CHAPTER V
DISCUSSION

All the results recorded in the findings chapter are being discussed in the following lines. It has been found that the length of first internode was recorded to vary from 6.667 cm \((V_{12})\) to 18.833 cm \((V_7)\) and 7.417 cm \((V_{12})\) to 19.500 cm \((V_6)\) with the general mean value which was found 12.204 cm and 12.546 cm during 1984-85 and 1985-86, respectively. It is closely followed by the maximum value 17.833 \((V_6)\), 17.167 \((V_5)\), 17.000 \((V_5)\) and 19.250 \((V_{23})\), 17.333 \((V_{18})\), 16.767 \((V_2)\), during both the years. These results are in accordance with the results reported by Bajpai (1949, 1951, 1952) and Prasad (1969) in loquat (Eriobotrya japonica lindl.), Singh (1964, 1954 a ) in mango (Mangifera indica L.) Singh and Dhuria (1960, 1960 a ) in sweet lime (Citrus limetioides).

The variation in length of 2nd internode was recorded to varied from 4.750 \((V_{11})\) to 20.650 cm \((V_4)\) and 4.997 \((V_{14})\) to 21.167 cm \((V_4)\) with the general mean value which were observed that 12.552 and 12.530 during 1984-85 and 1985-86, respectively. It is closely followed by the maximum value of 20.583 \((V_{18})\), 18.967 \((V_1)\), 17.500 \((V_5)\) and 19.083 \((V_{18})\), 18.083 \((V_1)\), 17.500 \((V_5)\) during both the years. The findings of growth and development of new shoots provide chances for the prospects and chances of development of fruit growth (Lanza, 1939, Crane and Brown, 1939, Erolov Bagrew, 1946-58; Lawis and Leslie, 1954; Dodds, 1958; Prasad, 1970, 1977).

The results showed that the variation in Diameter of 1st internode was found vary from 0.517 \((V_{14})\) to 1.017 cm \((V_1)\) and 0.477 \((V_{14})\) to 0.970 cm \((V_1)\) with the general mean value which were observed 0.715 and 0.701 during 1984-85 and 1985-86, respectively. It is closely followed by the maximum value 0.950 \((V_2)\), 0.883 \((V_{18})\), 0.867 \((V_{19})\) and 0.940 \((V_2)\), 0.830 \((V_{20})\), 0.810 \((V_{19}, V_3)\) during the first and second years, respectively. The variation in diameter has
also been reported by Bajpai (1951, 1952) Bajpai and Prasad (1962),

The findings revealed that the data of Diameter of 2nd
internode were varied from 0.457 (V_{14}) to 0.867 (V_{20}V_{2}V_{18}) and
0.417 (V_{14}) to 0.887 cm (V_{2}) with the general mean value which were
observed 0.648 and 0.643 during the years of 1984-85 and 1985-86,
respectively. It was closely followed by the maximum value of 0.850
(V_{1}), 0.830 (V_{3}), 0.750 (V_{19}) and 0.847 (V_{3}), 0.837(V_{1}), 0.830 (V_{20})
in both the years. These results are in accordance with the results
reported by Bajpai (1949) and Bajpai and Prasad (1982).

The results were found that the variation in length of leaf
was recorded that it ranged from 11.500 (V_{12}) to 22.833 cm (V_{g}) and
12.167 (V_{12}) to 21.500 cm (V_{g}), it was closely followed by the
maximum value of 20.433 (V_{2}), 20.167 (V_{25}), 18.367 (V_{3}) and 21.167
(V_{25}), 20.517 (V_{2}), 18.167 (V_{24}) during both the years, 1984-85 and
1985-86, respectively. The general mean value were observed that
16.950 and 19.895 during the first and second years.

These findings of the present investigations were observed in
accordance with the results reported by Naik and Gangolly (1950),
Singh and Singh (1956), Gangolly et al. (1957) and Singh (1960).

