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## THE EFFECT OF DIFFERENT AGRICULTURAL APPLICATIONS ON THE NUMBER AND TYPES OF WEEDS ASSOCIATED WITH CROPS

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**Abstract:** *The article provides data on the field experience, which forms the basis of the research work of the Department of Agriculture and the Department of Agriculture of the RSAU - Moscow Agricultural Academy named after K.A. Timiryazev in modern conditions. Long field experience with more than a century of history continues scientific research on permanent crops and in crop rotation on various backgrounds of organic and mineral fertilizers. The data on weediness and of individual variants in 2020 are presented.*

**Key words:** *field experience, winter rye, barley, crop rotation, permanent crops, fertilizers, weeds, yield, agrocenosis.*

The studies were carried out in 2020 in the fields of the Long-term multifactorial field experiment of the Russian State Agrarian University - Moscow Agricultural Academy named after K.A. Timiryazev, founded in 1912 by Professor A.G. Doyarenko at the Field Experimental Station [1]. The purpose of this scientific work was to identify the influence of crop rotation, fertilization system, liming on weediness and yield of winter rye and barley. Table 1 shows a fragment of the scheme of the Long-term field experiment, concerning the cultivation of winter rye and barley according to various options, where the research was carried out. The purpose of the research is to establish regularities in the change in the contamination of winter rye and barley crops depending on the crop rotation, permanent crops, fertilizers.

Table 1

### Scheme of the experiment

Crop rotation				
Barley		Winter rye		Forum of fertilizers
Without lime	At the lime	Without lime	At the lime	N
Without lime	At the lime	Without lime	At the lime	0
Without lime	At the lime	Without lime	At the lime	NPK + manure
Without lime	At the lime	Without lime	At the lime	NPK

Table 1, cont.

Road				
Permanent crops				
Without lime	At the lime	Without lime	At the lime	N
Without lime	At the lime	Without lime	At the lime	0
Without lime	At the lime	Without lime	At the lime	NPK + manure
Without lime	At the lime	Without lime	At the lime	NPK
Without lime	At the lime	Without lime	At the lime	manure
Without lime	At the lime	Without lime	At the lime	0
Barley		Winter rye		Forum of fertilizers

From the list of studies, we determined the weediness of winter rye and barley crops by a quantitative and quantitative-weight method [2]. The following types of weeds prevailed in the crops:

- with permanent cultivation of winter rye and barley from perennial weeds, field horsetail, field thistle, medicinal dandelion and barley millet prevailed. In the crop rotation, weeds were present, such as field horsetail, barnyard millet, and creeping wheatgrass.

- among juvenile weeds in the permanent cultivation of cereals and in the crop rotation, a large amount of shepherd's purse, odorless chamomile, field violet, blue cornflower, tenacious bedstraw, white mari were noted.

Data on weediness of agrocenoses are presented in Table 2.

Table 2

**The number of weeds in the crops of winter rye and barley according to the variants of the Long-term experiment, 06/29/2020.**

Fertilizer	Crop rotation				Unchanging			
	Without lime		At the lime		Without lime		At the lime	
	Total	long-term	Total	long-term	Total	long-term	Total	long-term
<b>Winter rye</b>								
Control (no fertilizer)	-	-	-	-	91	45	92	36
Manure	-	-	-	-	44	28	62	37
NPK	26	0	39	13	29	4	49	21
Manure + NPK	31	9	42	16	32	13	42	18
Control (no fertilizer)	56	26	51	18	73	32	51	27
N	25	5	28	11	51	22	46	20
<b>Barley</b>								
Control (no fertilizer)	-	-	-	-	75	24	67	20
Manure	-	-	-	-	52	14	40	7
NPK	14	7	14	6	16	5	17	8
Manure + NPK	19	6	23	8	12	4	15	7
Control (no fertilizer)	42	16	38	13	54	21	34	15
N	43	18	31	12	28	0	45	0

The greatest number of weeds was noted in the control in the crop rotation and permanent crops. According to the options for applying pure manure, an average degree of weediness of crops was found, manure together with NPK and single N caused a higher weediness in the grain plot both in terms of crop rotation and on permanent crops in comparison with the NPK background. This situation is typical for the crop both in crop rotation and in permanent cultivation. At the same time, permanent crops were more clogged. The largest number of perennial representatives of weeds was found in permanent crops of winter rye and barley on a lime background according to the options for applying organic and organo-mineral fertilizers, as well as on control options.

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### ВЛИЯНИЕ НИТРАТА СВИНЦА НА УДЕЛЬНУЮ АКТИВНОСТЬ РИБОНУКЛЕАЗЫ ПРОРОСТКОВ СОИ

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***Аннотация:** Исследовано влияние нитрата свинца на рибонуклеазную активность сои сорта Лидия и установлено её увеличение при проращивании в течение одних, трех и пяти суток, на седьмые сутки было отмечено ингибирующее действие нитрата свинца на РНКазную активность.*