

... , ... , ... , ... , ...

... () ...

... (0-30 ... 2 4% ...)

... 6-8 ()

... P_2O_5 - 1 / 7

... 12 / , 100 / P_2O_5 - 8,3

... - 14,0 / . 28-50%

... (1% $(NH_4)_2$) [2-12].

... 7-9 / 11,0-14,8 /

... [2, 3, 5, 6, 9-11,13].

... 20-25

... « »

... [1].

... « »

... - 9,6-12,0 / 8,3-10,4 / ,

... (100 /) , 90%

... [4, 7, 8, 12].

... 2-3 ()

... P_2O_5 -

... « »

... [3], 100 /

(P_2O_5) - [20] -
 / , - 6 / 5
 [4] 1 / , , 20 17 / . - , (1990) , [24].
 - 60-90 / , 40-60 / , - 90-120 / .
 [11] 100 / 6 / 17 / . , - 60-
 12 , 5 / 180 / P_2O_5 39-40 / , 50-107
 , 20 / . - 40-120 / , - 80 / , P_2O_5 . 5
 (. .), - 80-100 / , 47-62 / ,
 0,9 1,1 /100 [14, 15]. 60 / - 51-70 / -
 . , -
 1 /100 ,
 100 / P_2O_5 [16, 17, 18, 20] - ,
 [25].
 , 62-85 / 1,60-1,18 /100 . , -
 () 4 P_2O_5 ,
 108 / [17]. 92 114 / - 90 / , (1,5)
 () , - 69 / . (1,5-2,0)
 5,5 % 169 / 125 / 3,5 (1 /100) P_{600} 69
 26 % 30 % / () 63 / ,
 143 100 / .
 41 % 169 / 100 / . - 100-150
 [19]. / P_2O_5 64-69 / 44-52 31-50
 - / , P_{600} P_{1200} ,
 , 50-63 / 34-48 25-43 / .
 P_2O_5 1 /100 , , (-
 - 25 143 / P_2O_5 [20].) [26],
 , 3-4 /100 60-70 / ,
 P_2O_5 7-8 /100 -
 50 % . , «
 12 50-200 / P_2O_5 $N_{84}K_{80}$ 170 590 % ,
 P_2O_5 1 /100 80-120 / ,
 100 / . 100 /
 [22, 27] - 100 / 1 -
 /100 . , ,
 120-150 % 150-200 % 60-70 / 70-80 80-
 [23]. 100 /

1. 1970. 520 . 2. // . 1974. 1. C. 12-17. 13. 1982. 59. . 56-60. 14. 1998. 40 . 15. 1990. 36 . 16. 1980. . 190-222. 3. // . 1991. 2. . 15-19. 17. 2007 . 18. 1998. 1990 24 . 19. 1997. . 32-452-508. 4. 140 20. 1989. 48 . 5. 42-205. 21. // . 1975. 2. . 7-15. 6. 1978. 6. . 17-20. 22. // . 1976. 11. . 24-39. 23. 1975. . 110-115. 7. 1982. 24 . 8. // . 1985. 10. . 16-27. 24. 1987. 39 . 9. // . 2000. 10. . 5-14. 25. 1988. 24 . 10. 1989. 47 . 26. // . 2002. . 17-237. 27. , 1988. C. 30-35. VIII 1976. . 235.

Phosphorus fertilizer expenditures for increasing the content of available phosphorus in soils of different genesis

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Summary. Regularities of changes in fertilizer expenditures for increasing the content of available phosphorus in soils of different genesis are determined. It was shown that the expenditure of phosphorus decreased with increasing phosphorus availability in soils and fertilizer rates. Expenditure increased with increasing duration of interaction between fertilizers and soil and fining soil texture.

Key words: phosphorus fertilizers, soil genesis, fresh-applied phosphorus, residual phosphorus, phosphorus expenditure

