




# ACTION FACT SHEET for ADVISORS

## Areas and strips sown with flower mixtures

<b>Goal</b>	Provision of flowers, nectar and pollen for wild bees, bumblebees and other insects
<b>Target group</b>	All farms of any production type can apply this measure.
<b>Description of the measure</b>	<p>Cultivation of annual, biennial or perennial flower mixtures in a square-shaped area or in strips.</p> <p><u>Composition of the mixture:</u></p> <ul style="list-style-type: none"> <li>▪ Goal is a rather extended flowering period with a high structural diversity, which can be achieved by including plant species flowering at different times of the season into the seed mixture</li> <li>▪ The more plant species included in the mixture, the better it is for insects such as wild bees.</li> <li>▪ Perennials are preferred because of their higher species- and structural diversity, i.e. different heights and flowering dates/durations.</li> <li>▪ From the conservancy point of view, flowering mixtures must be autochthon, i.e. that species is indigenous to a given region or ecosystem.</li> </ul> <p><u>How to sow?</u></p> <ul style="list-style-type: none"> <li>▪ The flowering strips should be at least 3m wide and extend over at least an entire field length.</li> <li>▪ Before a careful seedbed preparation is taken place, a thoroughly mechanical weed control is carried out if necessary.</li> <li>▪ Soil should be loosened before sowing (harrow, cultivator).</li> <li>▪ Before sowing, a fine-grained but consolidated seeding plot needs to be prepared.</li> <li>▪ Sowing can be done with a seedbed combination, drill or fertilizer spreader.</li> <li>▪ If you focus on the establishment of a long-year flower strip/area, a re-establishment of the mix might be necessary, to maintain a sustained nectar supply (this is typically after three years).</li> <li>▪ Cultivations must not be sown too dense in order to allow soil organisms to move easily and a spontaneous emergence of other plant species is possible.</li> <li>▪ The seed should then be worked in lightly so that dark germinating plants can also accumulate.</li> </ul> <p><u>Management:</u></p> <ul style="list-style-type: none"> <li>▪ No use of pesticides or fertilizer.</li> <li>▪ Annual mixtures are not mown at all.</li> <li>▪ Biannual mixtures are mown not more than once.</li> <li>▪ Perennial mixtures: mowing rather late after flowering.</li> <li>▪ If some of the weeds gets dominant punctual manual mowing or leaning of this weeds will be important</li> </ul>

	<ul style="list-style-type: none"> <li>It is important that flower strips get only mown or mulched partly instead of all in once, e.g. 10–50 % could be left aside as food source for insects.</li> <li>Cutting height should be as high as possible, at least 7–10 cm from the ground.</li> <li>Avoid cutting when the soil is moist, to prevent further compaction.</li> <li>Mulch should be removed in order to avoid compaction of the turf which makes it difficult for wild herbs to germinate.</li> </ul>
Suitable sites	<ul style="list-style-type: none"> <li>Whole field</li> <li>Sites could be selected in order to connect biotopes with each other and can then be used as a step stone</li> <li>Margins of fields or woodlots</li> </ul> <p><u>Not suitable</u> at sites with wild herbs of high value or sites with potential risk of problem weeds</p>
How a good implementation looks like	<ul style="list-style-type: none"> <li>Flowering strips: minimum width of 3 m</li> <li>Flowering aspects can be found even in the second or third year of implementation</li> <li>Structural diversity of the strips and plots (not a sole grass community)</li> <li>High diversity of flowering species</li> <li>Natural, autochthon seeding mixtures should be used</li> <li>Mown in September after flowering</li> </ul>
Effects on biodiversity (ecosystems, species, soil biodiversity)	 <p>Provision of <b>flowers, nectar and pollen</b> for <b>wild bees</b>, bumblebees and other insects</p> <p>Support of useful macro- and microorganisms</p> <p>Provision of hibernation habitat for insects in parts which retained over winter</p> <p>Retreat and foraging habitat for insects during agricultural work</p>
	 <p>Breeding and foraging habitat for <b>field birds</b> such as partridge, corn bunting, quail.</p> <p>Provision of foraging habitat for birds in parts which retained over winter</p> <p>Retreat and foraging habitat for field birds during agricultural work</p>
	 <p>Retreat and foraging habitat for <b>hare</b> during agricultural work</p>
Other positive effects/benefit for the farmer	<ul style="list-style-type: none"> <li>Increased density of pollinators</li> <li>General increase of beneficial organisms reduces the need of pesticides. Many predators feeding on insects hunt on the field within a radius of 30 m from their retreatment area.</li> <li>Reduction of water erosion</li> </ul>

Indicator/key data	<ul style="list-style-type: none"> <li>Size in ha</li> <li>Minimum width of 3 m</li> </ul>
Risk and further recommendations	<ul style="list-style-type: none"> <li>There is a risk of advancing grass and weed domination instead of flowering aspects, especially in case of sowing perennial seed mixtures. Additional mowing / trimming can help to reduce the weed pressure. Problematic weeds like thistles should be mown separately with a bush cutter to avoid seeding.</li> <li>Important to know: Optical and ecological occurrence of flowering areas can be quite different. A certain amount of grass is tolerable.</li> <li>In case field birds are a target group for this measure, from the ecological point of view flowering strips/areas must have a minimum width of 12, better 18 m in order to provide enough shelter for breeding birds from predators.</li> </ul>
<b>Timeframe</b> (When to start a measure and anticipated time for implementation)	<p>For the Mediterranean region, the time of sowing is dependent on favourable weather conditions for germination, which is in general in autumn. In temperate regions, sowing periods depend on the seed mixtures:</p> <p><b>Perennial</b> flower mixtures should be sown in April/May or September. The autumn sowing provides colorful flowers already in spring of the next year. Duration is recommended on about 5 years.</p> <p><b>Biennial</b> mixtures should be sown beginning from April (in case there is no risk of problem weeds germinating in summer) or later in July until September.</p> <p><b>Annual</b> cultivations should be sown in April or May.</p> <p>Mowing should take place as late as possible in the year in order to allow also late-flowering plants to ripen fruits (late September).</p>
Additional special resources/equipment/skills needed	<p>For the suitable autochthon seeding material regional nature conservation NGO's, agencies or foundations can be asked for contacts to local suppliers. In Germany, e.g., seeding material should refer to VWW-Regiosaaten® or RegioZert®.</p>
References	<ul style="list-style-type: none"> <li><a href="http://www.landwirtschaft-artenvielfalt.de">www.landwirtschaft-artenvielfalt.de</a></li> <li><a href="http://www.franz-projekt.de/massnahmen">www.franz-projekt.de/massnahmen</a></li> <li>Promotion of biodiversity in fruit plantations – NABU; REWE and Lake Constance Foundation, 2015</li> <li>Netzwerk Blühende Landschaft – Mellifera e.V.; <a href="http://www.bluehende-landschaft.de">www.bluehende-landschaft.de</a></li> </ul>

## Further information: [Knowledge Pool](#)

This Action Fact Sheet belongs to the training package for advisors of standard organisations and companies and was developed within the project LIFE Food & Biodiversity (Biodiversity in Standards and Labels of for the Food Industry). The main objective of the project is to improve the biodiversity performance of standards and sourcing requirements in the food industry by helping standard organisations to integrate efficient biodiversity criteria into their schemes and motivating food processing companies and retailers to include comprehensive biodiversity criteria into their sourcing guidelines.

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