Varietal identification and purity assessment are essential for maintenance, multiplication and seed certification of a variety. The importance of varietal identification as well as purity assessment for existing and the newly evolved genotypes has been felt necessary from the stage of varietal development, their maintenance and multiplication and multiplication to the final certification of the varieties. The different varieties of the same crop differing phenotypically are being bred continuously with simultaneous changes to meet the demands.

The literature on identification of crops through morphological characteristics and correlation among each character is reviewed as under.

2.1 Morphological characters

Plant and seedlings of various cultivars exhibit a wide range of morphological distinctness, which is helpful in varietal identification and genetic purity testing.

2.1.1 Plant characters

Manjunath (2007) to study the varietal characterization of two inter-specific (DCH-32 and DHB-105) and one intra-specific cotton hybrid (DHH-11) and their parents for various morphological characters and showed variation for leaf characters viz., leaf size, leaf shape, leaf colour, leaf incision and leaf hairiness. Whereas based on plant characters such as growth habit, stem pigmentation, stem hairiness and plant height (cm) and flower characters such as days to 50 per cent flowering, petal colour, petal spot, anther colour, position of stigma, boll shape, bract type and number of serrations on bract thus can be differentiated from each genotype.

Omonhinmin and Osawaru (2008) studied *Abelmoschus esculentus* (L.) Moench. (okra) and *Abelmoschus caillei* (A.Chev.) Stevels are commonly grown as vegetable crops in southern Nigeria. 24 characters were pooled for the analysis. Leaf characters were measured at the inception of the third leaf, floral characters at
inception of flowering. Flowering period was longer in *A. caillei* (>43 days) than in *A. esculentus*. *A. caillei* produced more fruits (77%) than *A. esculentus* (44%); taller plants were recorded for *A. caillei* (34.50-52.20 cm) than for *A. esculentus* (21.30-30.10 cm).

Oppong – Sekyere *et al.* (2011) analyzed 25 accessions of okra collected in Ghana were evaluated for phenotypic identity, diversity and quality based on morphological characters. Qualitative and quantitative characteristics were measured and scored as specified by the standard international crop descriptor for okra. The character under studied seed colour (dark, black, purple to black and whitish to black), seed shape (roundness, kindly and spherical), stem colour (green and purple), flower petal colour (golden yellow and yellow) and fruit colour (green, dark green to black, green to yellow and purple). In these characters dark stem colour, roundish seed shape, green stem colour, golden yellow petal colour and green fruit colour found in GH 4487 muomi and black stem colour, kidney seed shape, green stem colour, golden yellow petal colour and green fruit colour found in GH 4482 muomi.

Aruna *et al.* (2012) characterized the six cotton (*Gossypium hirsutum*) hybrids (NDLHH 240, WGHH 2, NSPHH 5, CSH 198, CICR 2 and LAHH 4) and their 12 parents (NARASIMHA, MCU 5, NA 1678, NA 4084, NA 1325, L604, CSH 19, CSH8, DS5, LD 327, AB 6 and M 2 respectively), grown during *kharif* 2011, were characterized using the morphological characters based on the National DUS test guidelines descriptors for cotton: stem pigmentation, leaf colour, petal colour, petal spot, position stigma, In these descriptors stem pigmentation found present in AB 6, DS5, LD 327, CICR 2, NARASIMHA, MCU 5, NDLHH 240, CSH 19, CSH 8, CSH 198, NA 4084, WGHH 2, NA 1325, L 604 and absent in M 2, LAHH 4, NA 1678, NSPHH 5 and petal colour found cream in AB 6, M 2, LAHH 4, MCU 5, NDLHH 240, CSH 19, CSH 8, CSH 198, NA 1678, NA 4084 and WGHH 2 and yellow in DS 5, LD 327, CICR 2, NARASIMHA, NA 1325 and L 604.

Eshiet and Jonathan (2015) analysed four cultivars of okra (NHAe-47-4, V35, LD88 and a local variety), of okra in CRD with each accession. The observation were recorded on number of days to flowering, plant height at flowering, number of leaves at flowering, mean number of pods per plant, pod length, mean number of seeds per pod, and mean weight of one hundred seeds, which were individually subjected to
analysis of variance (ANOVA) test. The results demonstrated that the okra varieties differed significantly (p<0.05) in number of days to flowering (71.75-112 days), plant height at flowering (49.75-128 cm), number of leaves at flowering (7.50-19.33), pod length (3.23-6.83 cm) and one hundred seed weight (3.87-4.42g).

