2011 LTER Agronomic Protocol Kellogg Biological Station

Micro-plots in Treatments 1 and 2

Since establishment of the LTER, treatments 1 and 2 have contained microplots that have been used to determine long term effects of weed populations without herbicide applications. Treatment 1 and 2 microplots contain two treatments (no herbicide, no fertilizer vs. no herbicide, with fertilizer).

Micro-plot size and location: Micro-plot area is 40 m (133.3 ft) wide from the northwest corner towards the east. From the northwest corner going south, total micro-plot area is 15m (50 ft) deep. Each treatment within the micro-plot area is 5m (16.6 ft) i.e. the no fertilizer, no herbicide area is 5m, the fertilizer, no herbicide area is 5m, and the buffer area is 5m. A buffer area was created because of the need for turning the herbicide spraying boom on and off during applications.

Crops/plants inside treatment 1 and 2 micro-plot areas are mowed/cropped before crop harvest. The weeds are usually so thick within the micro-plot areas that the crop growth is not enough to harvest. Specifically, treatment 2 micro-plot areas have such a thick grass growing in it that no crop growth occurs in these areas. Treatment 1 micro-plot area usually has a thick density of quackgrass and annual broadleaves that not much crop growth occurs. We mow the micro-plot area in treatments 1 and 2 so that we do not put all the weeds through the combine.

Size and layout of treatment 1 and 2 micro-plots

← 40 m (133.3') →	
↑ 5 m (16.6') ↓	No Fertilizer, No Herbicides
↑ 5 m (16.6') ↓	Fertilizer applied, No Herbicides
↑ 5 m (16.6') ↓	Buffer area to turn on/off the herbicides, Fertilizer applied

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