anthesis and branching.	Full anthesis + seed setting.	33/02/A
3	Knapweed	Limited flowering.	Good growth continues, with ltd anthesis. Still variable establishment between reps	38/03/A
4	Crested Dog's-tail	Completed seed dispersal.	Some aftermath growth especially from non-target grasses.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Seed dispersed.	Aftermath growth including other non- target grasses.	25/99/A
6	Devil's-bit Scabious		No germination seen.	21/02/A
7	Yarrow	Anthesis and good branching	Good growth + full anthesis, but variable between reps.	14/01/A
8	Burnet Saxifrage	>8 leaves-branching	Good establishment. Limited number of plants in the rows.	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left row	Musk Mallow	7 leaves-anthesis	Ltd establishment. The few plants present now in full anthesis and seeding.	24/04/E Mallow DB by hand
Centre row	Dyers Greenweed	Plants continue to branch well	Good growth but with limited establishment	1/00/G
Right row	Meadow Vetchling	Branching	Still Ltd number of plants	30/03 Meadows Vetchling
10	Great Dixter mix	Variable between species	Broad-leaved species esp. Nipplewort flowering seeding.	

General Points

- Establishment counts were carried out by AH/MR/DB (19/07/05) the results were de-randomised and delivered to DB for information and reference.
- The probable seed contamination at the time of sowing has resulted in some Plantain (slender-leaved) to show up in the Knapweed plots, Yorkshire-fog in the Sweet Vernal plots and now Hawk's Bit in the Burnet Saxifrage.
- Mat has done an impressive job clearing the field around the current trial for the Phase 2 of the project. His efforts will make a 'stale seedbed' approach to weed control that much easier prior to any soil preparations this autumn.
- The hot dry weather of July has made way to wet weather, which will encourage germination of weed seeds. This will need to be kept an eye on.
- Mat is planning to Scythe off the remaining headlands, this weekend.
- He is also considering spraying off the Devil's-bit Scabious plots to control the weeds, as there is no Scabious present. Suggest Mat confirms this with Dawn Brickwood.

Plot no	Species	Growth stage at 01/09/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	Anthesis and branching.	Anthesis continues + seed setting/dispersal, esp Rep 1.	39/03/A
2	Ox-eyed Daisy	Anthesis and branching.	Secondary anthesis + seed setting/dispersal.	33/02/A
3	Knapweed	Limited flowering.	Excellent growth with limited anthesis. Variable establishment between reps	38/03/A
4	Crested Dog's-tail	Completed seed dispersal.	All grass species in full aftermath especially non-target grasses.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Seed dispersed completed.	All grass species in full aftermath including non- target grasses.	25/99/A
6	Devil's-bit Scabious		No germination seen.	21/02/A
7	Yarrow	Anthesis and good branching	Good growth with anthesis coming to an end. Seed collection potential (Rep 1)	14/01/A
8	Burnet Saxifrage	Branching	Good establishment. Variable plants in the rows. Rep3 getting weedy.	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:- Musk Mallow	>10 leaves-anthesis	Ltd establishment. The few plants present are ending anthesis and now seeding. Plots weedy (mainly BLWs).	24/04/E Mallow DB by hand
	Centre row Dyers Greenweed	Plants continue to branch well	Good growth but with limited establishment	1/00/G
	Right row Meadow Vetchling	Branching	Still Ltd number of plants	30/03 Meadows Vetchling
10	Great Dixter mix	Variable between species	A lot of grass 'weeds' in Rep 1. Broad-leaved species continue their anthesis/seeding.	

General Points

Phase 2 area.

- The Phase 2 part of the field has been power harrowed. Care should be taken to avoid further soil capping. This problem can follow this type of cultivations especially if rain follows the soil preparation. This in turn can affect future plant emergence/establishment, including 'weed' species of course.
- The perennial Docks are making a comeback and should be 'knapsacked' with Glyphosate during the next few weeks.
- The weed control in the rest of field is excellent so far. However I suspect that the 'autumn flush' is yet to happen.