Singh et al. (2015) characterized 36 cultivars of okra (Abelmoschus esculentus (L.) Moench) were grouped for 31 morphological characters adopted as per DUS guidelines. Three cultivars, i.e. Azad bhindi 3, Kashi Lalima and VROR 159 showed red stem colour while others have green stem colour. Cultivars Pusa A-4, Kashi Leela and Punjab Padmini were early in flowering (<35 days) while SB 2, Arka Anamika, Punjab 8, Kashi Pragati, HRB 55, Varsha Upahr, Hisar Naveen and Arka Abhay were medium (35-45 days), whereas other cultivars were late (>45 days) in flowering. Light green fruit colour was observed in 8 cultivars, viz., GO 2, GJO 3, Azad Bhindi 2, DI-87-5, Arka Abhay, VRO-3, Pusa Sawani and BO 2, whereas Azad Bhindi 3 and Kashi Lalima had light red fruit colour and rest of cultivars showed green fruit colour. Only three cultivars, viz., Susthira, No. 315 and Kashi Vibhuti exhibited short plant height (<90cm). Majority of the cultivars were classified under medium (90-120cm) and tall (>120cm) plant height group.

Olayiwola et al. (2015) characterized 10 Okra (Abelmoschus esculentus (L.) Moench) accessions over 2 years to determine the genetic diversity present in the germplasm accessions. Observations on days to flowering, number of branches and pods per plant, final plant height, pod length, pod width and pod yield were recorded. There was a sufficient amount of genotypes for all traits and the metroglyph analysis classified the genotypes into 6 groups based on morphological differences. Genotype NHGB/09/008(B) had the highest total index. Groups II and V had the largest within group variation indicating that within group improvement was possible.

Binalfew and Alemu (2016) analysed the fifty accessions of okra germplasm were collected from four major production regions in Ethiopia and were evaluated under field conditions at Melkassa Agricultural Research Center during main cropping seasons of 2015, with the objective of characterization of the germplasms. The characters indicated that 31.5 % germplasms were green and 17.18 % germplasms were red stem colour. 30.9 % germplasms were shallow, 29.4 % germplasms were medium and 36.3 % germplasms were deep depth of lobbing.
2.1.2 Seedling characters

Reddy (2005) grouped three cotton hybrids and their parental line on the basis of root length as long (20 cm), medium (15-20 cm) and short (<15 cm) and shoot length as long (>15 cm), medium (10-15 cm) and short (<10 cm).

Sankar et al. (2015) characterized on the viability and vigour parameters of various okra varieties. Seeds of ten okra varieties were evaluated by following observations viz., Germination percentage, 100 seed weight, speed of germination, root length, shoot length, seedling length, dry root weight, dry shoot weight, seedling dry weight, vigour index length, vigour index mass and seed vigour. He concluded that the variety shakti has been identified as the best variety for the especially these parameters. Whereas the varieties shakti, shivam and anjali was found superior for seed viability and vigour parameters. The analysis of variance revealed presence of considerable variability among the varieties for all the characters.

2.2 Genetic variability

Hazra and Basu (2000) revealed that there was a wide range of variations for plant height ( 80.8 cm), leaves per plant (28.9), nodes per plant (14.9), days to first flower (49.9), fruit weight (15 g), fruits per plant (10), seeds per fruit (53.3), fruit yield per plant (155.7g), moderate variations for primary branches per plant (2.9) and fruit length (12.9 cm) and lesser variations for node at first flower (4.8) and ridges per fruit (5.1). Primary branches per plant, which showed a moderate range of variation, recorded the highest genotypic coefficient of variation (GCV; 35.5%). However, plant height (14.3%), leaves per plant (16.6), fruit weight (20%), fruits per plant (16.9%), seeds per fruit (23%), and fruit yield per plant (17.7%) recorded a moderate GCV.

