

(a) (i) Complete Table 2.1 to show **one** structural difference and **one** functional difference between *E. turcicum* and *Z. mays*.

	<i>E. turcicum</i>	<i>Z. mays</i>
structural difference		
functional difference		

[2]

- [4]

[4]

- (b) Two inbred varieties of maize, SKV50 and CML153, were crossed. The resulting F1 hybrids were self-crossed to produce F2 offspring. The F2 plants were grown, and the percentage area of leaf damage caused by *E. turcicum* was measured.

Fig. 2.1 shows the results for the F2 generation. The arrows show the mean percentage area of leaf damage for the two parent varieties.

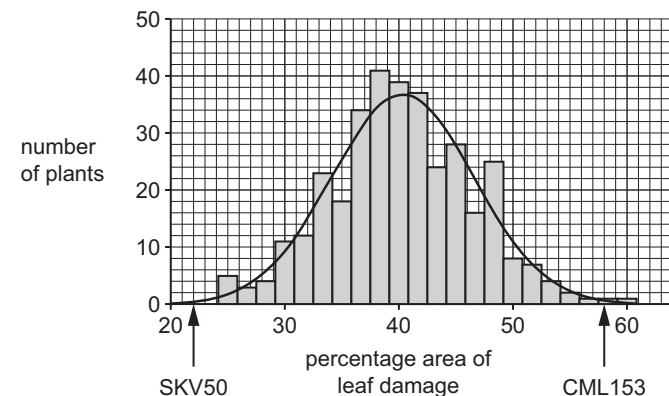


Fig. 2.1

- (i) Explain how Fig. 2.1 can be used to determine which parent maize variety shows the greatest resistance to infection by *E. turcicum*.

..... [2]

- (ii) State the name of the type of variation shown by the maize F₂ generation in Fig. 2.1.

..... [1]

- (iii) Explain the **genetic** basis of the type of variation shown by the maize F₂ generation.

[4]