

Farmer's Field Trials:  
**Experiment 11: Biodynamic weed peppers**

**Instructions**

**Background and Aims:**

Biodynamic weed peppers work on a principle first disclosed by Rudolf Steiner. The principle is that a 'pepper' made from the ash of the seeds of the species one wishes to control, will, especially if homoeopathically 'potentised', have the effect of discouraging that species from developing in the region treated. Control is the best that will be achieved, eradication is unlikely.

We are suggesting you make a potentised dock ash solution and treat a plot of docks and then compare the vigour of the docks in the treated plot with an untreated control over time. This is not a quick fix and the solution should be reapplied over several seasons to the same plots.

**You should have received:**

A sheet of instructions (1 side), contact/background information sheet (1 side), field description sheet (3 sides), dock count sheet (2 sides) and general comments on trial (1 side). The forms are we hope easy to fill in and shouldn't take much time. Most of the information only needs to be supplied once but the dock count sheets should be copied as many times as is necessary (4 counts worth of sheets are supplied). Please feel free to either copy them yourself as many times as you need to or to ask us for further copies of these sheets.

**You will also need:**

One or four (depending on method used) 1 metre sticks/canes. If you have a 'clicker' (sheep counter) to count with this would be useful but not essential. A large vessel to hold water, a stirrer, buckets and dairy or paint brushes.

**Instructions:**

Decide how many fields you can practically monitor (see instruction 3). We estimate that it might take 20 minutes to evaluate a moderately dock infested field, depending on size. The fields should be monitored two times per season, ideally before and then some time after you apply the ash or potentised dock solution.

It will not be possible to conduct this experiment until 2005 as you will need to collect mature dock seed in the autumn of 2004 so that you spread the ash or make a solution to apply on the fields in the spring of 2005. You will need to treat fields that will be under grass for several years. We appreciate that you may not want to leave halves of fields as control plots totally untreated, so we suggest that you carry out whatever practices you would usually apply to your grassland. So if you would normally top twice a season do this, just make sure you treat the whole field in the same manner (i.e. both plots) and take your dock counts at sensible times (i.e. don't take one count just before you have topped and the second count just after the second topping, do each 4 weeks or so after topping).

Record the following details in the sheets below:

1. Your details: please fill in the first sheet with your contact details. Your details will remain confidential and will be used if we need to contact you and as anonymous background information to help interpret the trial results.
2. Field details: fill in the details about the field or fields that you have decided to monitor on the field details form and make a sketch. A map reference point and orientation can also be useful in

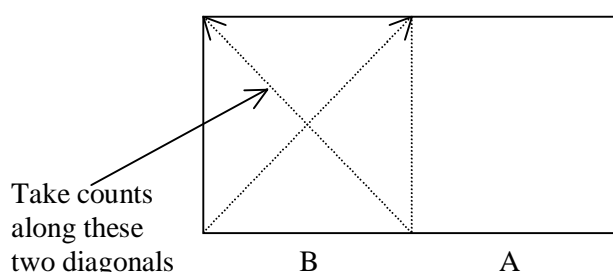
helping to describe and locate the field. If you don't have all the data to hand don't worry, you can fill it in as it becomes available. These sheets need only be filled in once.

3. Making the ash/solution: you will need to collect dock seeds this year from your own farm. Clip the flowering and seeding heads into a paper bag and place somewhere warm e.g. and airing cupboard to allow them to dry out slowly. You then need to make an ash of this material, by burning in a clean wood burning stove, or if you don't have a stove make an open fire and burn the docks. Collect up the ash and keep in an airtight container e.g. a jam jar or a margarine tub, this can be kept for sometime. We suggest using the potentising method to apply the dock seed to the fields (as we have tried this).

You will need to make this solution on the day you are going to apply it. You will need a large vessel to do the potentising, a water butt or plastic dustbin is ideal. Ideally the carrier water should be collected rainwater, but if this is not possible tap water will be fine. Fill the vessel to  $\frac{3}{4}$  full. You will also need a paddle to stir the water, a pole will do but if there is a flatter end this will be more effective. The next stage will take 1 hour and is better achieved with 2 or more people, although possible to do alone. Place a thumbnail full of dock ash into the water and begin to stir vigorously. You are aiming to create a vortex of swirling water and should be concentrating on putting all you energy into the solution. Once the water is flowing rapidly in one direction begin to stir in the opposite and create a vortex in the other direction. Continue this process for exactly one hour, you can take turns with the other people stirring, but keep the water moving at all times. This is now ready to be spread on the chosen treatment area.