Bendale et al. (2003) showed a wide range of genetic variability for yield and yield-contributing characters viz., first flowering node, days to first harvest, pod length, pod weight, plant height, nodes per plant, intermodal length, number of branches per plant, fruiting period, number of pods per plant and yield per plant. The phenotypic variance (PCV) for all the 15 characters was higher than the genotypic variance (GCV). The number of branches per plant, yield per plant and number of pods per plant showed high GCV and PCV estimates.
Singh and Singh (2006) reported that the considerable amount of genetic variation was exhibited by number of branches per plant, fruit yield per plant, plant height and fruit length. The closer magnitude of genotypic and phenotypic coefficients of variation indicated that a greater magnitude was played by genotype rather than environment.

Manivannan et al. (2007) reported that significant variability was observed among parents and crosses for the entire characters except fruit diameter. The highest coefficient of variation (PCV 24.63 and GCV 23.95) was observed for 100-seed weight.

Naidu et al. (2007) reported that the highly significant differences between genotypes were recorded for all the characters. While, higher fruit yield (221.0g/plant) was observed in JAE-14 followed by JAE-18(199.5g/plant) whereas, the lowest fruit yield was noted in JAE-4 (98 g/plant).The Maximum range of mean value was observed for yield per plant and the minimum for number of ridges per fruit. High degree of variability was observed for plant height, number of fruits per plant, fruit weight and fruit yield per plant.

Saifullah and Rabbani (2009) reported that 121 okra genotypes collected from different parts of Bangladesh were characterized and evaluated for different quantitative and qualitative traits in summer season. That the significant variations among the genotypes were observed for different characters studied. The GCV and the PCV were very close in most of the characters which indicated less environmental influence on the expression of those characters.

Kumar et al. (2011) found that the analysis of variance (mean sum of squares) revealed significant differences among genotypes for all the characters under study. The results based on GCV and PCV indicated considerable genetic variability among the genotypes for height at first fruiting node, number of node at first pod appearance, plant height, number of nodes per plant, number of pods per plant and pod yield per plant.

Ojo et al. (2012) analysed the five cultivars of okra (Guntu, Dogo and Ex-Ajia NH47 – 4 and LD 88) in RCBD in 3 replications. Highly significant variety effect was observed for all the traits (days to flowering, plant height, pod length, pod diameter,
number of pods per plant, weight of fresh pods per plant and 100 – seed weight) studied, indicating that among the cultivars the differences are there.

Sharma and Prasad (2015) investigated that the phenotypic variance and coefficient of variation were higher than their respective genotypic variance and coefficient of variation for all the traits indicated the environmental effects on their expression. The differences between genetic coefficients of variation (GCV) and phenotypic coefficient of variation (PCV) were high for fruit diameter (FD) followed by number of branches per plant (NB), days to 50% flowering (DF), fruit weight (FW) and days to first harvest (FH) indicating the vulnerability of traits to environmental influences reflects the possibilities of varietal improvement.

2.3 Heritability and genetic advance

Hazra and Basu (2000) revealed that the plant height, fruit weight, ridges per fruit and seeds per fruit, were highly heritable (above 80% heritability) while primary branches per plant, leaves per plant, days to first flower, fruit length, fruits per plant and fruit yield per plant were moderately heritable (60-75% heritability). Primary branches per plant, seeds per plant, seeds per fruit and fruit weight had high heritability values with above average to high genetic advance.

Manivannan et al. (2007) revealed that the high heritability (94.5%) and the highest genetic advance as percent of mean (1.870) were observed for 100-seed weight.

Naidu et al. (2007) observed that high estimate of heritability and genetic advance were obtained in number of nodes to first flower, number of fruits per plant, number of seeds per fruit and fruit yield per plant.

Saifullah and Rabbani (2009) analysed 121 okra genotypes collected from different parts of Bangladesh were characterized and evaluated for different quantitative and qualitative traits in summer season. The high heritability estimates along with considerable genetic advance were noticed in days to first flowering, plant height, number of primary branches per plant, number of internodes per plant, number of fruits per plant, fruit weight, and fruit yield per plant provided the basis for selection.
Kumar et al. (2011) found that the heritability coupled with genetic advance indicated for height at first fruiting node, number of node at first pod appearance, plant height, number of nodes per plant, number of pods per plant and pod yield per plant.

