ROTHAMSTED RESEARCH

Yields of the Field Experiments 2020

Full Table of Content

Results of the Classical and Other Long-term Experiments 2020

Rothamsted Research

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20/R/BK/1 BROADBALK

Object: To study the effects of organic manures and inorganic fertilisers on continuous winter wheat and wheat in rotation. From 1968 two three-year rotations were included: potatoes, beans, winter wheat and fallow, winter wheat, winter wheat. In 1979 the first rotation was changed to fallow, potatoes, winter wheat. In 1980 the second rotation reverted to continuous winter wheat. Since 1985 part of the second rotation was added to the first to extend the rotation to fallow, potatoes, winter wheat, winter wheat, winter wheat. In 1996 the fallow was replaced by winter oats and potatoes replaced by maize in 1997. In 2018 (175th year) winter beans (Be) replaced maize on the rotational sections and the rotation was changed to wheat, wheat, oats, wheat, beans. The new rotation includes two first wheats each year. Previously, only one first wheat was included in the rotation. This change has resulted in additional harvest sampling and analysis, to include both first wheats and the beans.

2020 was the 177th year of the experiment, for previous years see 'Details' 1967 and 1973, Station Report for 1966, pp. 229-231; Station Report for 1968, Part 2; Station Report for 1982, Part 2, pp 5-44 and Yield Books for 74-19/R/BK/1.

Areas harvested [a]:

	Section	ha
Wheat:	0	0.00305
	1	0.00561
	2,5,6 and 7	0.00463
	8, 9	0.00488
Oats:	3	0.00463
Beans:	4	0.00463

[a] The new Haldrup combine has a slightly smaller cut width (2.0 m) than the previous Sampo combine (2.1 m). Consequently, from 2017 cereal yields were based on a 2.0 m cut width.

Treatments:
In 2001 some of the treatments were changed. The treatments are now:
Whole plots

PLOT	Fertilizers and organic manures Treatments Plot	From 2001
01 (FYM)N4	01	N4
2.1 FYMN3	2.1	FYM N2 (1)
2.2 FYM	2.2	FYM
03 Nil	03	None
05 (P)KMg	05	(P) K Mg
06 N1 (P) KMg	06	N1 (P) K Mg
07 N2(P)KMg	07	N2 (P) K Mg
08 N3(P)KMg	08	N3 (P) K Mg
09 N4(P)KMg	09	N4 (P) K Mg
10 N4	10	N4
11 N4PMg	11	N4 P Mg
12 N1+3+1(P)K2Mg2	12	N1+3+1 (P) K2 Mg2 (2)
13 N4PK	13	N4 P K
14 N4PK*(Mg*)	14	N4 P K* (Mg*)

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