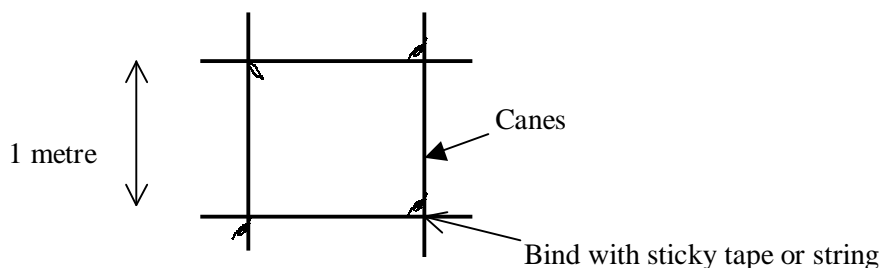
4. Dock counts: counts will need to be made twice per season in each field that you have decided to monitor. In the field(s) you have chosen to monitor split the field in half and toss a coin to decide which side you will treat with the dock solution, call this side plot A and the untreated side plot B. Count docks within each half by walking diagonally across it from one corner to another.

Example of field trial



For best results take two different diagonals more or less at right angles to one another and count the docks using ONE of the two methods (A or B) outlined below. This should be done before treatment and then again about 2 months later (or before you do any other treatment in that area).

**Method A.** If the population is very high we suggest you place ten  $1\text{m}^2$  quadrats at random on the ground in each plot (the best way to do this is to throw the quadrat over your shoulder, so you do not influence where it falls, along each diagonal (twenty in total) and count the number of dock plants in each. Note down the number of docks in each quadrat. A  $1\text{m}^2$  quadrat can be made by fixing together four poles at right angles to each other to form a square with 1 metre sides as in the diagram below. We suggest you bind them with string or tape.



**Method B.** If the population is quite sporadic we suggest you walk along the diagonal holding a 1m long stick horizontally and count the number of docks that pass under the cane. If you find it hard to judge whether docks are under the stick or not you could tie a string from each end of the cane and let it drag along the surface and count any docks that pass between the strings.

5. Walk around the margin of the field noting any dock hot spots e.g. around gates or water troughs. Can you estimate the population of docks in these spots using either of the monitoring methods?
6. Treatment: once you have counted the baseline population of docks in the both halves of the field you can apply your solution to plot A. Carry your solution over to the field and decant a useable amount into a bucket. You will also need a dairy brush or a large paintbrush to spread the solution. You need to work methodically across your plot to be treated to ensure you cover the whole area. Make a note of which way the wind is blowing and use this to help you spread the solution. Dip your brush in the bucket and spread the fine mist.
7. Re-monitoring: the aim of this procedure is not to kill the dock plants but to induce a trigger in the dock plants to reduce their vigour and competitive ability. When you repeat the monitoring operation to count the dock population you will also need to make some notes of how you feel the levels of vigour compare in the two halves of the field. We feel this is too difficult to ask you to score vigour on a scale but you may have a feeling if something is different. This is not a short-term undertaking and it may take several seasons to see any differences, so you will need to repeat the monitoring process, several sheets are included for this.
8. If possible you should also reapply the dock solution to your treated plot each season this will reinforce the treatment and maintain the reduction in vigour. Make up a fresh solution each time from your saved dock ash.
9. The estimates of population can be used to evaluate whether you are having an effect on the dock population from a more objective point of view. Are there any changes over time? Either as the season progresses, or more importantly between years? Are these related to the rotation, the weather or management practices? Which are the most effective management methods?