Reddy and Sridevi (2014) obtained high estimates of heritability coupled with high genetic advance obtained for fruit yield per plant indicating presence of additive gene effects which indicated the effectiveness of selection for these traits. Presence of high heritability coupled with low genetic advance for average fruit weight, plant height and fruit diameter revealed that straight selection has limited scope for further improving these traits.

Mishra et al. (2015) investigated the genetic variability in okra was conducted with thirty-three genotypes including four national check varieties with the objective of improving yield through selection. The results revealed that wide variability was found for different traits in okra. The presence of moderate to high heritability coupled with moderate genetic advance for fruit weight, days to 50% flowering, fruits per plant as well as fruit yield per plant indicated their possibility of improvement with simple selection procedure in okra.

2.4 Correlation coefficient analysis

Hazare and Basu (2000) reported that the fruit yield per plant was significantly and positively associated with plant height, whereas, days to first flowering showed negative association with number of fruits per plant.

Dhankar and Dhankar (2002) observed that the number of fruits per plant was positively associated with number of branches per plant and plant height was negatively correlated with days to 50% flowering. Fruit yield can be improved through selection for higher number of fruits and branches and medium height.

Gandhi et al. (2002) reported that the fruit yield was highly and significantly dependent on number of nodes per plant, inter nodal length, number of fruits per plant and seed yield per plant. The interdependency of other characters on each other’s was also recorded.
Nimbalkar et al. (2002) observed that the dry fruit yield exhibited positive and significant correlation with number of days to maturity, plant height, seed yield per plant and number of fruits per plant, seed yield recording the highest correlation (r=0.667) with dry fruit yield.

Singh and Singh (2006) observed that plant height, fruit length and number of fruits were positively associated with fruit weight per plant.

Niranjan and Mishra (2003) observed that fruit yield was positively and significantly correlated with edibility period of fruits, number of fruits per plant, fruit length, number of seeds per fruit, fruit weight, plant height and number of branches per plant at both genotypic and phenotypic levels. Associations were significant at the genotypic levels only between edibility period of fruit and number of branches per plant. All characters had positive and significant association among each other at both levels.

Jaiprakash narayan and Mulge (2004) noticed that total fruit yield per plant was positively and significantly correlated with number of fruits per plant, average fruit weight, number of nodes on main stem, fruit length, plant height at 60 and 100 days after sowing and number of leaves at 45 and 100 days, but negatively and significantly correlated with number of locules per fruit, number of nodes at first flowering and first fruiting.

Patro and Ravishankar (2004) observed that fruit yield per plant have significant and positive correlation with number of branches per plant, fruit length and fruit weight. Significant negative correlation of fruit yield per plant was recorded with plant height and number of days taken to first pod setting.

Akinyele and Osekita (2006) analysed NH47-4 variety of okra (Abelmoschus esculentus (L.) Moench) was grown in two locations for two years from seeds collected from the National Institute of Horticultural Research and Training (NIHORT), Nigeria. The component of seed yield considered was days to flowering, number of branches per plant, number of pods per plant, final height, pod length, pod width, number of seeds per pod and weight of hundred seeds. Seed yield per plant showed significant positive correlation with number of pods per plant, height at flowering, pod width and weight of hundred seeds.
Mehta et al. (2006) analysed the correlation and path coefficients analyses were studied in 22 diverse genotypes of okra for fruit yield and its component traits and observed the fruit yield was significant and positively correlated with fruit length and fruit weight.

Singh et al. (2006) reported that fruit yield per plant was positively and significantly correlated with fruit length, fruit diameter, fruit weight and number of fruits per plant.

Mohapatra et al. (2007) evaluated 23 genotype of okra for different yield traits estimated that total fresh yield per plant had a positive and significant phenotypic and genotypic correlation with number of fruits per plant, fruit girth, fruit diameter, inter nodal distance and fruit weight.

Singh et al. (2007) observed that fruit yield had significant positive genotypic and phenotypic correlation with number of fruit, fruit length and plant height. Number of fruit showed significant positive genotypic and phenotypic associations with plant height and fruit length.