Plot no	Species	Growth stage at 28/09/05	Comment	Single Species Seed Ref No
1	Bird's-foot Trefoil	End of anthesis with branching.	Anthesis completed with good strong autumn growth.	39/03/A
2	Ox-eyed Daisy	End of anthesis and branching.	Secondary anthesis with some seed setting/dispersal.	33/02/A
3	Knapweed	Limited flowering.	Excellent growth with a few flowering stems. between reps	38/03/A
4	Crested Dog's-tail	Completed seed dispersal.	<u>All</u> grass species in full aftermath especially non-target grasses. Very thick growth	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Seed dispersed completed.	<u>All</u> grass species in full aftermath including non- target grasses. Very thick growth.	25/99/A
6	Devil's-bit Scabious		No germination seen. Plots full of non-target BLW species	21/02/A
7	Yarrow	End of anthesis + good branching	Good autumn growth continues with anthesis coming to an end.	14/01/A
8	Burnet Saxifrage	A lot of branching over the last 4 wks	Good est. Variable plants in the rows. Rep3 still weedy.	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left	Musk Mallow	>10 leaves-anthesis	Ltd establishment. The few plants present are ending anthesis and now seeding. Plots weedy (mainly BLWs).	24/04/E Mallow DB by hand
Centre	Dyers Greenweed	Plants continue to branch well	Good autumn growth with limited establishment	1/00/G
Right	Meadow Vetchling	Branching	Still Ltd number of plants	30/03 Meadows Vetchling
10	Great Dixter mix	Variable between species	A lot of grass 'weeds' in Rep 1.	

General Points for Phase 2 Trial.

- Up to today's date the field is very dry and will need a bit of rain to allow drilling to take place. The weather forecast is for further rain this week.
- With final soil cultivations & drilling likely to take place for Phase 2 trial during the next fortnight, the perennial Docks need to be treated with Glyphosate, **this needs to be done urgently in the next few days**. Mat said that the Lamberhurst Contractors are due to do this any day now.
- The Dixter mixture also needs 'harvesting' and drying so that it can be included in the Phase 2 project at the same time as the drilling.

Phase 1 Plot no	Species	Growth stage @ 22/02/06	Comment	Seed Ref No
1	Bird's-foot Trefoil	Dormancy broken	Initial signs of dormancy being broken.	39/03/A
2	Ox-eyed Daisy	First new growth	Significant new spring growth	33/02/A
3	Knapweed	Dormancy broken	Initial signs of dormancy being broken.	38/03/A
4	Crested Dog's-tail	First new growth	Significant new spring growth, with multiple species present.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	First new growth	Significant new spring growth, with multiple species present.	25/99/A
6	Devil's-bit Scabious	Still no sign of target species	Non-target species broking dormancy, especially Creeping Buttercup	21/02/A
7	Yarrow	Dormancy broken	Initial signs of dormancy being broken.	14/01/A
8	Burnet Saxifrage	Target species dormant	Non-target species broking dormancy, esp. Daisy & Knapweed	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left	Musk Mallow	Ltd establishment and dormant.	Plots weedy (mainly BLWs).	24/04/E Mallow DB by hand
Centre	Dyers Greenweed	Ltd establishment and dormant.	Plots weedy (mainly BLWs).	1/00/G
Right	Meadow Vetchling	Reasonable establishment, and dormant	Plots weedy (mainly BLWs).	30/03 Meadows Vetchling
10	Great Dixter mix	First new growth	Still a lot of grass 'weeds' in Rep 1. Ltd dicot species so far.	

General Points

- A more detailed progress report will be presented once the growing season begins next month (March 06).
- Phase 1 trail: Dead-heading of the Yarrow, Knapweed and Daisy plots and some early season hand weeding will be carried out once the weather permits.
- Phase 2 part of the trial is especially quite wet and locally waterlogged, due to recent wet weather.

Phase 2 Bed no	Species	Growth stage @ 22/02/06	Comment	Seed Ref No
1	Great Dixter mix	So far there appears to be some emergence of grass species. No target dicot species seen.	Great Dixter mixture was spread over Plot 1 in October 2006. Thick patches of Groundsel hand-weeded out on the 30/01/06.	2005
2	Burnet Saxifrage		No emergence seen on any of the dicot species plots.	38/05/A
3	Mallow		NOT SOWN_POSS SPRING 06	46/05/C
4	Bird's-foot Trefoil		No emergence seen on any of the dicot species plots	39/05/A
5			No emergence seen on any of the dicot species plots	
6			No emergence seen on any of the dicot species plots	
7	Sweet Vernal Grass	BBCH growth stage 10 i.e. 1st leaf through coleoptile	Germination	42/05/B – part

8	Crested Dog's-tail	BBCH growth stage10 i.e. 1st leaf through coleoptile.	Germination	42/05/B - part
9	Oxeye Daisy		No emergence seen on any of the dicot species plots	45/05/A
10			No emergence seen on any of the dicot species plots	
11	Yarrow		No emergence seen on any of the dicot species plots	14/01/A
12			No emergence seen on any of the dicot species plots	
13	Knapweed		No emergence seen on any of the dicot species plots	38/02/A
14			No emergence seen on any of the dicot species plots	
15			No emergence seen on any of the dicot species plots	