Present findings revealed that the data variation in breadth of
leaf was observed to be varied from 3.183 (V_{22}) to 7.933 cm (V_{g}) and
3.217 (V_{21}) to 7.517 cm (V_{g}) with the general mean value which were
recorded 5.018 and 5.143 during both the years, 1984-85 and 1985-86,
respectively.
It was closely followed by the maximum value 7.033 ($V_4$), 6.317 ($V_{25}$), 6.183 ($V_{11}$) and 7.350 ($V_4$), 6.327 ($V_{25}$), 6.167 ($V_{11}$) during the first and second years of the present investigations. This study confirms the results of previous reports on made by several research workers Naik and Gangolly (1950), Singh and Singh (1955), Gangolly, et al. (1957) and Singh (1960). Similar results have also been found by Abbot (1935), Ackerman (1961), Addicot (1943) and Amerine and Winckler (1943) in the fruit crops.

The data were recorded in observations on pedicle length of pectiole varied from 1.917 ($V_{22}$) to 3.917 cm ($V_{18}$) and 2.143 ($V_{12}$) to 4.217 cm ($V_{18}$) with the general mean value of 2.926 and 3.015 during 1984-85 and 1985-86, respectively. It was closely followed by the maximum value in percentage of 3.787 ($V_{19}$), 3.767 ($V_4$), 3.733 ($V_5$) and 3.717 ($V_{19}$), 3.617 ($V_4$), 3.453 ($V_5$) during first and second years. Present results are in accordance with the findings reported by Adms (1961), Agarwal et al. (1957), Ahmad and Basher (1972), Anderson (1947), Aucthor (1922) and Ayalon and Mauselianse (1960) in the related aspects of the crops.
The data of diameter of petiole were found to be varied from 0.267 \((v_{12})\) to 0.683 cm \((v_{16})\) and 0.280 \((v_{21})\) 0.517 cm \((v_{24})\) with the general mean value which were observed that 0.375 and 0.369 during in 1984-85 and 1985-86, respectively. It was closely followed by the maximum value 0.517 \((v_{25})\), 0.477 \((v_{24})\), 0.467 \((v_{13})\) and 0.437 \((v_{25})\), 0.427 \((v_{9})\), 0.417 \((v_{12}, 23)\) during both the years.

Similarly Southwick and Erench (1944), Winter (1925, 1930), Naik and Gangolly (1950) have also reported the results on the same lines in different crops. Other scientists have also reported the similar findings (Amarine and Winkler, 1943; Arvinda and Nair, 1978; Prasad, 1970). The data was recorded to varied from 5.650 \((v_{24})\), to 21.500 \((v_{2})\) and 8.650 \((v_{22})\) to 22.167 \((v_{5})\) with the general mean value were observed that 14.228 and 14.891 during in 1984-85 and 1985-86, respectively. It was closely followed by the maximum value 21.167 \((v_{5})\), 19.833 \((v_{3})\), 19.500 \((v_{5})\) and 21.500 \((v_{5})\), 20.167 \((v_{1}, v_{2})\), 20.000 \((v_{3})\) during both the years of these investigations. These results are in accordance with the findings of Bajpai (1952), Bajpai and Maurya (1963), Bajpai and Mohan (1987) and Banerjee and Bargham (1970).
The data was length of panicle to varied from 14.167 \((V_{13})\) to 31.667 \((V_{17})\) and 15.583 \((V_{22})\) to 32.500 \((V_{17})\) with the general mean values were recorded that 23.267 and 23.789 during in 1984-85 and 1985-86, respectively. It was closely followed by the maximum value 30.667 \((V_{20})\), 30.500 \((V_{18})\), 30.167 \((V_{19})\) and 32.333 \((V_{18})\), 30.650 \((V_{20})\), 30.533 \((V_{19})\) during the both the years. Naik and Gangolly (1950), Singh and Singh (1956) and Gangolly et al. (1957) have also reported the similar findings in the different fruit crops.

The data recorded in the observations have been found to be varied from 6.017 \((V_{22})\) to 23.667 \((V_{20})\) and 8.267 \((V_{22})\) to 23.117 \((V_{20})\) with the general mean values which were observed 15.790 and 16.387 during in 1984-85 and 1985-86, respectively. It was closely followed by the maximum value of 23.250 \((V_{7})\), 21.750 \((V_{8})\), 20.167 \((V_{17})\) and 23.050 \((V_{7})\), 21.800 \((V_{19})\), 21.850 \((V_{9})\) during the first and second years of these investigations.

