

JOHN INNES HORTICULTURAL INSTITUTION

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Dear Professor,

I have got a little^{er} problem in experimental design on which I should very much like to have your opinion.

We are testing the yields of 12 strains of tomato, 7 of them being varieties and the other 5 F_1 hybrids. The trial is to be laid down in a greenhouse which consists of three equal parts, each part holding 16 rows of plants with 6 in each row.

I propose to use as my unit 2 rows. Thus in each part of the greenhouse there will be 8 strains. This means that in the whole house each strain will be duplicated. The question is whether I should consider the house as two blocks, dividing the middle compartment into two for the purpose or whether I should assign ^{eight} 8 strains to the first compartment, eight more, of which four will have occurred in compartment 2, to the second section and finally eight to the third, of which eight, four will have occurred in the first and the other four in the second sections. In the latter case I may get unequal precisions of comparison if the three compartments are heterogeneous, though I should presumably remove more block difference. I might be able to put together some parents and F_1 s to be given more ^{the} precise comparison, if this design is used.

I should, however, like to have your opinion on the matter.

The two families of *Lythrum* which we are germinating for you are now pricked out. There are 200 seedlings of each. I will write to you when it is time for them to be planted out.

Yours sincerely,

K. Innes