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Phase 1 Plot no	Species	Growth stage @ 30/03/06	Comment	Seed Ref No
1	Bird's-foot Trefoil	New growth well underway	.	39/03/A
2	Ox-eyed Daisy	New flower stems extending.	New season growth quite thin in the plots.	33/02/A
3	Knapweed	New growth well underway	Some plantain in amongst the target plant species	38/03/A
4	Crested Dog's-tail	Plants now tillering	Multiple species present.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Plants now tillering	Multiple species present.	25/99/A
6	Devil's-bit Scabious	Still no sign of target species	Individual plots now weedy with non-target species especially Creeping Buttercup	21/02/A
7	Yarrow	Strong new Spring growth		14/01/A
8	Burnet Saxifrage	Some new Spring growth	Plots a bit weedy esp. Daisy & Knapweed	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left	Musk Mallow	Ltd establishment, but strong plants. with good Spring growth.	Plots weedy (mainly BLWs).	24/04/E Mallow DB by hand
Centre	Dyers Greenweed	Ltd establishment with new Spring growth.	Plots weedy (mainly BLWs).	1/00/G
Right	Meadow Vetchling	Reasonable est, with some new Spring growth	Plots weedy (mainly BLWs).	30/03 Meadows Vetchling
10	Great Dixter mix	Strong new Spring growth with a lot of tillering of monocots.	Still a lot of grass 'weeds' in Rep 1. Ltd dicot species so far, but Creeping Buttercup, Willowherb, Dock.	

General Points

- Phase 1 trial: Dead-heading of all the plots completed.
- Trial display boards require new laminated information sheets for plots Dyers Greenweed, Meadow Vetchling and Great Dixter Mixture.
- Phase 2 trials. Some capping has occurred due to winter weather.
- The Dixter approach to Meadow establishment looks to be a bit 'Hit-and-Miss' with little control over Species selectivity within the plots, with grasses predominating.

Phase 2 Bed no	Species	Growth stage @ 30/03/06	Comment	Seed Ref No
1	Great Dixter mix	Patchy emergence of grass species. No target dicot species seen.	A 2 nd hoeing of patches of Groundsel carried out on 09/03/06.	2005
2	Burnet Saxifrage	No emergence seen		38/05/A
3	Mallow	Not sown		
4	Bird's-foot Trefoil	No emergence	++ mayweed	39/05/A
5		No emergence	++ mayweed	
6		No emergence	++mayweed	
7	Sweet Vernal Grass	2 nd leaf showing	Limited emergence	42/05/B - part
8	Crested Dog's-tail	2 nd leaf showing	++ emergence of target species	42/05/B - part

9	Oxeye Daisy	Emergence now under way	++ mayweed	45/05/A
10				
11	Yarrow	Limited emergence at the cotyledon stage	++mayweed	14/01/A
12				
13	Knapweed	Very limited emergence so far.	++mayweed	38/02/A
14				
15				

Note A start will be made on hoeing out the Mayweeds from Trial 2 during the next week and the pathways mown around the plots in Trial 1.

Andy Hughes 6th April 2006

Phase 1 Plot no	Species	Growth stage @ 26/04/06	Comment	Seed Ref No
1	Bird's-foot Trefoil	New season's growth + strong stem extension	No flowers showing yet.	39/03/A
2	Ox-eyed Daisy	New flower stems extending.	Very strong growth now with extensive flower buds.	33/02/A
3	Knapweed	New flower stem extension showing	Plantain in amongst the target plant species.	38/03/A
4	Crested Dog's-tail	Growth just pre-stem extension.	Multiple species present.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Plants now showing flower heads.	Multiple species present.	25/99/A
6	Devil's-bit Scabious	Still no sign of target species	Individual plots showing multiple non-target species.	21/02/A
7	Yarrow	Strong Spring growth with stem extension.	A lot of flower heads showing.	14/01/A
8	Burnet Saxifrage	New Spring growth	Plots still a bit weedy esp. Daisy & Knapweed	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left	Musk Mallow	Ltd establishment, but strong plants. With strong extension stems.	Plots weedy (mainly BLWs).	24/04/E Mallow DB by hand
Centre	Dyers Greenweed	Strong Spring growth.	Plots weedy (mainly BLWs).	1/00/G
Right	Meadow Vetchling	Reasonable establishment with some new Spring growth	Plots weedy (mainly BLWs).	30/03 Meadows Vetchling
10	Great Dixter mix	Strong new season's growth with a +/+ tillering of grasses	Still a lot of grass 'weeds' in Rep 1. Ltd dicot species so far, but Creeping Buttercup, Willowherb, Dock.	