These results are in accordance with the findings of Naik and Gangolly (1950), Singh and Singh (1956) and Gangolly et al. (1957) in the related fruit crops.

The data observed were to be varied from 0.507 \((V_{3})\) to 0.783 cm \((V_{15})\) and 0.490 \((V_{3})\) to 0.797 cm \((V_{16})\) with the general mean values of 0.668 cm and 0.675 cm during 1984-85 and 1985-86, respectively. It was seen that the data were closely followed by the maximum values of 0.780 \((V_{16})\) 0.757
(V_{22} \cdot V_{17}), 0.747 \text{ cm} (V_{2} \cdot V_{21} \cdot V_{25}) \text{ and } 0.780 (V_{15}), 0.767 \text{ cm} (V_{17}), 0.747 \text{ cm} (V_{25} \cdot V_{21} \cdot V_{10}) \text{ during the first and second years, respectively. Present results are in confirmation of the findings recorded by Bajpai et al. (1987), Permel (1941), Pegri and Jverson (1950), Plory (1947), Prasad and Nalini (1987) and Erdtman (1969).

It was found that the number of male flowers per panicle varied from 109.667 (V_{4}) to 719.000 (V_{23}) and 110.000 (V_{4}) to 719.633 (V_{23}) with the general mean values were observed that 392.366 and 397.835 during 1984-85 and 1985-86, respectively. The maximum number was closely followed by the maximum value 519.000 (V_{17}), 518.350 (V_{6}), 513.333 (V_{5}) and 527.333 (V_{22}), 523.667 (V_{17}), 522.583 (V_{6}) during the first and second years of these investigations.

Similarly Hastless (1913), Dorsey (1919), shiffness (1999) and Galun (1956), whitaker (1931,1952), Hofmyer (1953), have also reported on the basis of experiments on different fruit crops. However, Gopinath (1945), Corini (1963), Grigas et al. (1950), Griggs et al. (1953), Gupta and Roy, Herller (1913) and Heilborn (1937) have also found the same results.

It was found that the hermaphrodite flowers per panicle varied from 22.350 (V_{12}) to 124.867 (V_{22}) and 21.050 (V_{25}) to 124.017 (V_{22}) with the general mean values were of
66.253 and 66.399 during in 1984-85 and 1985-86, respectively. It was closely followed by the maximum value of 120.500 \((v_6)\), 119.187 \((v_{17})\), 116.583 \((v_5)\) and 120.367 \((v_{17})\) 120.167 \((v_6)\), 117.017 \((v_5)\) during the first and second years.

In the close observations the results of these investigations are in accordance with the findings of Sen et al. (1946), Liyangal (1949), Randhawa and Dinsa (1947), Lewis and Leslie (1954), Singh (1954), Loomis and Williams (1957), Sankey and Singh (1965) seemanthani (1965), Prasad (1975) in different fruit crops.

The data were found to be varied from 1.423 \((v_4)\) to 25.763 \((v_{25})\) and 1.417 \((v_4)\) to 23.500 \((v_{25})\) with the general mean values which were observed that 7.339 and 7.748 during in 1984-85 and 1985-86, respectively. The maximum value was closely followed by 14.943 \((v_1)\), 13.093 \((v_{14})\), 12.033 \((v_{13})\) and 15.129 \((v_1)\), 12.553 \((v_{14})\), 11.500 \((v_{13})\) during the both years of the investigations. Similarly, Burrel and George (1932), Narayana (1966), Wall (1966), Weetman (1936), Lamaza (1932), Sen et al. (1946), Liyangal (1949), Randhawa and Dinsa (1947), Lewis and Leslie (1954), Loomis and Williams (1957), Rao and Muthukrishnan (1969), Erolov-Baganeen (1946-58), oppenhaimer and oded (1961).
Randhawa and Negi (1961), Singh and Singh (1965), Chaudhary and Pathak (1959), Dass and Chaudhary (1958), Veeraswamy et al. (1973), Negi et al. (1974) and Minocha (1976) have also reported the results on the same lines in the different crops.

