Durand-Alegria, A. I.; **Lopez-Sanchez, J.**; **Perez de Vargas, A.**

Zygotic algebra for two-linked loci with sexually different recombination and mutation rates.

(English) Zbl 0692.92013
Linear Algebra Appl. 121, 385-399 (1989).

The last two authors have written an earlier paper on zygotic algebras for two-linked loci with sexually different recombination rates [Bull. Math. Biol. 47, 771-782 (1985; Zbl 0586.92016)]. In this paper the authors introduce mutations with the possibility that the mutation rates differ as well. Incidentally the earlier paper inspired a paper by the reviewer [J. Math. Biol. 25, 677-683 (1987; Zbl 0658.92015)] which is not mentioned in the references. The results are similar to the ones in the earlier paper even though the algebras involved are more complicated because of the mutations.

The main result is that if A is the algebra then A^2 is a genetic algebra but not necessarily a special train algebra. The author concludes with a discussion on idempotents.

Reviewer: H.Gonshor

MSC:

92D10 Genetics and epigenetics
17D92 Genetic algebras

Keywords:

canonical basis; train roots; zygotic algebras; two-linked loci; sexually different recombination rates; mutation rates; genetic algebra; train algebra; idempotents

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