5. SUMMARY

The present experimental work was carried out at the Rabbitry Research Laboratory belonging to Animal and Fish Production Department, Faculty of Agriculture (Saba Basha), Alexandria University. This study was undertaken during the summer season of Alexandria City during the period from July to August 2013.

The study investigated the effects of garlic, ginger and their mixtures and ginseng on the growth performance, carcass, organs, haematological indices and serum blood biochemistry of weaned V-line rabbits.

Forty five weaned V-line rabbits of both sexes with initial weights of 812.0 ± 11.3 g were used for the study. The rabbits were randomly allocated to five treatments groups of 9 rabbits each. Each treatment was further sub-divided into 3 replicate of 3 rabbits.

Five experimental diets were formulated such that diet 1 contained neither garlic or ginger nor ginseng. Diets 2 and 3 contained 0.25% garlic and 0.25% ginger, respectively. Diet 4 contained a mix of 0.25% garlic and 0.25% ginger, while diet 5 contained 10 g ginseng / 100 Kg diet. The composition and calculated analysis of the basal experimental diet was presented in Table 1. Pellets of the experimental diets were made as follow, pelleting was initiated by molasses addition as binding material and then all diet ingredients were pressed at 70C°, after that pellets were cooled. The basal experimental diet was formulated to cover all essential nutrient requirements for growing rabbits according to NRC (1977).

The obtained results showed that

1- Dietary supplementations did not significantly ($P \leq 0.05$) influence the final live weight and daily weight gain of the V-line growing rabbits.

2- Diet containing 0.25 % dried garlic, 0.25 % ginger and 10 g ginseng / Kg diet insignificantly increased feed intake at the first period (6 – 8 week) of the experiment compared with control. However, the results showed that feeding rabbits on diet containing combination of garlic and ginger gave the least value of feed intake during the period 6 – 8 weeks of age compared with other experimental diets. The results demonstrated also that garlic diet alone showed significant ($P \leq 0.05$) increase in feed intake as compared to the group given the mixed supplementation (garlic plus ginger).

3- Feed conversion ratio during 8 – 10 weeks of age was significantly improved by 24.0 % due to 0.25 % garlic supplementation treatment, compared to the control. However 0.25 % ginger had significantly the best value of improving feed conversion ratio as compared to the control group and the other experimental groups. It improved feed conversion ratio by 26.7 % than control one. The mixed supplementation of garlic and ginger also had significant effect on this trait and improved it by 25.8 % as compared to the control group.

4- The different supplementations had significant ($P \leq 0.01$) effect on digestibility of crude protein, ether extract and nitrogen free extract. Generally, there was no significant effect of treatments on digestibility of crude fiber.

5- The different treatments had insignificant effect on pre slaughter weight of rabbits at 12 weeks of age .The percentage of dressing, liver, heart, lungs, head, intestine, kidney and fur of rabbits fed the experimental diets were insignificantly affected by different treatments, whereas, significant effect due to treatments was found in percentage weight of spleen and cecum.

6- Results on haematological parameters of the rabbits show a general increase ($P \leq 0.05$) in PCV and RBC and insignificant differences in WBC, and Hb of rabbits fed ginger, garlic and their mix or ginseng supplemented diets.

7- Results indicated that serum total lipids significantly ($P \leq 0.05$) and total cholesterol insignificantly decreased due to addition of different feed additives as compared to the control group. However, low density lipoprotein significantly ($P \leq 0.05$) decreased by adding garlic in rabbits diet as compared to control and the other experimental groups. On the other hand, high density lipoprotein concentration insignificantly increased by addition of different feed additives.

8- The feed additives increased total antioxidant capacity in blood serum as compared to the control group; however, they reduced lipid peroxidation in serum expressed as serum malondialdehyde (MDA).

Therefore, it may be concluded that supplementing garlic, ginger and their mixture to growing rabbit diets improve feed conversion ratio, performance index (except, ginceng supplementation) and reduced blood total lipids, triglycerides, LDL and MDA, however, it increased TAC and HDL under environmental Egyptian summer conditions. Ginceng supplementation had insignificant effect on performance traits of V-line rabbits, however, it had significant effect on reducing MDA and increasing TAC in the serum blood of growing rabbits.