It was found that the length of fruit was varied from 5.893 ($V_{22}$) to 13.957 ($V_{15}$) and 5.883 ($V_{22}$) to 13.483 ($V_{15}$) with the general mean values were of 9.168 and 8.952 and it is closely followed by 13.883 ($V_{10}$), 12.300 ($V_{1}$), 10.853 ($V_{9}$) and 13.100 ($V_{10}$), 12.317 ($V_{1}$), 10.483 ($V_{5}$) during in 1984-85 and 1985-86, years, respectively. The results are in conformity of Hofmyer (1953) Hooker (1972-79), Holman and Banbabar (1926), Hotta and Stem (1966), Hyde and Aelama (1958), Jindal (1972), Imasund Fumishita (1953), Ito and Kato (1957), Jwahri et al. (1970), Jindal and Singh (1976) and Johanson, (1940,1959) in the other crop.

The data of breadth of fruit of mango varieties was varied from 4.077 ($V_{25}$) to 7.867 ($V_{10}$) and 4.183 ($V_{25}$) to 8.783 ($V_{10}$) with the general mean values was observed that 6.086 and 5.204 during in the 1984-85 and 1985-86, respectively. In fact it was closely followed by 7.367 ($V_{7}$), 7.667 ($V_{9}$), 7.227 ($V_{15}$) and 7.517 ($V_{7}$), 7.450 ($V_{9}$), 7.083 ($V_{2}$) during
both the years of these investigations. Further, Kashyap and Jyotishi (1972), Prasad and Prasad (1972) and Rathore (1983) have also reported similar findings in other fruit crops.

In the fruit studies, it was found that the thickness of the fruit was recorded to vary from 1.900 \( (v_5) \) to 7.650 cm \( (v_{10}) \) and 2.087 \( (v_5) \) to 8.033 cm \( (v_{10}) \) with the general mean values which were observed 5.121 and 5.235 during both the years 1984-85 and 1985-86, respectively. It was closely followed by the values 7.010 \( (v_6) \) 6.920 \( (v_{15}) \), 6.650 \( (v_{13}) \) and 7.100 \( (v_7) \) 7.000 \( (v_{14}) \), 6.700 \( (v_{13}) \) in both the years of the experimental work in mango varieties. These results are in accordance with the results of Singh (1950, 1954 a), Spencer and Kennard (1956) in mango, Topley (1923), Teaotia (1971), in other crops, Yadava (1973) in grape, Kashyap and Jyotishi (1972), Prasad and Prasad (1972) in mango varieties, why they found some peculiar characters.

The thickness of the fruit salk (mm) was accorded to vary from 0.247 \( (v_1) \) to 0.880 \( (v_{15}) \) and 0.280 \( (v_1) \) to 0.917 \( (v_{15}) \) with the general mean values which were observed 0.489 and 0.482 during 1984-85 and 1985-86, respectively. It is closely followed by the maximum value 0.763 \( (v_{20}) \), 0.690 \( (v_2) \) 0.670 \( (v_4) \) and 0.750 \( (v_{20}) \) 0.677(\( v_2 \)) 0.657(\( v_4 \)) during the I & II years.
The data on pulp content varied from 54.067 ($V_{22}$) to 86.383 per cent ($V_9$) and 54.367 ($V_{22}$) to 85.967 per cent ($V_7$) with the general mean values of which were found 73.501 and 73.743 during 1984-85 and 1985-86, respectively. It was closely followed by the values of 86.057 ($V_7$), 81.980 ($V_1$), 81.937 ($V_{25}$) and 84.720 ($V_9$), 82.150 ($V_{17}$), 82.127 ($V_1$) during both the years of 1984-85 and 1985-86, respectively. Similar findings have also been reported by Pratt and Rosario (1913), Pope (1929), Winton and Winton (1935), Mustard and Lynch (1945), Prasad (1969) and Bajpai (1962) in different fruit crops.

