



## How To ... Create A Wood-Meadow

*Based on the experience at Three Hagges Wood-Meadow, just South of York*

- **Grant** - Apply for Countryside Stewardship, Higher Tier, Woodland Creation Grant, if appropriate. Minimum area is 3ha total in blocks of min 0.5ha, for grant.
- **Open Ground** - Maximum is now 20%, but for the spreadsheet example, we have added 1ha of Stewardship, Creation of Species Rich Grassland GS8, to the 3ha of woodland planting to increase Open Ground (OG) to 40%. If planting without grant, then opt for eg. 40% OG.
- **Plan** to allow maximum wood edge effect, with rides and glades.
- **Spray (or burn if organic?)** - the whole area off with roundup, to reduce weed burden.
- **Cultivate & Spray Stale Seedbed** - Allow min. 4 weeks. Cultivate (plough, harrow, roll) the whole area to create a fine seedbed, allow a flush of weeds, then spray with roundup again, and again if necessary.
- **Seed Mix** – Take a soil sample and consider soil type when choosing seed. Low phosphorous levels best for meadow establishment. To keep cost down, broadcast the whole area with fine grasses, and, using a GPS tractor, wildflowers only in the OG areas. This may also reduce strangling effect of eg vetch on baby trees. Alternatively, flowers over the whole area provides 100% habitat till canopy closes.
- **Seed Rate** – 15-20kg/ha fine grasses, with as high a percentage of wildflowers as affordable.
- **Broadcast** - with a fine grasses and wildflower mix, without any further cultivation, and roll in, ideally in the autumn, but otherwise in spring. Broadcast slug pellets.
- **Establish** ‘meadow’ by cutting at least three times in the first season and then plant trees. This may require waiting a year longer, where the original weed burden is high.
- **Native Trees & Shrubs** - Plant a wide variety, with shrubs at ride and glade edges. Larger transplants (60/90cm) will be less swamped by strong vegetation growth. Oaks don't thrive if ‘crown’ is covered.
- **Fencing** - Consider deer fencing if you have a large square site. Tubes may be more cost effective.
- **Planting Pattern** – plant in lazy S rows, to prevent straight line effect, but still allow easy maintenance between the rows. Use coloured canes to highlight rows. We marked rows with a ‘sports field’ white liner, or mark with mower. Adopt regular spacing between rows, but vary spacing along row. Consider coppice coups; evergreens as way markers; future veteran trees.
- **Protection** – Consider vole guards if you haven't used tree tubes.
- **Stocking density** - As per FC grant. For example, 3m wide rows, with av 2.5m between plants within rows is 1,333/ha. Closer spacing within rows for eg oaks, and shrubs on coup edges, will increase stocking density, and beneficial for timber production or edge effect. Best consider intended use/product to guide you.
- **Meadow Management** – once established, cut annually for hay (3-5 times in year one.) If too much grass, cut and remove twice annually. Consider grazing, using elx fencing to control livestock.
- **Between The Rows** – the most difficult area to manage, depends on equipment and labour resources. We brushcut in winter, leaving arisings to increase organic matter (but not fertility). Ideal may be to also cut in summer and remove clippings, leaving every other row to ensure invertebrates have continuous habitat. Then cut the alternative row a few weeks later. If you have resources, and trees are getting swamped, tread down vegetation round trees.
- **Weed Control** – Timely and consistent is key. Remove docks, ragwort, nettles, and thistles by hand before seed sets, or spot spray in early spring with roundup, eg. using a drinks bottle with a sponge in the top. We avoided spraying around each tree: it may enhance tree growth, but would provide bare land for weeds to establish in. Few vigorous weeds will appear if the sward is established.
- **Yellow Rattle** – a hemiparasite that reduces vigour of grasses in particular. An annual plant, which needs winter cold to germinate, should therefore be sown in the autumn, in contact with the soil. You can harvest your own seed, once established.

### Example of Wood Meadow Creation, Expenditure & Income, For a 4ha Site, May 2017

3ha is minimum area allowed for Stewardship Woodland Creation Grant			
Only 20% Open Ground allowed.			
Based on 3ha x 80% planted = 2.4ha of trees @1,600/ha = 3,840			
plus 1ha of Stewardship Creation of Species-Rich Grassland GS8			
<b>Expenditure</b>		<b>Income</b>	
<b>Autumn Operations per hectare</b>			
flailing @£20	£80	<b>Wood Creation</b>	
Spraying @£10	£40	Tree Plant TE4 £1.28 / tree	£4,915
Plough/press @£40	£160	Plus Tree Shelter TE5 £1.60 / tree	£6,144
power harrow @£30	£120		
rolling @£17	£68	Wood Creation Maintenance 3ha	£6,000
spraying post drilling @£10	£40	WD1 for 10 years @£200/annum	
slug pelleting @£10	£40		
		Creation of Species Rich Grass GS8 £267/ha/ann	
<b>Spring Operations</b>		£267 x 1 ha x 10 years	£2,670
spraying @£10/ha	£40		
Cross drilling/broadcasting 4ha x2 @£45	£360	<b>TOTAL</b>	<b>£19,729</b>
Rolling 1ha x 2 @£15/ha	£120		
<b>Summer Operations</b>			
Mowing @£25/ha	£100	Assume the Single Farm Payment	
Tedding @£17/ha	£68	For Lowland England is approx £200/ha	
Rowing up @£17/ha	£68		
Baling & stacking 16 bales £8	£128		
Flailing @£20/ha	£80		
slug pelleting @ £10/ha	£40		
<b>Emorsgate Mixes</b>			
EG1 Meadow Grass Mix @20kg/ha @£10.40/kg	£832		
EM1F Basic Wildflowers @10kg/ha for 1.6ha =16kg	£1,888		
yellow rattle 0.5kg	£130		
Tubex Tree Tube 1.2m inc stake - 2880 x £1.70	£4,896		
Tubex wide shrub 60cm, inc stake 25% = 960 @£2	£1,920		
Tree/shrub 60/90cm x 3,840 trees @50p	£1,920		
by Ian Reeves estimate £0.32 / tree	£1,229		
Putting on trees tubes @ £0.13	£499		
spot spraying, hand weeding & labour	£1,000		
	<b>£15,866</b>		
<b>Annual Costs For First Five Years</b>			
2 man days spot spraying/hand weeding @ £12 per hr	£192		
Brushcutting 2 man days @£20 per hr	£320		
Strimming 2 man days @ 10 per hr	£160		
Mowing, tedding, rowing up 1.6 hectares @£60	£96		
Baling & stacking	£100		
	<b>£868</b>		
TF May 2017			