**If you have any questions at all about the trial or need any help or information please call Becky Turner on 024 7630 8200 or e-mail [bturner@hdra.org.uk](mailto:bturner@hdra.org.uk)**

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1.1		
	Name:	
	Address:	
	Post Code:	
	Telephone:	
1.2	Farm type:	What do you consider to be your farm type?
		Livestock                      Arable                      Horticultural
		Mixed                              Other _____
1.3	Prior land use:	How long has the farm been organic?
		Are you biodynamic?
1.4	Farm size:	What is the area of your farm?
1.5	Comments:	Do you have any comments on this trial or related weed related issues? <i>(Please feel free to write on the back of this sheet or send separate information)</i>

Farmer's Field Trials:  
**Experiment 1: Baseline Monitoring of Dock Levels**

**1. Field Details**

*(please copy and fill in for each field)*

2.1	Field name:	
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2.2	Area of field:	
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2.3	Rotation:	What has been grown previously in this field? <i>(please indicate crop and season)</i>

2.4	Soil pH:	What is the pH of the soil? <i>circle the most appropriate</i>
		a) acid (pH less than 6)      b) slightly acid (pH= 6- 7) c) neutral (pH= 7)      d) slightly alkaline (pH= 7- 8) e) very alkaline (pH more than 8)

2.5	Soil type:	What is the soil type? <i>Circle the most appropriate</i>
		a) sandy      b) sandy loam      c) silty loam      d) loam e) silty      f) clay/loam      g) heavy clay h) other <i>(please describe)</i>

2.6	Soil nutrients:	<p>What is the soil's nutritional status?</p> <p>Would you consider your soil to be nutritionally (<i>Please circle the most appropriate on the scale</i>):</p> <p style="text-align: center;">poor    1    2    3    4    5    good</p> <p>Do you suffer from any nutrient deficiencies?    Yes    No</p> <p>If so please elaborate:</p>  <p>Have you had a soil analysis done?    Yes    No</p> <p>If so, could we refer to it if necessary?    Yes    No</p>
2.7	Soil condition:	<p>What is the condition of the soils? <i>Please circle the most appropriate on the scale</i></p> <p style="text-align: center;">compacted    1    2    3    4    5    not compacted</p> <p style="text-align: center;">poorly drained    1    2    3    4    5    well drained</p> <p style="text-align: center;">aggregated    1    2    3    4    5    crumbly</p> <p style="text-align: center;">few earthworms    1    2    3    4    5    lots earthworms</p>
2.8	Fertilizer:	<p>Did you apply any fertilizer or manure to the soil?    Yes    No</p> <p>If so please describe what you did:</p>   
2.9	Weed management:	<p>What are the current weed management practices on the field?</p> <p>In general:</p>   <p>Against dock:</p>

2.10	Field sketch:	Please sketch the field below.
	<p data-bbox="272 1845 584 1879">Map reference (<i>if known</i>):</p> <p data-bbox="272 1912 368 1946">Aspect:</p>	

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**2. Dock Counts**

3.1	Field Name:	
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3.2	Date:	
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3.3	Docks:	Which method did you use to count the docks? A (quadrat)      B (stick)
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3.4	Number of docks:	Walk diagonally across the field in two different places. Note down the number of docks that you counted										
		Method A (number docks per quadrat, 10 quadrats)										
		1      2      3      4      5      6      7      8      9 10										
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3.5	Patches of Docks:	Walk around the field margin and note the location of any patches of docks, especially in the hedge/fence line. Locate and draw them on the sketch map. Can you estimate the populations of docks in any patches? Make any relevant notes below or on the field map.



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3.6	Dock vigour:	Please describe and differences in dock vigour you have noticed between the two plots. Please record the dates.

3.6	Dock management:	Please make notes on any dock management practices carried out below. Please record dates for each.

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**7. General comments on the trial**

4.1	Usefulness:	Do you find this trial useful?	Yes	No
		Please explain:		
		Could you suggest any improvements to the methods used?		

4.2	Comments:	Any other comments on the trial or project?

4.3	Other experiments:	Do you have suggestions for other trials you would like to see done?

Many thanks for your support and for taking part in this farmer field trial. Please return the record sheet to us as soon as you have finished monitoring at the address below:

Becky Turner  
HDRA  
Coventry  
CV8 3LG