

The effect of Virginiamycin and protein diet on the body weight and feed conversion of broilers at heat stress

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Abstract

A total of 300 day-old chicks in a completely randomized design using a factorial arrangement with 4 treatments were used to study the effects of different levels of nutrients and Virginiamycin on the body weight and feed conversion of broilers. Test diets were formulated to provide 100 or 110 percent of protein recommended by NRC and was fed either with or without 25 ppm of Virginiamycin to 3 pens of 25 chicks. Weekly body weight and feed conversion were measured and at the end of the trial, two chicks of each pen were selected, killed and dressing percentage and feed conversion were determined. Data from this experiment showed that the 6 weeks age birds, which received Virginiamycin, at two diets, were significantly ($p < 0.01$) heavier. Addition of 25ppm Virginiamycin also improved ($p < 0.01$) body weight in diet of NRC + 110% CP. Addition of 25 ppm Virginiamycin significantly ($p < 0.01$) improved feed conversion rate at the diet of NRC + 110% CP.

Keywords: *Broiler, Body weight, Feed conversion, Virginiamycin, Heat stress*

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Replacement of urea by part of soybean meal in broiler diets

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Abstract

In order to study the effect of urea in broilers diet, an experiment was conducted to compare seven dietary treatments in which urea was substituted for a part of soybean meal. In a completely randomized design, 420 1-old broiler chicken (Arian) were divided into 21 groups (replicates). Each replication contained 15 birds and each dietary treatment was assigned to three groups as follow. First group: The birds were given urea during the two and three weeks and during the other weeks they consumed conventional diet. Second group: the bird fed the diet containing urea during the fourth and seventh weeks and they were feed conventional diet during the other periods. Third group: The birds were control group which were feed with conventional diet without urea during all the experimental period. The used diets were isocaloric and isonitrogenous and urea was used at levels of 0.203 , 0.406 and 0.609%. The results indicated, using urea in the diets of broiler at mentioned levels had no any significant adverse effect or broiler performance including body weight gain/feed intake, feed conversion ratio decreasing percentage and abdominal fat.

Keywords: Broiler, Diets, Urea, Soybean meal

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The effects of Clinoptilolite on broiler performance whit diet contained Aflatoxin

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Abstract

In order to study of effects of clinoptilolite on broilers performance with diet contain aflatoxin, an experiment carried out as factorial (completely randomized design) with three levels of clinoptilolite (0, 3 and 5%) and three levels of aflatoxin (0, 1 and 2 ppm). The result showed that the live weight, carcass weight and daily weight gain was highest (1583, 2215 and 53.8 respectively) for broilers fed ration 7 (contain 5 percentage clinoptilolite and 0 ppm aflatoxin) and were lowest for ration 3 contain 0% clinoptilolite and 2 ppm aflatoxin (1533, 2215 and 37.25 respectively). The liver weight, feed conversion ration and mortality percentage were higher for ration 3 (45.8 gr, 2.23 and 15.9% respectively) and were lower for ration 7 (40.08 gr, 1.78 and 6.85% respectively) than the other ration. The highest feed intake related to diet 4 contain three percentage clinoptilolite and 0 ppm Aflatoxin (96.65gr) and the lowest feed intake related to diet 3 (84.7gr). In general the results showed that aflatoxin in level of higher than 1ppm resulted in reducing of broiler performance and increasing feed conversion ratio. The used of clinoptilolite in diet can reduce effects of aflatoxin and in condition of this experiment the level of 5% clinoptilolite was better.