It was found that the data on stone varied from 5.167 ($V_{17}$) to 20.947 per cent ($V_{14}$) and 5.217 ($V_9$) to 20.947 per cent ($V_{14}$) with the general mean values which were found 12.346 and 12.304 per cent, respectively. The maximum data were closely followed by the values of 17.900 ($V_{22}$), 15.717 ($V_{24}$), 15.357 per cent ($V_{19}$) and 20.777 ($V_{21}$), 17.933 ($V_{22}$), 15.450 per cent ($V_{24}$) during 1984-85 and 1985-86, respectively. Similar results have also been found by Hording et al. (1954), Pratt and Del Rosario (1913), Winton and Winton (1935), Cheema et al. (1954), Pope (1929), Bain (1930) in different fruit crops. Further, George and Heeton (1968), Katiyal (1949), Mittal and Thomas (1969), Tupy (1960), Ullah (1964), Vasiljeva (1937), Volovevevata (1958), Vej (1958), Venkataratnam and Satyamaryan-swami (1958). Young and Ledin (1954) young (1950), 1955, 1958), Vijai et al. (1977), Winkler (1930, 1935, 1920, 1939, 1965) and Prasad (1986) also found observed the similar results.
For discussion, the results were described where it found that the data on weight of the fruits varied from 77.667 \((v_{21})\) to 558.667 gm \((v_{10})\) and 79.667 \((v_{21})\) to 559.000 gm \((v_{22} - v_{10})\) with the general mean values which were found 211.773 gm and 211.763 gm during 1984-85 and 1985-86, respectively. And it was followed by the values 379.333 \((v_{9})\), 344.333 \((v_{8})\), 309.000 gm \((v_{15})\), and 368.000 \((v_{9})\), 358.667 \((v_{8})\), 305.000 gm \((v_{15})\) during both the years of 1984-85 and 1985-86, respectively. Such variations were also recorded by Bajpai (1965) in an onila \((Emblica officinalis\) Gaertn.), Chandra Mohan and Narayanswamy (1973) in rice \((Oryza sativa\) L.) Chadha et al. (1972), Prasad (1969) in Ber \((Zizyphus mauritiana\) Lamk.), Daulata and Bakshi (1970), Prasad (1970) in grapes \((Vitis vinifera\) L.) varieties, Khan (1929) in Litchi \((Litchi chinensis\) ), Prasad (1969) in Loquat \((Eriobotrya japonica\) Lindl.), Kashyap and Jyotishi (1972), Saha (1972), Singh et al. (1972), Rathore (1983), Mishra (1983) and Prasad and Nalini (1987) in mango.

The variation in volume were recorded where the data of volume of fruits varied from 77.750 \((v_{21})\) to 528.000 \((v_{10})\) and 478.000 \((v_{21})\) to 529.000 \((v_{10})\) with the general mean values of 214.639 and 215.578 during 1984-85 and 1985-86, respectively. The maximum values were followed by 349.750 \((v_{2})\), 327.000 \((v_{8})\), 324.717 \((v_{15})\), and 350.367 \((v_{9})\), 329.917 \((v_{8})\), 323.700 \((v_{15})\) during the years 1984-85 and 1985-86, respectively. These result
are in confirmation of the findings already reported by several workers Mukherjee 1957-59, 1959-1972, Popenoe 1957, Rathore 1983; Cheema and Dani, 1930; Chaudhari et al., 1957; Cooper, 1939; Amata, 1947; Permel (1941; Gupta and Roy, 1970; Negi and Suoot, 1972; Negi et al.; 1974; Negral, 1936; Nitsch et al.; 1952; Seemathani, 1965; 1965 a, 1968).

