Turtle dove feeding plots

Recommendations for creating and managing foraging plots

Disclaimer

The advice provided in this leaflet regarding the creation and management of bespoke 'foraging fields' for the European turtle dove is based on our current knowledge and expertise regarding the species, and on research that has been carried out in Zeeland in 2021-2023. However, it is important to note that our understanding of European turtle dove ecology is constantly evolving. Furthermore, while 'foraging fields' were visited occasionally by tagged turtle doves during research, and certainly provide a seed rich habitat for many different species, their effectiveness in turtle dove conservation has not yet been established.

Additionally, it is important to consider that the research this advice is based on has been carried out on Walcheren, Zeeland, an area dominated by heavy clay soils. Therefore, these recommendations will likely need to be adapted accordingly.

Before starting

The foraging fields tried and tested during the research all performed differently due to factors such as past land use, previous crops, soil type, weather, and appropriate and timely field management. Using the findings of the research carried out in 2021 – 2023, *the following recommendations are intended to act as a starting point* for anyone aiming to increase additional foraging opportunities for turtle doves in their area.

When determining the exact seed mix and management plan to use, each field should be evaluated individually with regard to the afore mentioned factors, and the machinery available to the land manager. Regular assessments from April to July, approximately every four to six weeks, will help ensure that management efforts are having the desired effect, and that feeding plots continually align with turtle dove needs.

To increase the chances of success, landowners/managers should familiarise themselves with the needs of turtle doves and the characteristics of suitable foraging habitats. Better still, would be for a turtle dove expert to meet with them, prior to setting up a foraging field, to explain management, educate them on how to recognise and judge suitable habitat and answer any questions. Further guidance, including field visits during the growing season, is also essential. Over time, this will help landowners/managers make independent decisions regarding the timing of management.

Photo: camera trap image from turtle dove foraging field research. Zeeland, Netherlands

Site selection

- Located 300 m from existing/recent turtle dove territories (Operation Turtle Dove, UK)
- Next to overgrown hedges and trees (any height but with an open canopy or with bare/dead branches)
- Field or strip of any size –location and maintaining a suitable vegetation structure is of greater importance than size.

Proposed seed mix

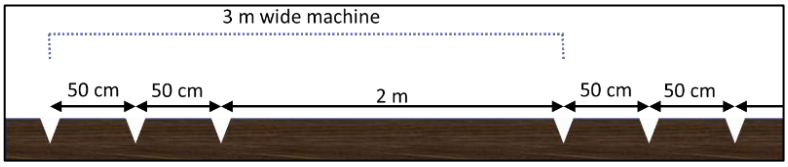
The following suggested seed mix includes flexibility for adjustment. Suitable species are low growing, and some (incl. black medick, corn spurrey, miner's lettuce) flower and set seed in spring if they are sown in autumn. A simpler mix of just 4 or 5 low growing, early seed setting species may be just as suitable as a complex mix with many species.

The seed mix needs to be resown at least every other year and, ideally, foraging fields should remain in the same location for several years.

Species		Percentage weight (%)	Min/max (%)	Notes for adjustment purposes - based on experience in Zeeland, NL (clay soil)
Legumes (low growing)				
	Black medick	15	10-50%	Good species
	Common bird's-foot trefoil	10	0-30%	Good species
	Lesser trefoil	15	0-40%	Good species
	White clover	7	0-30%	Can become dominant
Legumes (tall growing)				
	Red clover	3	0-5%	Can become dominant; taller than other legumes
	Vetch *(Vicia sativa* var. *Nigra)*	5	5-10%	Can become dominant; taller than other legumes - subsp. *nigra* is a little less tall and dominant
Common cover crop				
	Buckwheat	10	5-20%	Good species
	Camelina	10	5-20%	Good species
Pioneers/annuals (low growing)				
	Corn spurrey	10	5-15%	Good species. Very quick to flower/seed
	Miner's lettuce/winter purslane	5	0 – 10%	Poor establishment in (clay soil) foraging plots. Might work better on loam and sandy soil.
	Common fumitory	5	0-10%	Poor establishment in (clay soil) foraging plots.
	Field pansy	5	0-5%	Poor establishment in (clay soil) foraging plots.