Phase 1 trial: Weed control by Glyphosate 'painting' of weed especially Docks, Buttercup, Plantain and certain grasses was carried out.

Trial display boards still require new laminated information sheets for Dyers Greenweed, Meadow Vetchling and Great Dixter Mixture.

Phase 1 Plot no	Species	Growth stage @ 07/06/06	Comment	Seed Ref No
1	Bird's-foot Trefoil	Plots full of this season's growth.	First flowers showing.	39/03/A
2	Ox-eyed Daisy	Plots in full flower.		33/02/A
3	Knapweed	Flower stems continue to show.	Plantain in amongst the target plant species. A lot of aphids and Ladybirds present.	38/03/A
4	Crested Dog's-tail	Start of anthesis.	A lot of Sweet Vernal Grass & Yorkshire Fog present.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Anthesis well under way.	Multiple species present.	25/99/A
6	Devil's-bit Scabious	No target species present.	Plots have been scythed off.	21/02/A
7	Yarrow	First flower showing	Strong growth continues.	14/01/A
8	Burnet Saxifrage	New growth continues	Plots still a bit weedy. First flower bud seen.	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:-			
Left	Musk Mallow	Ltd establishment, but strong plants. With good flower heads.	Plots weedy (mainly BLWs)., Some mallow plants infected with leaf Rust	24/04/E Mallow DB by hand
Centre	Dyers Greenweed	Strong growth continues. No flowers.	Plots weedy (mainly BLWs).	1/00/G
Right	Meadow Vetchling	Reasonable est, with continued Spring growth.	Plots weedy (mainly BLWs).	30/03 Meadows Vetchling
10	Great Dixter mix	Strong growth with a +/+ tillering of grasses	Still a lot of grass 'weeds' in Rep 1. Each replicate is very different across the species	

General Points

- Phase 1 trial: Weed control by Glyphosate 'painting' of weed especially Docks, Buttercup, Plantain and certain grasses has worked well.
- Phase 2 trials. The emergence of target species has been variable probably due to over-winter capping due to winter weather.
- The Dixter approach to Meadow establishment continues to look a bit 'Hit-and-Miss' with little control over species selectivity within the plots, with grasses predominating.

Phase 2 Bed no	Species	Growth stage @ 07/06/06	Comment	Seed Ref No
1	Great Dixter mix	Patchy emergence of grass species. Limited target dicot species.	Some Yellow Rattle present	2005
2	Burnet Saxifrage	Good emergence in part of plot, 5-8 leaf stage	Mayweed hand weeded out	38/05/A
3	Mallow	Not sown	Mayweed scythed off to keep tidy.	
4	Bird's-foot Trefoil	Very ltd emergence	Mayweed scythed off	39/05/A
5		Very ltd emergence	Mayweed scythed off	
6		Very ltd emergence	Mayweed scythed off.	

7	Sweet Vernal Grass	Some stem elongation 1 st flower head seen.	Patchy establishment	42/05/B - part
8	Crested Dog's-tail	Strong stem elongation with some anthesis.	++ Mayweed	42/05/B - part
9	Oxeye Daisy	Good Emergence with branching	++ Mayweed	45/05/A
10				
11	Yarrow	Limited emergence at the 6-12 leaf stage.	++ Mayweed	14/01/A
12				
13	Knapweed	Still very limited emergence so far.	++ Mayweed	38/02/A
14				
15				

Note Mayweed continues to be a problem, which need to be kept on top of in Phase 2.

Environmental comments: A lot of aphids and Ladybirds present especially in Phase 1 trial.

