CHAPTER – VI
SUMMARY AND CONCLUSION

An investigation was carried out during rabi season, 2016-17 at Instruction Farm, Department of Agronomy, College of Agriculture, Junagadh Agricultural university, Junagadh to study the effect of zinc and iron on growth and yield of coriander (Coriandrum sativum L.). The experiment was laid out in Randomized Block Design with three replications. The experiment consisted twelve treatments viz., T₁ : Control, T₂ : Soil application of ZnSO₄ @ 10 kg/ha, T₃ : Soil application of ZnSO₄ @ 20 kg/ha, T₄ : Soil application of FeSO₄ @ 10 kg/ha, T₅ : Soil application of FeSO₄ @ 20 kg/ha, T₆ : Soil application of ZnSO₄ @ 10 kg/ha + FeSO₄ @ 10 kg/ha, T₇ : Soil application of ZnSO₄ @ 20 kg/ha + FeSO₄ @ 10 kg/ha, T₈ : Soil application of ZnSO₄ @ 20 kg/ha + FeSO₄ @ 20 kg/ha, T₉ : Soil application of ZnSO₄ @ 20 kg/ha + FeSO₄ @ 20 kg/ha, T₁₀ : Foliar spray of 0.5 % ZnSO₄ twice at 40 DAS & 55 DAS, T₁₁ : Foliar spray of 0.5 % FeSO₄ twice at 40 DAS & 55 DAS, T₁₂ : Foliar spray of 0.5 % ZnSO₄ + 0.5 % FeSO₄ twice at 40 DAS & 55 DAS. The crop was sown keeping 30 cm apart and fertilized with RDF (20: 10: 0 NPK kg/ha) uniformly as basal application to all plots.

The salient features of the findings are summarized here under:

6.1 EFFECT OF ZINC AND IRON

- Application of zinc sulphate and iron sulphate didn’t manifest their significant effect on plant population at initial stage and harvest.
- Application of zinc sulphate and iron sulphate gave nonsignificant effect on plant height at 30 DAS. Two foliar spray of 0.5 % ZnSO₄ + 0.5 % FeSO₄ recorded significantly higher plant height of 53.70 cm and 57.70 cm at 60 DAS and at harvest, respectively.
- Number of umbels per plant, number of umbellates per umbel and seeds per umbellate enhanced significantly with two foliar spray of 0.5 % ZnSO₄ + 0.5 % FeSO₄ (18.87, 6.966 and 10.27), which was at par with two foliar spray of 0.5 % FeSO₄ (18.30, 6.833 and 09.93) and two foliar spray of 0.5 % ZnSO₄ (17.83, 6.66 and 09.67), respectively.
Application of two foliar spray of 0.5% ZnSO₄ + 0.5% FeSO₄ produced highest significantly seed yield (1426 kg/ha) and stover yield (1326 kg/ha) which being at par with the two foliar spray of 0.5% FeSO₄ and 0.5% ZnSO₄.

Application of zinc sulphate and iron sulphate did not show any significant effect on harvest index.

The significantly higher nitrogen content in seed and total uptake of nitrogen by seed and stover was recorded with two foliar sprays of 0.5% ZnSO₄ + 0.5% FeSO₄ which was at par with two foliar spray of 0.5% FeSO₄ and two foliar spray of 0.5% ZnSO₄. While application of zinc sulphate and iron sulphate gave non significant effect on nitrogen content in stover.

Application of two foliar sprays of 0.5% ZnSO₄ + 0.5% FeSO₄ gave significantly higher phosphorus content and uptake in seed and stover.

The significantly higher total zinc content in seed and stover and uptake by seed and stover was recorded with application two foliar sprays of 0.5% ZnSO₄ + 0.5% FeSO₄.

Application of two foliar sprays of 0.5% ZnSO₄ + 0.5% FeSO₄ gave significantly higher iron content and uptake by seed and stover.

Available zinc and iron status in soil after harvest of coriander show significant effect with application of zinc sulphate and iron sulphate, whereas available nitrogen and phosphorus status in soil after harvest of coriander did not show any significant variation with different treatments.

Application two foliar sprays of 0.5% ZnSO₄ + 0.5% FeSO₄ of gave maximum net returns (₹ 58041/ha) and B: C ratio (2.92).

6.2 CONCLUSION

Experimental results indicated that potential production and profit can be obtained by application of foliar spray of zinc sulphate @0.5% + iron sulphate @ 0.5% twice at 40 and 55 DAS.