Ali et al. (2008) reported that the Correlation coefficients were estimated among parents, F$_1$ hybrids and F$_2$ population separately at genotypic and phenotypic correlation coefficients. The correlation coefficients were consistently significant and positive in all the three population between fruit yield per plant and number of fruits per plant at both genotypic and phenotypic levels. The consistency was also observed in F$_1$ and F$_2$ generations between fruit yield per plant and plant height at both genotypic and phenotypic levels. Fruit yield per plant showed significant and positive correlation between length of fruit and width of fruit at genotypic level in both F$_1$ and F$_2$ generations.

Osekita and Akinyele (2008) noticed that there is a strong relationship between pod length and pod width with the number of seeds per pod.

Sanjay et al. (2009) investigated that twenty genotypes viz. (Pusa Makhmali, VRO-6, VRO-5, Selection-10, IIIVR-10, HRB-10, IIIVR-1, Perkin's Long Green, VRO-4, HRB-9-2, Parbhani Kranti, RS-410, Punjab-7, DOV-91-4, D-1-S7-1, EMS-S-1, Bhindi Vaphy, 315 and BO-2) and were sown in randomized block design with
three replications. The experiment was carried out at Vegetable Research Farm, Department of Horticulture, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi (U.P.). The most important trait, number of flowers per plant was positively and significantly correlated with number of leaves per plant, diameter of stem and number of days to flower at genotypic and phenotypic levels.

Nasit et al. (2009) investigation on interrelationship of 13 quantitative characters using 48 genotypes of okra was carried out at Junagadh during summer 2007. Correlation studies revealed that ten fruits weight, number of fruits per plant, fruit length, plant height and number of nodes per plant were the yield contributing characters.

Ojo et al. (2012) analysed the five cultivars of okra (Guntu, Dogo and Ex-Ajia NH47 – 4 and LD 88) in RCBD in 3 replications constituted the treatments. A positive correlation was observed among the yield components of pod length, pod diameter, number of pods per plant, fresh weight of pods per plant and 100 – seed weight, indicating the prospect of simultaneous selection for these traits. The highest values for pod length, pod diameter, number of pods per plant and 100 – seed weight observed for Ex – Ajia, NH47 – 4 and Dogo is an indication that these three varieties have the potential for good performance in the dry season and should be selected for dry season production in the southern guinea savanna ecology of Nigeria.

Koundinya and Dhankhar (2013) analysed the correlation coefficient of ten characters of okra genotypes. In this seed yield per plant had significant positive association with plant height (0.210), fruits per plant (0.631), fruit yield per plant (0.606) and seeds per fruit (0.596), whereas it exhibited significant negative association with days to 50% flowering (-0.308).

Prajna et al. (2015) evaluated the Forty-five okra genotypes in randomized complete block design with two replications. Fruit yield per plant showed highly significant and positive correlation with fruit yield per plot and fruit yield per hectare. Fruit yield per plant showed highly significant negative correlation with average fruit weight. Fruit yield per plant showed indirect positive effect via plant height at 45 days after sowing(DAS) and internodal length at 90 DAS. Fruit yield per plant showed significant and negative indirect effect via number of fruits per plant and number of
leaves per plant at 45 DAS.

Reddy et al. (2013) analysed the one hundred germplasm lines of okra were evaluated in a randomized block design with two replications at the Vegetable Research Station, Rajendranagar, Hyderabad, during kharif, 2008. Correlation analysis was carried out to study the character association and contribution, respectively, for thirteen quantitative characters, namely plant height (cm), number of branches per plant, internodal length (cm), days to 50% flowering, first flowering node, first fruiting node, fruit length (cm), fruit width (cm), fruit weight (g), total number of fruits per plant, number of marketable fruits per plant, total yield per plant (g) and marketable yield per plant (g) for the identification of appropriate selection indices. Phenotypic and genotypic correlation coefficient analysis revealed that plant height, fruit length, fruit width, fruit weight, total number of fruits per plant, number of marketable fruits per plant and total yield per plant had significant positive correlation, while number of branches per plant, internodal length, days to 50% flowering, first flowering node and first fruiting node had significant negative correlation with marketable yield per plant.