Andy Hughes 12/06/06

Phase 1 Plot no	Species	Growth stage @ end of June	Comment	Seed Ref No
1	Bird's-foot Trefoil	Full flower with first seed heads showing	Plots full of target species. Some White clover which is being rogued out.	39/03/A
2	Ox-eyed Daisy	Species now harvested	Plots were full of target species, with a good yield of seed.	33/02/A
3	Knapweed	First flower showing.	Plantain flower stems removed by hand Limited aphids with some Ladybirds present.	38/03/A
4	Crested Dog's-tail	Plants setting seed.	A lot of Sweet Vernal Grass & Yorkshire Fog present in plots.	42/04/A extract CDT from mix
5	Sweet Vernal Grass	Species now harvested.	Reasonable seed sample following harvesting.	25/99/A
6	Devil's-bit Scabious	No target species present.	Plots scythed off to remove non-target species.	21/02/A
7	Yarrow	Full flower	All non-target grass species rogued out.	14/01/A
8	Burnet Saxifrage	Stem elongation with the first flowers in anthesis	Plots continue to be a bit weedy.	38/04 (0.1kg) 24/04/B (0.3kg)
9	Mixed plot Each species below sown in 1 row across 4 reps:- Left Musk Mallow Centre Dyers Greenweed Right Meadow Vetchling	Strong flower heads in full anthesis. No flowers showing. Plenty of flowers now showing	Plots continue to be somewhat weedy, with some leaf fall due to Leaf Rust Plots weedy (mainly BLWs).	24/04/E Mallow DB by hand 1/00/G 30/03 Meadows Vetchling
10	Great Dixter mix	Many species in full flower both dicot and monocot.	Still a lot of grass 'weeds' in Rep 1. Each replicate continues to be very diverse across the species	Initial straw from Gt. Dixter wild meadows

General Points

- Notes from Phase 1 trial: Hand weeding Plantain out of Knapweed plots which went well. Ox-eyed Daisy and Sweet Vernal Grass received limited hand seed collection, prior to mechanical combine harvesting of all the plots of these species.
- Phase 2 trial. The emergence of target species continues to be variable.
- The Dixter approach to meadow establishment is dependant on the quality and diversity of straw introduced from the Dixter meadows.

Phase 2 Bed no	Species	Growth stage @ 03/07/06	Comment	Seed Ref No
1	Great Dixter mix	Predominantly grass species with all species now in or near anthesis.	Some Yellow Rattle and Timothy present.	2005
2	Burnet Saxifrage	Good emergence in part of plot, with first flower stem elongating	Mayweed hand weeded out	38/05/A
3	Mallow	Not sown	O-e Daisy & SVG straw placed in plot	

4	Bird's-foot Trefoil	Very ltd emergence	Mayweed scythed off	39/05/A
5		Very ltd emergence	Mayweed scythed off	
6		Very ltd emergence	Mayweed scythed off.	
7	Sweet Vernal Grass	Some stem elongation 1 st flower head seen.	Patchy establishment, Mayweed impacting on target species	42/05/B - part
8	Crested Dog's-tail	Strong stem elongation with some anthesis.	Mayweed impacting on target species	42/05/B - part
9	Oxeye Daisy	Good Emergence with branching	Mayweed scythed off	45/05/A
10				
11	Yarrow	Limited emergence with the first sign of stem elongation.	Mayweed scythed off	14/01/A
12				
13	Knapweed	Limited emergence continues so far.	Mayweed scythed off	38/02/A
14				
15				

Note Mayweed problem continues.

Environmental comments: Some aphids, Ladybirds and Lepidoptera species present especially in Phase 1 trial. Capsid, Grasshoppers and of course foraging bees seen throughout the trial area.

Andy Hughes End of contract report June 2006

Background data Phase 1

Table I - Phase 1: % Pot Sown germination and approximate germination dates.

Species	Germination percentage based on surface area	Sowing date	Approximate germination date	Comments
Birds Foot Trefoil	98%	8/10/04	20-24/10/04	Germination was uniform throughout.
Oxeye Daisy	98%	8/10/04	20-24/10/04	Good germination, with no difference between covered seed and seed that was surface sown.
Knapweed	99%	8/10/04	20-24/10/04	Good germination, with no difference between covered seed and seed that was surface sown.
Crested Dog's-Tail	95%	8/10/04	20-24/10/04	Good germination, with no difference between covered seed and seed that was surface sown.
Sweet Vernal Grass	30%	8/10/04	20-24/10/04	Sporadic germination with no difference between covered seed and seed that was surface sown.
Devil's-bit Scabious	0%	8/10/04		No germination, vernalisation maybe necessary.
Yarrow	70%	8/10/04	20-24/10/04	Good germination, though slight trend toward better germination with surface sown seed.
Burnet Saxifrage	0%	13/11/04		No germination, vernalisation maybe necessary.
Musk Mallow	5% (only five seeds germinated)	8/10/04	20-24/10/04	Poor germination, with no difference between covered seed and seed that was surface sown.
Dyers Greenweed	1% (only one seed)	8/10/04	20-24/10/04	Poor germination, vernalisation required.
Meadow Vetchling	40%	8/10/04	20-24/10/04	Better germination from covered seed
Great Dixter Mixer	N/A	N/A	N/A	No mixture left to do germination test.

Note: all pots were moved out of the frame on the 26/10/04