It was clear that the data on specific gravity of fruit varied from 0.783 (v_{23}) to 1.053 (v_{14}) and 0.810 (v_{19}) to 1.107 (v_{10}) with the general mean values of 0.947 and 0.257 during 1984-85 and 1985-86, respectively. The same were closely followed by the values of 1.047 (v_{9}), 1.033 (v_{8}), 1.030 (v_{24}) and 1.067 (v_{8}), 1.053 (v_{14}), 1.027 (v_{24}) during both the years of 1984-85 and 1985-86, respectively. These results are in accordance with the findings of Harkness et al. (1951) and Harkness and Cobin (1951). Further, Singh et al. (1965), Smith (1939), Solins (1939), Srivastava (1961), Smock (1937), Snyder (1937), Soost (1956), Standfuld (1937), Storey (1953, 1950), Stout (1936), Swoock (1934, 1944) Tatarincev and Sobolova (1951), Swart (1958), Teylor and Mister (1954), Tewari (1969), Teaotia and Chaudan (1963), Thakur and Singh (1969), Teaotia and Chauhan (1963), Thakur and Singh (1965), Thakur and Singh (1965 a), Thompson and Bator (1950) and
The data on peel content were found to vary from 7.880 (v_9) to 27.540 per cent (v_{22}) and 6.403 (v_7) to 23.803 per cent (v_{22}) with the general mean values of 13.522 and 13.304 during 1984-85 and 1985-86, respectively. It was closely followed by the values 22.340 (v_{23}), 20.167 (v_{18}), 19.293 per cent (v_{14}) and 19.867 (v_{23}), 19.477 (v_{18}), 19.257 per cent (v_{14}) during both the years of 1984-85 and 1986, respectively. Results on peel content in fruit has got an important place and the similar results have also been found Winkler (1930), Zoglar Branocheidt (1927), Sareen and Kleeva (1964, 1976), Sawaut (1958), Sax and Edmonds (1933), Majes (1962), and Sadar (1965), in other fruit crops.

It was clear that the data on weight of stone varied from 14.300 (v_{23}) to 49.117 g (v_{10}) and 14.5000 (v_{23}) to 49.333 g (v_{10}) with the general mean values of 23.624 g and 14.220 g during 1984-85 and 1985-86, respectively. The maximum value was closely followed by 42.150 (v_8), 38.867 (v_{14}), 37.687 g (v_{15}) and 40.500 (v_8), 38.933 (v_{14}), 37.433 g (v_{15}) during 1984-85 and 1985-86, respectively. Similarly Kashyap and Jotishi
Pur et al. (1945), Gandhi (1955), Ghai and Charia
(1976), Gardener et al. (1952), Bajpai et al. (1987),
Billingo (1934), Bioletti (1938), Blaha and Schmidt
(1939) and Prasad (1986), have also found the similar
findings in their experiments.

It was clear that the data on length of stone was
found to vary from 4.250 (V11) to 11.000 (V15) and 4.257
(V11) to 10.967 (V15) with the general mean values which
was found 6.763 and 6.767 during 1984-85 and 1985-86,
respectively. The same were closely followed by the values
of 9.623 (V1), 9.483 (V10), 8.137 (V9), and 9.607 (V1)
9.487 (V10), 8.103 (V14) during both the years of 1984-85
and 1985-86, respectively. Present results are in
accordance with the findings reported by the different
scientists on various crops (Bhatnagar and Chandra, 1976;
Brink, 1924, Chadha et al., 1972; Chadha and Pal, 1986;
Chaturvedi and Prasad, 1975; Dhuria and Randhawa,
1963; Desai and Patel, 1978; Diskohit, 1936;
Prasad and Malini, 1986).
The data on the observations of stone aspects have been described where it was clear that the Breadth of a stone varied from 2.170 (V₁₁) to 4.300 cm (V₁₃) and 2.450 (V₁₁) to 4.390 cm (V₉) with the general mean values which were found 3.255 cm and 3.453 cm during 1984-85 and 1985-86, respectively. These maximum values closely followed by 4.000 cm (V₉), 3.767 cm (V₇), 3.700 cm (V₁₇) and 4.200 cm (V₂₀) 4.117 cm (V₇), 4.067 cm (V₁₇) during both the years of 1984-85 and 1985-86, respectively. All the variations in the seed and stone characters have also been reported by Katayal (1949), Roger (1975), Anonymous (1940), Neumann (1952), and Stelter et al. (1957) in different fruit crops. Some special characters have also been detailed by Cooper (1939), Gane (1952), Crane (1937), Coramos and Brown (1939), Daniel (1965), Daniel and Varoczy (1957).

