

## Comparative Study on Antibiotic Residue in Raw Milk of Gilan Farms During the Various Seasons

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**Background & Objectives:** Milk is one of the most compatible nutrients in daily food of human and fortunately it is an increasing rate for taking it in Iran. Though, it may be contaminated easily. Nowadays various antibiotics are used in veterinary especially in mastitis, but the farmers are being given the milk to the milk processing milk without paying attention to the defined time. Although with the useful aspects in curing infectious diseases, the residues in milk and transferring it to the human body would be affected in a harmful way.

**Methods:** To do this study, the milk transferred to laboratory in Gilan during the all seasons were checked for antibiotic residues. (Including 30, 25, 27 and 32 samples in spring, summer, autumn and winter respectively.) To check the antibiotic residue, Twinsensor kit (manufactured by Unisensor) was used, which is capable of detect 2 antibiotic groups including Beta Lactam (amoxicillin, benzyl penicillin, ceftiofur, cloxacillin and so on) and tetracycline (chlortetracycline, doxycycline, and oxytetracycline).

**Results:** In the spring 4 tetracycline and 3 Beta lactam of total 30 cases 5 tetracycline and 6 Beta lactam of 25 cases in the summer, 4 tetracycline and 7 Beta lactam of total 27 cases in the autumn and finally 6 tetracycline and 7 Beta lactam of total 32 cases in the winter were reported positive in antibiotic residue.

**Conclusion:** According to the results, using antibiotic detection kits may be useful for detecting antibiotic in the milk. Also it was indicated that the antibiotic residue in raw milk were the most in the winter which is suggested that it is due to the high infection rate of mastitis in the cold seasons and also to the high uptake of antibiotics in the farm animals. Since it is not possible to remove the antibiotic residue in the milk by pasteurization, it is suggested to prescribe the antibiotics in the farms by the veterinarians and besides to pass the withdrawal period and up taking the antibiotic and not to give the raw milk during to the factories during the time.

**Keywords:** Antibiotics Remaining; Betalactam; Tetracycline; Qom Farm; Raw Milk; Twin Sensor Kit