Table 1. Percentage estimates of double-podded nodes and their standard errors in some selected advanced-generation progenies of chickpea at ICRISAT Center, 1984/85.

Pedigree	Parentage	Percentage double-podded nodes (%)	SE±
F_5 generation			
ICCX-790166-17P-1P-1P	P 272 x HMS 30	80.2	18.87
ICCX-790165-2P-1P-1P	P 272 x HMS 28	76.6	14.44
ICCX-790181-4P-1P-1P	Pant G 120 x HMS 28	75.7	12.12
ICCX-790167-5P-1P-1P	P 502 x HMS 4	61.2	15.99
ICCX-790161-5P-1P-2P	P 272 x HMS 13	61.1	13.78
ICCX-800469-13P-1P-2P	HMS 13 x JG 62	28.5	16.68
F_6 generation			
ICCX-790173-BH-BP-28P-1P	P 502 x HMS 28	83.2	15.96
ICCX-790172-BH-BP-12P-BP	P 502 x HMS 23	80.0	15.96
ICCX-780323-26P-BP-2P-BP	JG 62 x HMS 2	77.3	10.41
ICCX-790164-BH-BP-22P-1P	P 272 x HMS 23	76.2	16.14
ICCX-790164-BH-BP-38P-1P	P 272 x HMS 23	73.6	15.65
ICCX-780325-6P-BP-1P-1P	JG 62 x HMS 4	29.0	16.36
F_7 generation			
ICCX-780397-9P-BP-1P-1P-1P	JG 74 x (JG 62 x P 345-1)	77.6	26.16
ICCX-780397-9P-BP-2P-1P-1P	JG 74 x (JG 62 x P 345-1)	72.5	8.64
ICCX-780362-3P-BH-1P-1P-1P	JG 62 x HMS 18	68.2	15.24
ICCX-780329-24P-BH-1P-1P-2P	JG 62 x HMS 8	67.4	13.24
ICCX-780362-12P-BH-1P-1P-2P	JG 62 x HMS 18	62.9	16.66
ICCX-780361-8P-BH-1P-1P-1P	Pant G 120 x HMS 18	33.6	14.90

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Genetics of nonnodulation in chickpea

Genetics of nonnodulation in chickpea was first reported by Davis et al. in 1986. At ICRISAT Center, a nonnodulation spontaneous mutant was identified from chickpea genotype ICC 435 (Rupela and Sudarshana 1986), which was named ICC 435M. An attempt is being made to determine the genetic nature of the

nonnodulation characteristic of this mutant and to ascertain whether the genes controlling nonnodulation in ICC 435M and PM 233 (one of the nonnodulation mutants reported by Davis et al.) are the same or different. Progress in these studies is reported in this note.

The nonnodulation mutant ICC 435M was reciprocally crossed with its parent ICC 435 and with PM 233, received from T.M. Davis, in the offseason nursery/glasshouse at ICRISAT Center. Forty plants each of ICC 435, ICC 435M and their F_1s, and 30 and 19 plants of PM 233 and its F_1 cross with ICC 435M, were grown separately in pots in the glasshouse. All were checked for nodulation after inoculation with an abundant population of Rhizobium strain IC 59.

Both nonnodulation mutants, ICC 435M and PM 233, did not nodulate while the parent ICC 435 showed normal nodulation. All the F_1 plants of crosses between the two nonnodulation mutants ICC 435M and PM 233 formed normal nodules (Fig. 1) indicating that the genes causing nonnodulation in the two mutants are different from each other. Out of the 80 F_1 plants of crosses between mutant ICC 435M and its parent, 75 showed normal nodulation; five plants did not nodulate and are suspected of having been selfs. It is thus concluded that nonnodulation characteristic in ICC 435M is genetically recessive.

Further studies to determine the number of genes involved in causing nonnodulation in ICC 435M are in progress.

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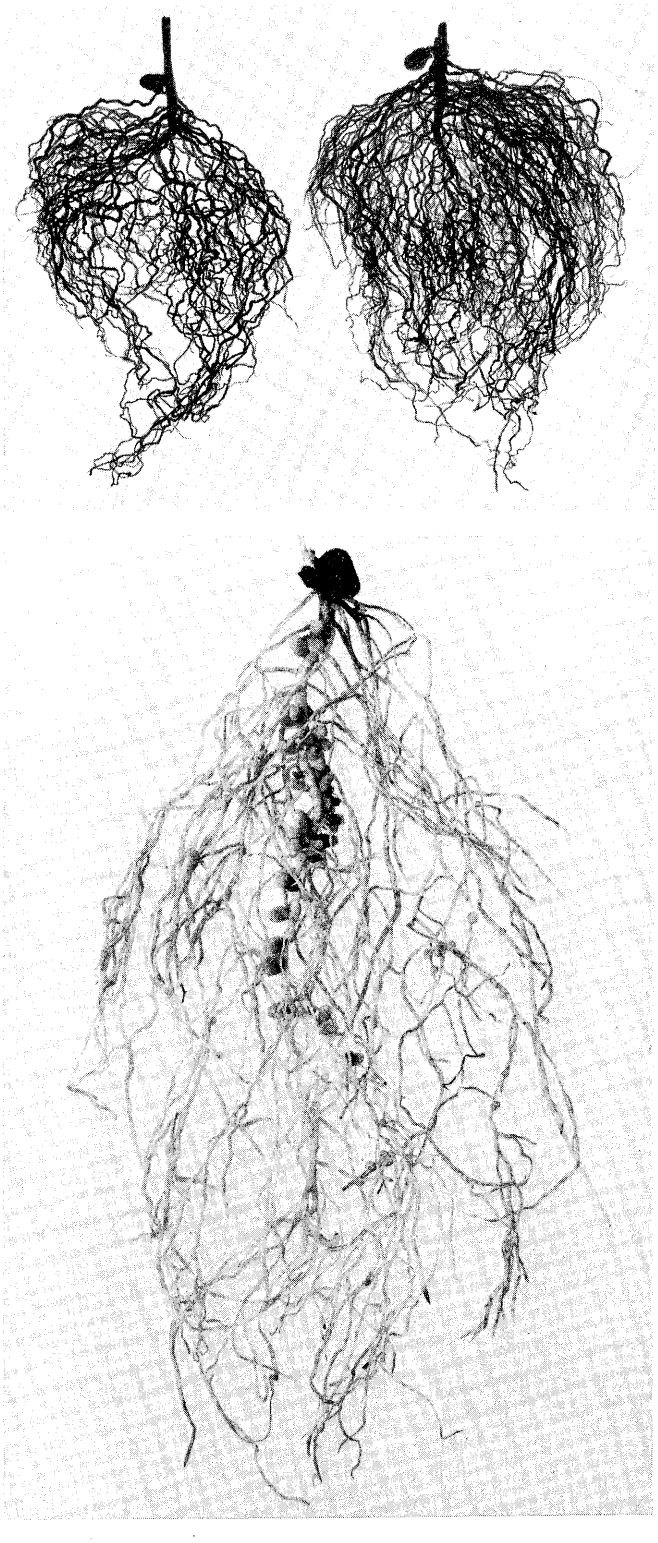

Figure 1. Nonnodulating mutants ICC 435M and PM 233 and their nodulating F_1 grown in sand supplied with N-free nutrient solution and abundant rhizobia of strain IC 59.