What did we do and why?

- Bare fallow can occasionally be needed in organic crop rotations to control perennial weeds (e.g. *Elymus repens*, *Cirsium arvense*, *Sonchus arvensis*)

- There is need to intensify the fallowing strategies and to shorten the fallowing time

- We tested three shortened fallowing strategies

- The target in a *E. repens* experiment was to find out the most effective tillage methods in late summer fallow when old ley is broken up during July – September

- The target in *C. arvense* and *S. arvensis* experiments was to explore efficiency of Kvick-Finn (KF)-cultivator in May – June bare fallow and in stubble cultivation after cereal harvest

- Weed samples were taken next year just before cereal harvest

What did we find out?

- In *E. repens* experiment the KF- weed-cultivator destroyed *E. repens* effectively; on average 5% of *E. repens* remained alive compared to untreated control (Fig. 2)

- Also "ordinary" tined cultivator was rather effective, but it left field surface rugged for the next passes

- Frequent mowing (7 times per summer) destroyed about half of *E. repens*

- In *C. arvense* experiment shortened fallow with KF-cultivator during May – June destroyed *C. arvense* very effectively (Fig. 3)

- In *S. arvensis* experiment stubble cultivation was surprisingly effective, although weed pressure was not as high as in other experiments (Fig. 4)

- In well designed crop rotation shortened and intensified fallow may be needed every fifth year or rarely

- Determining the optimum number of passes and minimizing environmental effects require further research

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