Integrate a network of participatory science

Goal	Implement easy protocol to better understand the local and common biodiversity (targeted species: earthworms, wild bees, butterflies, invertebrates) Increase biodiversity awareness of farmers with participatory science
Short description of the measure	Earthworms, wild bees, butterflies, invertebrates are interesting indicators because of the importance in provision of many ecosystem services: ▪ Earthworms: soil functioning, soil fertility, organic matter recycling, water infiltration, etc. ▪ Invertebrates: biological control of organisms (pest management). ▪ Butterflies: Sensitive to landscape change, to weeds / wild plants, pollination ▪ Wild bees : pollination 4 protocols has been designed by the biodiversity farming observatory (complete description in reference). The indicators are mainly the number of species or families identified.  Pic. 1: Indicators for ecosystem services
Timeframe (When to start a measure and anticipated time for implementation)	The implementation of the protocol starts ideally in March. Materials need to be prepared during the winter. The added value is to do the protocol for a long-term period (a minimum of 5 years) as the climatic conditions or farming practices can impact strongly the results.
How auditors can assess if the measure has been implemented in a good quality?	▪ Book registration of the protocol results (families and species identified) ▪ Equipment on the field ▪ Oral exchange with the advisor / coordinator of the measure (collective measure involving several farmers of an area)
Additional information the auditor need for verification (if any)	Equipment: invertebrates: 3 poplar planks (50 * 30 cm); butterflies: none ; wild bees: 64 cardboard tube, plastic bottle ; earthworms: mustards, water, watering can It is hard for a farmer to implement alone the protocol and to keep the motivation during the whole protocol season and during several years. It is much more interesting to carry out this action in a collective dynamic with an advisor coordinator.

Effects on biodiversity (ecosystems, species, soil biodiversity)	 ▪ Better understanding of local and common biodiversity (air and soil biodiversity) and of ecosystem services provided (pollination, soil fertility, biological control of organisms…)
Indicator/key data	▪ Number of protocol implemented ▪ Wild bees, butterflies, invertebrates, earthworms diversity and abundance
Reference	▪ Observatoire Agricole de la biodiversité http://observatoire-agricole-biodiversite.fr/ http://oab.mnhn.fr/sites/observatoire-agricole-biodiversite.fr/files/upload/attached/postersoab.pdf ▪ OPVT, participative earthworm observatory, Université de Rennes https://ecobiosoil.univ-rennes1.fr/page.php?93 https://ecobiosoil.univ-rennes1.fr/e107_files/downloads/poster_OPVT_GSBI_2014.pdf

Further information: Knowledge Pool

This Action Fact Sheet belongs to the training package for auditors 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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