Development of diverse biodiversity patches

Goal	Provide special and various habitats
Target group	All farmers
Description of the measure	The development of species-rich patches and its connection with the surrounding can increase the biodiversity considerably within a short time. A diverse biodiversity patch consists of: ▪ Native (dwarf) shrubs with insect-attracting flowers (providing pollen and nectar) as well as aromatic herbs such as thyme, rosemary, oregano and others ▪ Wood and stone piles for the creation of habitat especially for reptiles, amphibians, spiders and insects (e.g. wild bees, ichneumonids as natural antagonists of pests) ▪ Wild flower mixtures surrounding the patch The biodiversity patch can also be complemented with elements like nesting aids for wild bees, birds and/or bats, planting of trees, perches or other vertical structures. The patches measure at least 20 m² and must not be overgrown completely as bare soil parts are also important for many birds, small mammals, microorganisms and seeds of wild plants. The outstanding feature of this measure is the connection of different elements and structures providing food and nesting places in vicinity for various species. To support the positive effects of the biodiversity patch, areas must not be sprayed with pesticides and driftage should be hindered. Connectivity of patches by hedges and vegetation strips The effectiveness of a patch can be improved by connecting spots through hedges and/or margins considerably. The connection within patches but also with surrounding areas makes those sites to important step stones. The connection is ideally established through strips of 2–3 m width, which run between the biodiversity patches and are vegetated with local wild shrubs and herbs.
Suitable sites	▪ Sunny sites in the surrounding of linear structures like margins, hedges or other woodlots. ▪ Unproductive areas or those, which are hard to manage, can be used as biodiversity patch.
How a good implementation looks like	▪ Biodiversity patch should measure at least 20 m² ▪ Consist of at least 3 different elements (see description above)

Effects on biodiversity (ecosystems, species, soil biodiversity)	Biodiversity patches provide **protection and refuge** for insects, hare and partridges during agricultural work on the field.	
		Especially **thermophile species** like wild bees, butterflies and amphibians benefit from the habitats. Beneficial animals such as ichneumonids, forest bees, flower flies among others are thereby promoted. They also serve as **step stones and connect open landscapes** for butterflies, grasshoppers and other insects.
		**Birds** such as partridge have a forage ground in these structures.
		**Reptiles** find a refuge in these patches, mainly in the stone piles.
Other positive effects/benefit for the farmer	Woody linear features, such as shrubs and lines of trees help to reduce wind and water borne soil erosion, particularly where running along corners, and reduce the risk of landslides in steep terrain.	
Indicator/key data	▪ Number of biodiversity patches	
Risk and further recommendations	Perennial seed mixtures pose less effort in general for the farmer and are preferred because of their higher species- and structural diversity, i.e. different heights and flowering dates/durations Shrubs, wood/stones and seeding material should origin from that area (autochthon, native species)	
Timeframe (When to start a measure and anticipated time for implementation)	Construction ideally of wood/stone piles in winter time, from November to March, but may be established all-year. Best time to plant shrubs is autumn to whole winter as long as the soil is not frozen or has good tilth in Mediterranean region. In temperate region: the timing for sowing depends on the flower mixture. Perennial flower mixtures should be sown in April/May or September. Biennial 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. Annual cultivations should be sown in April or May. In the Mediterranean regions, sowing should be done in the most favorable conditions for germination, mainly in Autumn, in colder regions it's advisable to wait until the frozen periods finish, at the beginning of Spring. The main issue is to ensure a well-prepared seedbed, a soil with a good tilth consisting of friable moist soil, as the basis of a good sown. To maintain the flowers mixture, a mown or cut could be made at the end of Autumn.	

Additional special resources/ equipment/ skills needed	Wood can be left from pruning of surrounding trees/shrubs. Stones can be collected from nearby fields. 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®.
References	▪ www.delinat.com/charta ▪ Promotion of biodiversity in fruit plantations – NABU; REWE and Lake Constance Foundation, 2015

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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