Shrishail et al. (2013) analysed the yield per plant showed strong genotypic correlation with number of fruits per plant, fruit weight and fruit girth. Significant negative correlation of yield with days to 50% flowering was noticed. Plant height and crop duration showed positive significant genotypic correlation among them. It is noteworthy that the present study suggested highly significant negative correlation between number of fruits per plant and fruit weight both at genotypic and phenotypic levels, whereas number of fruits per plant had positive genotypic correlation with fruit girth.

Simon et al. (2013) studied the correlation and path coefficients analysis in 16 F₁ (hybrids) in Okra. The results obtained showed highly significant variation in all the genotype (number of leaves per plant, number of branches, number of pods per plant, seed yield per plant) except days to 50% flowering.

Adekoya et al. (2014) reported that Inter-character correlations of yield related characters were evaluated in some quantitative traits of okra (Abelmoschus esculentus (L.) Moench) grown under different cropping seasons. Data collected were subjected
to correlation analyses to determine the relationships among the characters. Correlation coefficients among characters varied among seasons. Days to flowering, number of pods per plant, length of matured pod, weight of matured pods per plant, number of ridges per pod, number of seeds per pod and 100 seed weight had significant genotypic correlations with seed yield per plant across the seasons.

Nirosha et al. (2014) characterized 49 genotypes including 7 and 42 crosses of okra to determine nature of association among different yield attributes and their direct and indirect contribution towards yield. The fruit yield has significantly positive correlation with plant height, number of branches per plant, fruit length, fruit weight, number of fruits per plant, marketable yield per plant at both genotypic and phenotypic level, indicating mutual association of these traits.

Ahamed et al. (2015) revealed that significantly positive correlation was between 100-seed weight and yield per plant ($r = 0.44$), 100-seed weight and leaf length ($r = 0.42$), 100-seed weight and leaf diameter ($r = 0.38$), number of leaves per plant and 100-seed weight ($r = 0.28$), 100-seed weight and plant height ($r = 0.40$), 100-seed weight and fruit length ($r = 0.28$). Significantly positive correlations were also observed for plant height and number of fruits per plant, number of leaves per plant and fruit yield per plant.

Mishra et al. (2015) investigated the correlation in okra was conducted with thirty-three genotypes including four national check varieties with the objective of improving yield through selection. The results revealed that highly significant and positive correlation of fruit yield per plant with plant height, nodes per plant and fruits per plant was observed.

Binalfew and Alemu (2016) analysed the fifty accessions of okra germplasm were collected from four major production regions in Ethiopia and were evaluated under field conditions at Melkassa Agricultural Research Center during main cropping seasons of 2015. There was a strong positive correlation between total fruit number and yield per plant ($r = 0.84$) first fruit producing node and plant height ($r = 0.39$) and number of seeds per fruit and the length of commercial fruit ($r = 0.44$).

Kumar and Reddy (2015) reported that twenty-four genotypes of okra were evaluated in RBD with 3 replications during summer 2013. Correlation analyses
revealed that the genotypic correlation coefficient of plant height, number of branches per plant, intermodal length, fruit length, fruit weight and number of marketable fruits per plant with marketable yield per plant was significantly positive.

2.5 Path coefficient analysis

Mehta et al. (2006) revealed that fruit girth had the maximum direct effect followed by fruit length towards fruit yield. Thus, the fruit yield in okra can be improved by selecting for higher fruit length, fruit girth and average fruit weight simultaneously.

Akinyele and Osekita (2006) analysed the path coefficient analysis revealed that number of pods per plant and height at flowering had the highest direct effect on seed yield. This suggests that the two attributes have a strong influence on seed yield. Hence, number of pods per plant and height at flowering are the main determiners of seed yield per plant in the studied variety.

Magar and Madrep (2009) reported that 41 genotypes of okra path coefficient study the number of fruits per plant had the maximum direct contribution towards total yield followed by fruit weight, plant height and days to first flowering. These important traits may be viewed in selection programme for the further improvement of okra.

Nasit et al. (2009) investigation on path analysis of 13 quantitative characters using 48 genotypes of okra was carried out at Junagadh during summer 2007. The positive association of fruit length and ten fruit weight with yield was due to their direct positive contribution. Number of fruits per plant had maximum indirect contribution via fruit length and ten fruit weight in building strong positive association with fruit yield.

