



Transition paths to sustainable legume-based systems in Europe

How to use legumes to benefit pollinators

Legumes can play an important role in supporting ecosystem services and biodiversity in agriculture. There is also emerging evidence that the benefits of legume crops to pollinators spill over into the wider landscape. The principal pollinators of legumes are bees, on which legumes are partially dependent for seed set. The extent of that dependency varies between species. Alfalfa, for example, is reliant on bee visitation to release its pollen, whereas peas are largely self-pollinated. Legumes provide bees with carbohydrates in the form of nectar and protein in the form of pollen. Not all bees find it easy to access floral resources; the nectar is located deep within the flower, so that legumes tend to be visited by bees with longer tongues. Most legumes will be used by a variety of bees, even if they are not dependent on them for pollination, and both grain and forage legumes support a range of pollinators and beneficial insects.

Legumes vary in the size and colour of their flowers, in the scent the flowers release, and in the time of year they flower. These characteristics influence which bees will visit. Including a range of legume species on a farm will maximize the number of pollinator species that can benefit and will lengthen the period over which they can do so.

Legumes can be incorporated into cropping as: grain legumes, both as single stands and as intercrops; as green manures and living mulches (as a break crop or undersown in crop fields); as forage legumes, and as components in field margin flower mixes.

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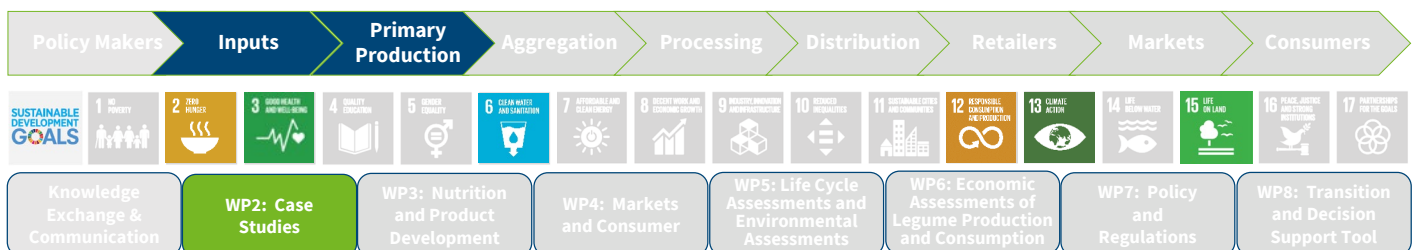
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All Practice Abstracts prepared by the TRUE Project in the EIP-Agri common format can be found here: <https://ec.europa.eu/eip/agriculture/en/find-connect/projects/transition-paths-sustainable-legume-based-systems>





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In margins, non-crop legumes such as birds-foot trefoil and vetches are useful species for pollinators. Including a variety of legumes in different parts of the cropping system will provide diverse opportunities for pollinators across the farm.

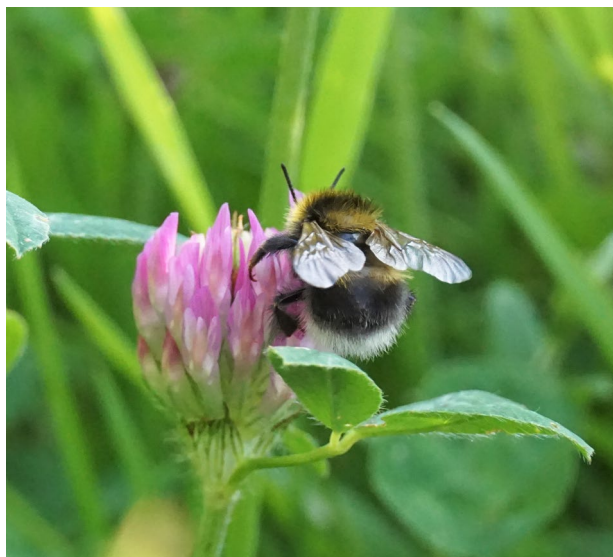


Figure 1. *Bombus pascuorum* on Red clover (left) and French bean (right).
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About TRUE

The EU funded project "TTransition paths to sUustainable legume based systems in Europe" (TRUE) is a balanced practice-research partnership of 24 institutions, which aims to identify the best routes, or "transition paths" to **increase sustainable legume cultivation and consumption across Europe** and includes the entire legume feed and food value chains.

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