Proposed sowing method

Sowing density: 5 kg/ha
Sowing moment: Autumn – every 2 years
Sowing method: Before sowing, create a false seedbed to reduce problematic weeds.
Sow 3 rows (50 cm apart), followed by a 2 m wide unsown strip (see figure)



During the growing season, many wild (unsown, spontaneous) plant species will appear in the unsown/worked strips. During the research in Zeeland, redshank, knotgrass, annual meadow grass, and chamomile showed up in almost all of the foraging plots. Many of these produce seeds that are suitable for turtle doves. Management should ensure that these spontaneous plants don't grow overly tall and dense, to the point that they outcompete the sown mixture.

Management

Aims: what do turtle doves need?

Turtle doves are (virtually) exclusive seed eaters, and forage on the ground in areas with a sparse, low-growing vegetation.

Bare ground cover is between 30% and 60% - turtle doves do not walk through dense vegetation, but stick to open areas that have a lot of bare ground.

Vegetation height averages less than 20 cm - this gives the doves a feeling of openness and ensures that unripe seed is also available to them from the ground. The vegetation may be slightly taller than this, but only in the presence of sufficient bare ground to preserve the feeling op 'openness'.

Seed availability - seed, from either the sown mix or from spontaneous weeds, needs sufficient growing time to develop and ripen, and should be readily available to foraging doves.

Management: how and when?

- *Regular and timely* management is needed mid-April to mid-August!
- When harrowing and hoeing, management will be needed every 4 – 6 weeks.
- If mowing is attempted (not recommended) the vegetation returns within 2 – 3 weeks.
- Each management round is carried *out in a different direction* (details below).

	April		May				June			July				Aug	
Week	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Management round	Round 1				Round 2					Round 3					Round 4 - End	

Suggested timing of management


Photos: suitable foraging habitat is low growing, open and has a sparse structure. (Jenni Vreugdenhil)



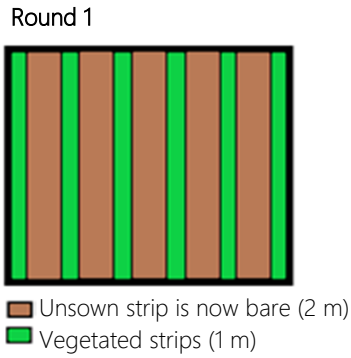
Photos: suitable foraging habitat is low growing, open and has a sparse structure. (Operation Turtle Dove, UK)

Round 1

When: Late April/early May

Aim: Clear unsown strips from spontaneous weeds to create 60% bare ground

How: EITHER Hoeing between sown rows (applicable only during first growing season when rows are visible) .
OR Hoeing or shallow power harrowing (5 cm depth) of the unsown strips (2 m wide), and leaving a vegetated strip 1 m wide.

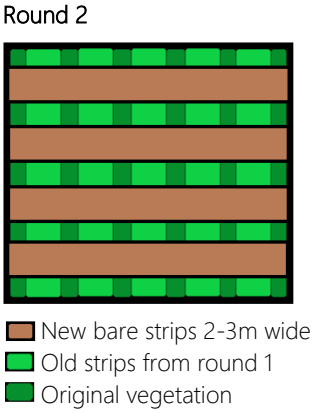


Rounds 2 - 4

When: Every 4 – 6 weeks as needed

Aim: Create 60% bare ground in strips

How: Each round harrows a different direction.
Hoeing or shallow power harrowing 2 – 3 m wide strips, leaving a vegetated strip 1 m wide.



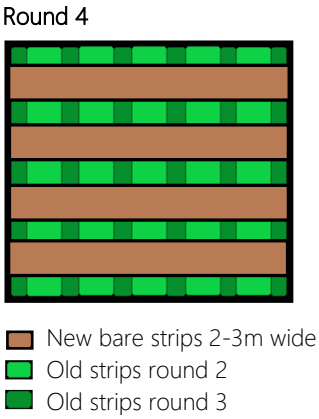


Photo: How vegetation should look after 2 to 4 management rounds. There should be squares of vegetation at different heights and flowering stages, alongside the newly harrowed bare strips.
(Jenni Vreugdenhil)

Management Round (final)

When: From early August
Aim: Create 60 – 90 % bare ground
How: EITHER create more bare strips as needed until the end of September, then leave the field vegetated through the winter,
OR mow the entire field so it appears 'harvested'. Leave it as stubble through the winter*.

*This was done on the foraging plots during the research in Zeeland. While great for many species, there was no evidence that it was being used by turtle doves in late summer (before their departure to the Sahel). At this time of year land uses such as cereal crops stubble provides popular foraging sites for turtle doves.

Photo: harvested but not cultivated wheat field, with sparse and open vegetation, providing good foraging opportunities for turtle doves (Jenni Vreugdenhil)