Wide row with flowering undersow

Description of the measure

For the measure „Wide row with flowering undersow“, a cereal field is cultivated at a lower density together with a diverse undersow.

Implementation

- Extended seed row spacing (cereals: 25 - 30 cm, maize 75 cm)
- Sowing density of 70 % of the conventional density
- Sowing time:
  - Summer sowing: simultaneous sowing with main crop
  - Winter sowing: the more competitive the cover crop, the earlier the undersow should be sown so that it can still establish itself
- Spreading or superficial application, then rolling or tamping in
- Reduced and adapted fertilization (fertilization 50-70 % of the otherwise farm/area-specific level); max. N surplus: 10 kg N/ha
- No use of synthetic chemical pesticides
- Under-sowing as an overwintering catch crop or even following main crop (clover-grass)

Location

- Locations with high precipitation levels and good precipitation distribution
- Areas without weed pressure and without root weeds
- No previous biodiversity measures such as flower strips, fallow land or legumes

Undersow mixtures

- Biodiversity mix (80 % legumes, 20 % herbs)
- Green Carbon Fix (70 % grasses, 13 % legumes, 12 % herbs)
- TERRALIFE® - SOIL PROTECT (55 % grasses, 30 % legumes, 15 % herbs)
- Different amounts of clover and grass depending on altitude and precipitation distribution

Effects on biodiversity

The double row spacing and reduced fertilization protect biodiversity in general. Open patches of soil provide breeding habitats for soil-borne insects. When undersown with a diverse, flowering herb mixture, insects benefit from the food supply during the flowering season. In winter, insects can hibernate, small game can find shelter and birds can feed on the seed heads.

Further recommendations

The amount of precipitation must be taken into account for the success of undersowing and stubble sowing. It would therefore be advisable, for example, to plant undersown crops in winter crops with drought-resistant mixtures such as alfalfa instead of red clover and tall fescue instead of cocksfoot.

Further positive effects

In addition to increasing soil fertility, undersown crops generally also serve to improve soil structure and reduce erosion. They help to build up humus and increase water retention capacity. The trafficability of the area is improved, while forage utilization is possible and legumes contribute additional nitrogen to the soil.

Sources: https://www.oekolandbau.de/landwirtschaft/pflanze/spezieller-pflanzenbau/zwischenfruechte/untersaaten • https://orgprints.org/id/eprint/15102/2/Zwischenfruechte.pdf