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Introduction

Pesticides are commonly considered a cause of species decline in farmland. In the past, most studies have focused on acute effects of pesticides on adult birds or on indirect effects on offspring (e.g. mortality due to limited food resources as a result of pesticide use). However, data on the effects of direct over-spraying on nest success are very scarce. Here, we present data on the breeding success of skylarks (*Alauda arvensis*) on pesticide treated winter cereals and oilseed rape fields and non-treated grassland, set-asides or alfalfa fields.



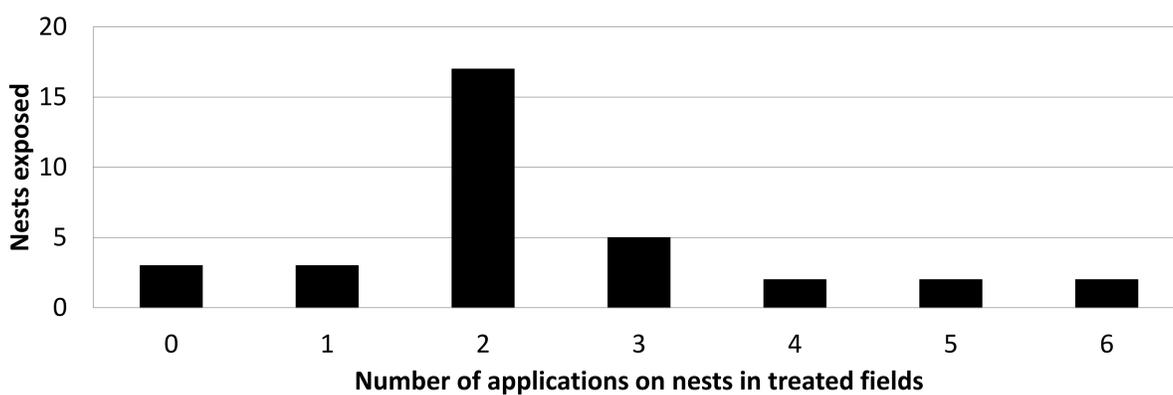
Data collection



- Agricultural area in northern part of the Netherlands
- Breeding seasons 2007 – 2012
- 83 skylark nests: 34 in pesticide-treated and 49 in untreated fields
- all nests found during egg or young chick stage
- monitored until fledging/failure
- information on pesticide use (product, date of application, amount applied) for each field obtained from farmers

Results

	Nests N	Fledged	Failed			Fledgling/brood Mean
			Predation	Mowing	Starvation	
Treated	34	76%	21%	-	3%	2.7
Untreated	49	33%	18%	41%	8%	1.1



Conclusions

- Higher reproductive success on treated fields due to mowing on untreated fields
- Although starvation was a minor cause of nest failure, this could be a hint for indirect effects of pesticide applications on breeding success of skylarks
- No evidence for acute effects of pesticide applications on skylark nests

Request for further data and collaboration

Several studies showed that there could be potential (in)direct effects of the use of pesticides on the breeding success of birds (e.g. Morris et al. 2005; Hallmann et al. 2014). Although this study showed no evidence of direct or indirect effects of pesticides on the breeding success of skylarks, many uncertainties still exist. Therefore, the need of an increasing database on pesticide use in relation to breeding success of farmland birds at field level is still there. We would like to urge colleagues working on farmland birds to collect more data on pesticide use at their study sites in order to be better able to analyse possible interactions between pesticide use and breeding success of farmland birds.

In case you are interested in contributing data or collaboration, or if you have further questions, please contact jan-dieter.ludwigs@rifcon.de

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