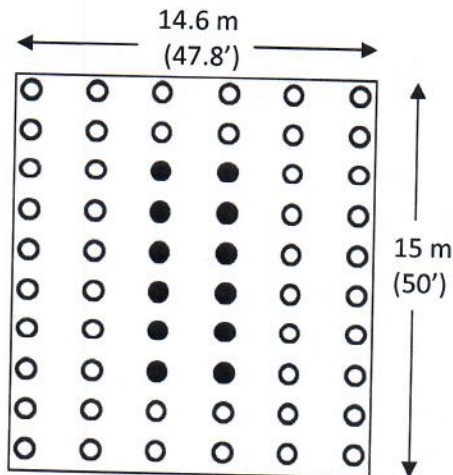
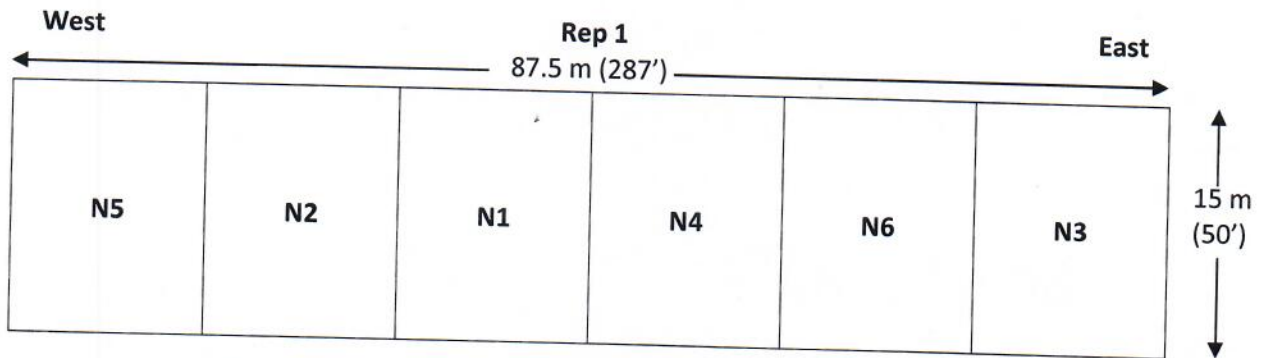


2011 LTER Agronomic Protocol Kellogg Biological Station

Microplots in Treatment 5

The microplot region of all Treatment 5 (T5) replicate plots will be subdivided into six different 14.6 m x 15 m microplots (see diagram below). Microplots will be marked with permanent corner posts. Six different fertilizer treatments (ammonium nitrate) will be applied to microplots in each T5 replicate: **(N1)** 0 lb N/acre; **(N2)** 50 lb N/acre, single application in 2011; **(N3)** 100 lb N/acre, single application in 2011; **(N4)** 50 lb N/acre, annual application; **(N5)** 100 lb N/acre, annual application and **(N6)** 100 lb N/acre, single application in 2015. Fertilizer treatments will be randomly assigned to individual microplots within each T5 replicate (see table below). Fertilizer will be applied to microplots in early July, 2011.

Individual measurement trees (see below diagram) will be marked with numbered aluminum identification tags. Prior to fertilizer application, individual measurement trees within each microplot (12) will be measured for diameter at breast height (DBH). DBH measurements will be repeated at the end of each subsequent growing season. Foliage will be sampled in mid July each year to measure nutrient concentrations. Three recently mature leaves will be collected from branches in the current height-growth increment of three randomly selected measurement trees in each microplot. The composite sample of nine leaves per microplot will be analyzed for nutrient concentrations. Control (0 lb N/acre) microplots will be available for baseline measurements.



Microplot treatment assignments:

	West					East
Rep 1	N5	N2	N1	N4	N6	N3
Rep 2	N2	N3	N4	N1	N5	N6
Rep 3	N6	N1	N2	N5	N4	N3
Rep 4	N6	N4	N2	N1	N5	N3
Rep 5	N4	N1	N6	N3	N5	N2
Rep 6	N1	N5	N4	N6	N3	N2

- Buffer tree
- Measurement tree