2.9±0.05). Clean WGR was significantly greater in young ewes than in old ewes (0.71±0.02 VS 0.62±0.02 mg/cm^2/d, P<0.01). The same trend was also found for AFW (2.65±0.07 VS 2.49±0.07 Kg, P<0.01). Dry ewes had significantly (P<0.01) greater LW (52.7±0.42 VS 50.40±0.47 Kg), BCS (3.3±0.05 VS 2.2±0.05),clean WGR(0.77±0.02 VS 0.60+0.02 mg/cm^2/d), FD(34.6±0.18 VS 34.0±0.21um) and AFW (2.8±0.07 VS 2.3±0.07 Kg) than comparative wet ewes. Dry ewes were compared with wet ewes in the four season of year. The measured traits particularly ewe LW and WGR were not affected by season of year in dry ewes, but these traits were lowest (P<0.01) for wet ewes during Autumn season. The lack of effect of season on dry ewes, but highly affected of wet ewes by Autumn indicates that WGR of this breed of sheep is not influenced directly by season, and the differences of WGR between Autumn and other seasons in wet ewes depends the effect of their lactating period not seasonal effect.

Key Words: Seasonal wool growth, Fiber diameter, Ewe age, Dry (non pregnant) ewes, Wet (pregnant/lactating) ewes, Fleece weight

304 Growth and carcass characteristics of Awassi, Awassi x Romanov and Awassi x Charollais ram lambs fed different planes of nutrition. A. Y. Abdullah*[1], M. Momani Shaker[2], R. T. Kridli[1], and I. Sada[2], [1]*Jordan University of Science and Technology, Irbid/Jordan,* [2]*Czech University of Agriculture, Prague/Czech Republic*.

Thirty newly weaned Awassi (A), F1 Awassi x Romanov (AR) and F1 Awassi x Charollais (AC) ram lambs of similar BW (23.9 5.8 kg) were used to evaluate growth and carcass performance on two planes of nutrition. Animals of all genotypes were randomly assigned to receive ad lib diet (TRT1) or 75% of the feed offered to TRT1 (TRT2) following a 15-d adjustment period. Animals were fed the diets for a period of 119 days. The two diets were isocaloric and isonitrogenous (16% CP and 11 MJ ME). Fifteen animals were slaughtered at the end of the experiment for body and carcass evaluation. No treatment by genotype interactions were detected (P > 0.05) in any of the measured parameters. Total feed consumption was higher (P < 0.001) in TRT1 than TRT2 animals while feed efficiency (kg feed/kg gain) was better (P < 0.05) in TRT2 animals (7.8 and 6.90.3 kg feed/kg gain for TRT1 and TRT2, respectively). Other growth parameters were not influenced by treatment (P > 0.05). Genotype, however, significantly affected final weight (P < 0.01), total gain (P < 0.001), ADG (P < 0.001), and feed efficiency (P < 0.01). Average daily gain was 198 8.3, 152.0 10.9 and 147 8.7 g/d for AR, AC and A ram lambs, respectively. Feed efficiency was 6.4 0.3, 7.8 0.4 and 7.9 0.3 kg feed/ kg gain for AR, AC and A ram lambs, respectively. Dressing percentage was influenced (P < 0.05) by genotype but not by plane of nutrition (P > 0.05). Awassi and AC had higher dressing % compared with AR ram lambs (52.1 0.9, 50.9 1.0 and 47.6 0.9 % for A, AC and AR ram lambs, respectively). Meat: bone ratio was not affected (P > 0.05) by genotype nor by plane of nutrition. In conclusion, plane of nutrition did not influence growth and carcass characteristics except for feed efficiency. Growth performance was better while dressing % was lower in AR than AC and A ram lambs due to the presence of more tail fat in A and AC.

Key Words: Growth, Sheep, Nutrition

Contemporary and Emerging Issues
Homeland Security and Animal Agriculture

305 Current thought on bioterrorism: The threat, preparedness and response. D.R. Franz*, *Southern Research Institute*.

In just the last 5 years, the public has learned of the threat of biological terrorism in America. Why biological terrorism? Why now? What is the threat, what are our vulnerabilities and how have they changed since the end of the cold war? How have international political change and biotechnological advances altered the threat? What are the technical issues for the proliferator and for the defense? What assumptions can we make about intent to harm in the post-9/11 world? A biological terrorist attack could have many faces. It might be delivered through inhaled aerosol particles, contaminated food or water, or introduced by an infected insect or animal host. It could affect humans, animals, or both. It could be based on any of hundreds of bacterial, viral or toxin agents. It might occur in any of our cities—or in our agricultural communities—at any time. Although the likelihood of occurrence is probably low, the potential for harm—and for terror—is enormous. These issues and the fundamentals of preparedness and response will be examined to put agro-terrorism in context within the broader view.

Key Words: Bioterrorism, Threat, Preparedness

306 The agroterror threat: An overview of issues and potential impacts. J. Jaax*, *Kansas State University, Manhattan KS*.

The presentation will outline a broad perspective of agroterrorism, ranging from the genesis and nature of the threat, through possible impacts upon our national interests. Key themes will be discussion of factors contributing to agricultural vulnerabilities, examination of the devastating potential economic implications of agroterrorism, and understanding posssible motivations of perpetrators. Additionally, factors that might make an agroterror event possible if not probable will be examined. Finally, some correlations and lessons learned from key past emerging disease events will be briefly discussed.

Key Words: Agroterrorism

307 Security of the food supply. G. Clarke*[1], [1]*Agriculture & Agri-Food Canada/Canadian Food Inspection Agency*.

Security of the food supply is an important issue of homeland security due to the possibility of sabotage and disruption that could occur. Steps that the food industry and government organizations, from the processor through to retail, could or are taking to deter and try to prevent incidents from occurring together with the important elements and principles involved are described. Mechanisms currently in place plus recommendations for future action to minimize disruption should an incident occur, both economic disruption and threats to public health, are also discussed.

Key Words: Security, Food

Dairy Foods
Milk Protein Gelation and Their Mixtures with Polysaccharides

308 Protein-polysaccharide interactions in emulsions and gelled emulsions. Eric Dickinson*, *University of Leeds, Leeds, United Kingdom*.

Proteins and polysaccharides are the two main classes of functional macromolecules involved in controlling stability, shelf-life and texture of dairy foods. Both act as structure-making and gelling agents in multiphase colloidal systems, and as #stabilizers# of oil-in-water emulsions. The action of milk proteins is predominantly through the formation of a macromolecular barrier at the oil#water interface. This protects droplets from sticking together by a combination of steric and electrostatic stabilization mechanisms. The action of polysaccharides (hydrocolloids) typically involves the formation of a polymeric barrier in the aqueous phase between droplets. Polysaccharides like pectin and carrageenan can affect the stability and rheology of milk protein-based emulsions in several ways. The main factors are (i) the nature of the adsorbed milk protein (caseinate, whey protein, micellar casein, etc.), (ii) the nature of the polysaccharide (degree of methoxylation of