Ramanjinappa et al. (2011) revealed that in path coefficient analysis, number of fruit per plant had the highest direct influence towards fruit yield per plant followed by number of seeds per fruit, harvest index and number of nodes per plant.
Gangashetti et al. (2013) investigated that path analysis depicted high effect on number fruit per plant, fruit weight, plant height, and number of branches per plant with fruit yield per plant.

Jagan et al. (2013) analysed the path coefficient effects in okra to identifying the desirable combiners. The experiment comprising 60 hybrids obtain by crossing using 19 parents (four lines viz., Arka Anamika, Arka Abhay, Parbhani Kranthi, Varsha Upar and fifteen testers viz., IC-332453, IC-433640, IC-326893, IC-332454, IC-433672, IC-433670, IC-328942, IC-433690, IC-433673, IC-33102, IC-433695, IC-331067, IC-433675, IC-433645 and IC-331217. the path coefficient analysis was done to determine the direct and indirect effects on fruit yield per plant viz., plant height, days to 50% flowering, days to maturity, the node at which first flower appears, number of branches per plant, number of fruits per plant, length of the fruit, the diameter of the fruit, ten pods weight.

Koundinya and Dhankhar (2013) analysed the path coefficient analysis of ten characters of okra genotypes. The character under studied in which fruit yield per plant (1.5114) and seeds per fruit (0.6318) exhibited high positive direct effect on seed yield per plant.

Prajna et al. (2015) evaluated the path coefficient analysis of Forty-five okra genotypes in randomized complete block design with two replications. In this fruit yield per plant showed indirect positive effect via plant height at 45 days after sowing (DAS) and internodal length at 90 DAS. Fruit yield per plant showed significant and negative indirect effect via number of fruits per plant and number of leaves per plant at 45 DAS.

Nirosha et al. (2014) reveled that path coefficient analysis revealed that number of fruits per plant had maximum direct contribution (0.434) towards total yield followed by fruit weight (0.083), days to 50 per cent flowering (0.041) plant height (0.014), number of branches per plant (0.019).

Mihretu et al. (2014) reported that path coefficient analysis at genotypic level revealed that internodes number had high positive direct effect on fruit yield (p=6.90) followed by average fruit weight (p=6.89) which had positive genotypic correlation
with yield. The present study indicated a considerable amount of variability for majority of quantitative characters in okra for exploration.

Saryam et al. (2015) found that phenotypic path coefficient analysis revealed traits viz., number of fruits plant (0.733) followed by number of seeds fruit (0.165), number of branches plant (0.147), fruit diameter (0.133), fruit weight (0.097), days to maturity (0.058), fruiting span (0.056), 100 seed weight (0.055), stem diameter (0.027) and plant height (0.023) have positive and high direct effects with fruit yield per plant. Number of fruits plant, fruit diameter, fruit length, plant height, number of seeds fruit, days to maturity, fruit weight, and stem diameter indicating importance of these characters and can be strategically used for selection criteria to develop and improve high yielding okra varieties.

Ahamed et al. (2015) revealed that path coefficient analysis was done to determine direct and indirect effects of traits on fruit yield. Direct significant positive and negative effect of number of fruits per plant (-0.091), 100-seed weight (0.174), number of seeds per plant (-0.213), average fruit yield (-0.310) towards yield.

Sharma and Prasad (2015) reported that number of fruits per plant (NP) and fruit weight (FW) contributed major direct positive effect to fruit yield per plot, whereas, number of branches per plant (NB) and days to first harvest (FH) showed highest negative direct effect on yield component. Plant height, however, showed the highest positive indirect effect via number of fruits per plant and negative indirect effect via fruit weight. Number of branches (NB) showed positive indirect effect \(via\) number of fruits per plant (0.7655) and plant height (0.2728) and negative indirect effect via fruit weight (-0.2830). The estimated residual effect found was 0.0118 indicated about 98.82% of variability in fruit yield was contributed by yield affecting characters studied.

Kumar and Reddy (2015) reported that twenty-four genotypes of okra were evaluated in RBD with 3 replications during summer 2013. Path analysis revealed that direct effect on marketable yield per plant was negative or negligible with plant height, number of branches per plant, intermodal length, fruit length, fruit weight and number plant, inter nodal length, fruit length, fruit weight and number of marketable fruits per plant.