The data on the observations of stone have been recorded and it showed that the thickness of stone was varied from 1.097 (V₁) to 2.557 cm (V₁₂) and 1.127 (V₁) to 2.607 cm (V₁₂) with the general mean values which were found 1.876 cm during 1984-85 and 1985-86, respectively. It was found that they were closely followed by the values of 2.500 (V₃), 2.477 (V₁₅), 2.263 (V₄) and 2.477 (V₁₆), 2.427 (V₃), 2.280 (V₁₅) during both the years of 1984-85 and 1985-86, respectively. Present results are in accordance with findings reported by Kozma (1958), Kremer (1949).
Kremp (1965), Krishnamurthi and Madhana Rao (1965), Kumar (1952), Le Hulpe (1951), Lewis (1951), Maheshwari (1934-1944, 1949, 1950) and Maheshwari and Narayanaaswamy (1952), Mabk (1957), Mannu and Robinson (1950), Mariott (1959), Martin (1959), Melanta (1967), Micklem (1938), Miller (1951), Minocha (1976), Mukherjee (1949), Musahibuddin (1946) and Musahibuddin and Dinsa (1946) in several fruits.

The data on the observations of the Acidity have been studied and it exhibited that the data on Acidity content varied from 0.033 (V20) to 1.353 (V10) and 0.088 (V25) to 1.282 (V15) with the general mean values which were found 0.225 and 0.260 during 1984-85 and 1985-86, respectively. It was closely followed by the values 1.252 (V16), 0.657 (V3), 0.562 (V21) and 1.107 (V16), 1.018 (V20), 0.953 (V10) during both the years of 1984-85 and 1985-86, respectively. These findings are in conformity with the results reported by Bajpai (1965), Bolland (1970), Bentley (1939), Cherghi et al. (1972), Khalifa and Kuykendal (1965), Lerich (1951) and Leley et al. (1943), and Mishra et al. (1983), in other fruit crops.

The data on the observations of T.S.S. have been presented and described. In fact T.S.S. content varied from 18.017 (V22) to 24.167 per cent (V8) and 14.500 (V10).
to 24.650 per cent ($V_4$) with the general mean values which were found 20.731 and 21.182 during 1984-85 and 1985-86, respectively. The maximum/closely followed by the values 23.650 ($V_6$), 23.500 ($V_4$), 23.333 ($V_{16}$) per cent and 24.617 ($V_8$), 23.433 ($V_6$), 23.100 per cent ($V_{16}$) during both the years 1984-85 and 1985-86, respectively. Similar findings have also been reported by Prasad and Shukla (1978) in Custard apple (Anona squamosa L.) and ber Seth (1959), 1962) in psidium species, Snarma (1962, 1964) in Artocarpus, Singh (1961 a) in Malpighiaceae family and Singh et al. (1972). Mishra et al. (1983) and Prasad and Nalini (1987).

The data on the observations on sugar content have been presented and described where it was clear that the data on total sugar content varied from 9.657 ($V_{10}$) to 19.117 per cent ($V_{23}$) and 10.500 ($V_{10}$) to 19.140 per cent ($V_{23}$) with the general mean values which were found 15.429 and 15.397 per cent during 1984-85 and 1985-86, respectively. It was closely followed by the values of 18.960 ($V_{21}$), 18.150 ($V_4$), 18.090 ($V_8$) per cent and 18.500 ($V_4$), 18.417 ($V_{21}$), 17.333 per cent ($V_8$) during both the years 1984-85 and 1985-86, respectively.
Similar findings have also been reported by Mukherjee (1957-59, 1959-1972), popenoe et al., Mishra et al. (1983), in Mango (Mangifera indica L.) varieties.

It was found that the reducing sugar content have been recorded and it is clear that the data on non reducing sugar varied from 6.267 (V10) to 15.117 per cent (V23) and 9.080 (V1) to 15.277 per cent (V23) with the general mean values which were found 11.532 and 11.651 per cent during 1984-85 and 1985-86, respectively. Further, it was closely followed by the values 15.057 (V8), 14.387 (V81), 13.417 (V5) and 14.450 (V5), 14.300 (V23), 13.127 per cent during both the years of 1984-85 and 1985-86, respectively.

et al. (1974), Hawk and Summerson (1965) and Prasad and Nalini (1987) have also found the similar results in a promising variety of mango (Mangifera indica L.)

