CHAPTER - VI
SUMMARY AND CONCLUSION

The present investigation entitled “effect of pre-sowing treatment on seed nut germination and seedling growth of coconut (Cocos nucifera L.) cv. TxD.” was conducted at Fruit Research Station, Mangrol, Junagadh Agricultural University, Junagadh during 2016-2017.

The experiment was laid out in Complete Randomized Design (CRD) with three replications. In all, there were nine treatment repeated three times, comprising of nine pre sowing treatments control without any treatment (T1), water soaking for 10 days without punching (T2), water soaking for 10 days with punching (T3), water soaking for 20 days without punching (T4), water soaking for 20 days with punching (T5), soaking of seed nut in 8000 ppm solution of thiourea for 24 hours without punching (T6), soaking of seed nut in 8000 ppm solution of thiourea for 24 hours after punching (T7), soaking of seed nut in 12000 ppm solution of thiourea for 24 hours without punching (T8) soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching (T9). The observations on number of days taken to germination of seed nut, germination percentage, height of seedling, number of leaves per plant, leaf area per plant, girth at collar region of seedling, number of roots, root length, fresh weight of root, fresh weight of stem, dry weight of root, dry weight of stem, total dry weight, survival percentage and economics were recorded.

The results presented and discussed in previous chapters are summarized as under.

6.1. No of days taken to germinate the seed nut.

Among different pre-sowing treatments tried, the treatment T5 (water soaking for 20 days with punching) i.e. 98.67 days, was found superior with respect to earliness in germination, followed by the treatment T9 (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) and T3 (water soaking for 10 days with punching).

6.2. Germination percentage at 150 days after sowing of seed nut.

Among different pre-sowing treatments, maximum germination percentage was found in the treatment T5 (water soaking for 20 days with punching) i.e. 80.00 % at 150 days, followed by the treatment T3 (water soaking for 10 days with
punching) and the treatment $T_9$ (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut).

6.3. Height of seedling at 150, 210, 270 and 330 days after sowing of seed nut.

Maximum height of seedling was noted in the treatment $T_9$ (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) i.e. 51.09, 109.56, 141.29 and 166.92 cm, at 150, 210, 270 and 330 days respectively. In various pre-sowing treatments, second best treatment was $T_5$ (water soaking for 20 days with punching).

6.4. Number of leaves per plant at 150, 210, 270 and 330 days after sowing of seed nut.

Among different pre-sowing treatments, the treatment $T_9$ (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) produce maximum number of leaves 2.67, 3.87, 4.67 and 5.80 at 150, 210, 270 and 330 days respectively. In various pre-sowing treatments second best treatment was $T_5$ (water soaking for 20 days with punching).

6.5. Leaf area per plant at 150, 210, 270 and 330 days after sowing of seed nut.

Among different pre-sowing treatments tried, the treatment $T_9$ (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) produce maximum leaf area per plant 535.67, 1980.07, 3737.80 and 5490.33 cm$^2$, at 150, 210, 270 and 330 days respectively. In various pre-sowing treatments, second best treatment was $T_5$ (water soaking for 20 days with punching).

6.6. Girth at collar region of seedling (cm).

Maximum girth at collar region (17.57 cm), was observed at 330 days after sowing under the treatment $T_9$ (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut). In various pre-sowing treatments, second best treatment was $T_5$ (water soaking for 20 days with punching).

6.7. Number of roots per plant at uprooting.

Among different pre-sowing treatments tried, seed nut treated with the treatment $T_5$ (water soaking for 20 days with punching), produce maximum number of roots (15.93) at 330 days after sowing of seed nut, followed by the treatment $T_9$ (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) and $T_3$ (water soaking for 10 days with punching).
6.8. Root length (cm).

Maximum root length (29.09 cm), was observed at 330 days after sowing under the treatment T_5 (water soaking for 20 days with punching). In various pre-sowing treatments, second best treatments were T_9 (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) and T_3 (water soaking for 10 days with punching).

6.9. Fresh weight of root (g).

The highest fresh weight of root (14.49 g), was noted at 330 days after sowing in the treatment T_5 (water soaking for 20 days with punching). In various pre-sowing treatments, second best treatments were T_9 (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) and T_3 (water soaking for 10 days with punching).

6.10. Fresh weight of stem (g).

The highest fresh weight of stem (214.13 g), was found at 330 days after sowing in the treatment T_9 (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut). In various pre-sowing treatments second best treatment was T_5 (water soaking for 20 days with punching).

6.11. Dry weight of root (g).

The highest dry weight of root (6.89 g), was noted at 330 days after sowing in the treatment T_5 (water soaking for 20 days with punching). In various pre-sowing treatments, second best treatments were T_9 (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut) and T_3 (water soaking for 10 days with punching).

6.12. Dry weight of stem (g).

The highest dry weight of stem (108.53 g), was found at 330 days after sowing in the treatment T_9 (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut). In various pre-sowing treatments, second best treatment was T_5 (water soaking for 20 days with punching).

6.13. Total dry weight (g).

Among different pre-sowing treatments tried, the treatment T_9 (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut)
was found superior, with respect to total dry weight (115.20 g), followed by the treatment T₅ (water soaking for 20 days with punching).


Among different pre-sowing treatments tried, the treatment T₅ (water soaking for 20 days with punching) i.e. 76.67 % was found superior with respect to germination, followed by the treatment T₃ (water soaking for 10 days with punching) and T₀ (soaking of seed nut in 12000 ppm solution of thiourea for 24 hours after punching on seed nut).

6.15. Economics.

As per economics point of view, treatment T₅ i.e. water soaking for 20 days with punching was found Rs. 1070 net realization/Treat. followed by water soaking for 10 days with punching (Rs. 950/Treat).

Conclusion

On the basis of experimental result it can be concluded that, water soaking for 20 days with punching was found most effective for early in germination, increase germination percentage, number of roots, root length, fresh weight of root, dry weight of root, survival percentage of seedling, maximum net realization and cost benefit ratio.