A study was conducted to determine the effect of environment, nutrition and management on egg production of broiler breeders from start to peak of production. Rearing and production records of 11 Arian broiler breeder flocks, in 3 farms between 1993 and 2000 were used. Records tested for normality and then analyzed with multiple regression analysis procedure. Factors affecting egg production from start to peak of production
in broiler breeders including age of broiler breeder, age of maturity, canal under waterer, body weight at 24 week, months of placement, protein intake/day, total feed intake, age*energy intake/day, age*total feed intake were studied. The results of the current study indicated that, age of broiler breeders has a dramatic effect on egg production. Delaying age of maturity after 24 weeks, increases uniformity and egg production in Arian broiler breeders. Canals under waterer in some of saloons had a negative effect on mean egg production (63% vs 52%). In the seasons of spring and autumn, mean egg production was higher than those of summer and winter (80.03%, 81.08% and 50.16%, 60% respectively). The result showed that body weight at 24 weeks is a better indication of subsequent flock performance than body weight at 20 or 22 weeks. When amount of protein increases from 23 to 27 g/hen/day, egg production decreases. So protein intake should not be increased from 23g/hen/day in this period. Most of the feed consumed by heavier broiler breeders. When they received more energy intake/day, they had more egg production.

Keywords: broiler breeder, egg production, environment, management