

TABLE B<sub>1</sub>

CI	f	x	fx	f x- $\bar{x}$	f x- $\bar{x}$   <sup>2</sup>
1-5	2	3	6	34.28	387.56
6-10	1	8	32	48.56	589.52
11-15	7	15	91	49.98	356.86
16-20	20	18	360	42.8	90.6
21-23	16	25	368	45.16	180.88
26-30	10	28	280	78.6	617.8
31-35	4	33	132	51.44	661.52
			1269		3035.74

$$\text{mean } (\bar{x}) = \frac{\sum fx}{\sum f} = \frac{1269}{63} = 20.14$$

$$\text{M.D} = \frac{\sum f|x-\bar{x}|}{\sum f} = \frac{351.42}{63} = 5.58$$

ii) S.D =  $\sqrt{\text{variance}}$

$$= \sqrt{\frac{\sum f(x-\bar{x})^2}{\sum f}} = \sqrt{\frac{3035.74}{63}} = \sqrt{48.19} = 6.94$$

iii) coefficient of variance =  $\frac{\text{standard deviation} \times 100}{\text{mean } (\bar{x})}$

$$= \frac{6.94 \times 100}{20.14} = 34\%$$

iv) Group B is the one with less varietal distribution



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$\Sigma f(A) = 29$      $\Sigma f(B) = 63$

$M.O.D = \frac{\Sigma f |x - \bar{x}|}{\Sigma f}$  For grouped data

For A:  $\bar{x} = \frac{\Sigma fx}{\Sigma f} = \frac{517}{29} = 17.83$

Table of A

CI	f	x	fx	f x - $\bar{x}$	f x - $\bar{x}$   <sup>2</sup>
1-5	0	3	0	0	676.41
6-10	7	8	56	68.81	233.3
11-15	10	13	130	48.3	0.06
16-20	2	18	36	0.34	23
21-25	1	23	23	5.17	26.7289
26-30	5	28	140	50.85	517.15
31-35	4	33	132	606.8	920132
			517	234.15	2374.17

① Mean ( $\bar{x}$ ) =  $\frac{\Sigma fx}{\Sigma f} = \frac{517}{29} = 17.83$

② Standard deviation =  $\sqrt{\text{variance}}$   
 $= \sqrt{\frac{\Sigma f(x - \bar{x})^2}{\Sigma f}} = \sqrt{\frac{2374.17}{29}}$

∴ ③ Mean deviation =  $\frac{\Sigma f|x - \bar{x}|}{\Sigma f}$

= 9.05%

=  $\frac{234.15}{29} = 8.07\%$

③ coefficient of variation =

$\frac{50}{\text{mean}(\bar{x})} \times 100 = \frac{9.05}{17.83} \times 100 = 51\%$

∴  $\geq 51\%$