It was found that the reducing sugar varied from 2.650 (V19) to 6.267 per cent (V3) and 2.080 (V19) to 6.217 (V3) with the general mean values, which were found 3.877 and 3.863 during 1984-85 and 1985-86, respectively. In fact, content per they were followed by the values 5.167 (V17), 5.110 (V24), 4.677 (V22) and 5.077 (V29), 4.650 (V17), 4.467 (V16) during both the years of 1984-85 and 1985-86, respectively. These results are in accordance

It was found that the Vitamin 'C' content varied from 17.550 (V19) to 55.717 (V11) and 17.750 (V19) to 50.050 (V16) with the general mean values which were found 22.586 and 31.428 during 1984-85 and 1985-86, respectively. It was closely followed by the values of 45.557 (V17), 40.167 (V6), 37.833 (V9) and 45.383 (V17), 40.133 (V5), 38.833 (V8) during both the years, 1984-85 and 1985-86, respectively. Similar results have also been found by Barrot (1957) in grape (Vitis vinifera L.) Bajpai and Shukla (1978 b), Prasad (1986) and Prasad and Nalini (1987) in mango (Mangifera indica L.) varieties in central part of Uttar Pradesh.

The results of the data recorded in the different varieties revealed that the malformation have been found that the data on malformation varied from 4.650(V6) to 54.117 cm (V22) and 5.650 (V6) to 54.367 cm (V22) with the general mean values which were found 22.586 and 26.386 cm during 1984-85 and 1985-86, respectively. It was closely
followed by the values of $50.127\ (v_{23})$, $46.117\ (v_5)$, $39.517\ (v_1)$, $54.150\ (v_{18})$, $53.867\ (v_1)$, $50.550\ (v_{23})$ cm during both the years of 1984-85 and 1985-86, respectively. Results of present investigations are in accordance with the findings of Majumdar and Singh (1972), Prasad et al. (1972), Prasad et al. (1965) and Prasad, Nalini (1985).

The heritable character in the present findings gave some useful and encouraging results. In these results heritability ranged from $55.789\ (v_{28})$ to $99.989\ (v_{21})$ and $42.467\ (v_{27})$ to $99.930\ (v_{36})$ during 1984-85 and 1985-86, respectively. It was also found that genotypic advance and C.V. (Geno. and Pheno.) varied in a considerable amount. Similar results have also been reported by Negi et al. (1982), Prasad (1980), Prasad and Nalini (1986) in other varieties of fruit crops. It was rightly reflected that heritability showed a measuring parameter for the value of characters which will be selected in the future programme. However, this heritability value can vary in a range which may give a variable quality in the material (Randhawa and Dinsa, 1947; Randhawa and Negi, 1951; Negi et al., 1974; Prasad, 1986).
Correlation coefficients findings indicated in the positive and negative associations in different characters during both the years. It was also found that genotypic phenotypic and environmental correlations gave positive correlations in growth characters with fruit and its other aspects except some minor characters during 1984-85 and 1985-86. Present findings were in accordance to the results obtained by Negi et al. (1974), Prasad and Shukla (1978), Roger (1975) and Prasad and Nalini (1986).

Relationship of various characters studied by Path coefficient analysis gave a very useful results in the different aspects of mango varieties taken under the present investigations during 1984-85 and 1985-86. It was clear that path analysis in the genotypic and phenotypic levels showed positive response in the various relationships. Growth characters gave the major relationship in different varieties. Present findings of the growth characters are in accordance with the results obtained by other scientists engaged in the similar work of the fruit crops (Randhaw and Negi, 1961; Singh and Singh, 1965; Veerawamy et al., 1973; Negi et al., 1974, Minocha, 1976; Prasad, 1986; Prasad and Nalini, 1985, 1987).
The direct and indirect relationships observed in the different characters of studied by Path analysis also indicated some negative findings in the present investigations. Similar findings have also been reported by Spencer and Kennard (1956), Teotia (1971) and Prasad (1986) in mango; Randhawa and Negi (1974) and Yadava (1973) in grapes (*Vitis vinifera* L.). However, the path analysis revealed useful findings in mango varieties and this above discussion is beneficial for the future line of work.