Keywords: broiler, Clinoptilolite, Aflatoxin

Drought effect on root dry weight in three potato cultivars

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Abstract

Drought effect on root dry weight of three potato cultivars (Marfona, Agria, and Draga) were evaluated in a strip block design with three replicates. Stress treatments (four levels) were arranged in horizontal and cultivars in vertical plots. After cultivation practices and fertilizer applying, seed tubers were sown in 25*75 cm in nine 5-meter rows and irrigated immediately. Irrigation treatments were equal for all treatment until stress began. After 50% flowering until the end of flowering, stress treatments were applied. Root dry weights were measured every other week. ANOVA showed that any stress might decrease root dry weights as compared with the control. In stress levels, differences in root dry weights recovered in the end of growth season. In spite of yield decrease, there were no differences in root dry weights at stress levels. Some of reasons of Agria's higher yield than Draga in mild and severe drought may be its high root dry weights, so it had longer active roots and adsorbed more water and minerals from soil than Draga. It seems that there was no new root formation in the end of season period and matured roots remobilized dry matter to tubers, but in case of drought, new roots with less dry matter produced.

Keywords: Potato cultivars, Water stress, Stress period, Root dry weight and yield

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Study of mineralogical characteristics in a toposequence of the Ragein region's siols in East Azerbaijan

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Abstract

In this study, mineralogical characteristics of Rajain's plain soils located in East Azerbaijan province affected by various topography as a soil forming factor under semiarid condition with calcareous parent materials has been studied. The studied area with 42000 ha is located in 35th km of southeastern of Mianeh. The average plain elevation is 1290 m above mean sea level and the mean annual precipitation and temperature are 305.4 mm and 12.9° C respectively.

Three physiographic units including including plateaus, piedmont alluvial plains and river alluvial plains were identified. In each physiographical unit, nine profiles were selected as control. According to the comprehensive soil classification system, USDA and FAO system, soils were classified up to family level. Jackson, Kitric and Hope Methods have been used for clay separation from the soil samples. Also, Mahra and Jackson Method has been used for mortar removing in aggregates including carbonates and gypsum soluble salts. The X-ray curves provided by simens5000 X-ray diffractometer with Fe-filtered copper K_a radiation copper in 1.524 Å length wave. the mineralogy was determined by X-ray diffraction with a and. X-ray diffractograms of clay fraction of representative soils showed that similar minerals were present, but differed in relative abundance. The relatively high amount of chlorite reveals that the soils are in young stage of development.

Keywords: clay mineralogy, taxonomy, physiography, calcareous parent materials, profile

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Analysis of farmers and expert's point of view on the role of extension in Persian melon marketing in Garmsar

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Abstract

In order to increase the ability of farmers in the process of marketing and to improve the status of marketing, In order to increase the ability of farmers in the process of marketing and to improve the status of marketing; extension should identify its role in marketing. The purpose of this study was to identify role of extension in marketing the Persian melon in Garmsar as perceived by extension specialists and farmers. In this study educational needs of farmers in regard to marketing was identified and prioritized. The sample was 140 farmers and 30 experts and they were selected using by cluster random sampling method. The research design included an applied research and to questionnaires. The data was analyzed by using man whitney and cruskal wallis methods the independent variables were education, age, main occupation, attending in extension and education classes, identifying market, market management and improving the quality of products. The dependent variables were market selection by farmers; farmer's opinion on role of extension in marketing, different markets for agricultural products and probability of role of experts in marketing agricultural products. The results of the study showed a positive relationship between education and market selection and between different markets and farmers;Opinion in regard to role of extension in marketing agricultural products. In addition it was found out that there was positive relationship between attending the extension classes and probability of role of extension specialists in marketing agricultural products. In regard of marketing problems; farmers; opinion in regard to role of extension in marketing agricultural products and ways of using extension education methods in marketing; it was found out that there was no difference between farmers and experts opinion.

Keywords: Agricultural Extension And Education, Marketing of Agricultural Products, Persian melon, Garmsar

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The effects of nitrogen different rates on oil yield and seed quality and potassium and phosphorus uptake of winter canola, SLM046

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Abstract

Canola is an oilseed crop that is getting more attention as a source of vegetable oil in our country. Canola requires high rates of nitrogen and is regarded as a nitrogen-demanding crop. In order to study the effects of different rates of nitrogen on yield and seed quality of winter rapeseed Var. SLM046 and its potassium & phosphorus uptake an experiment was conducted in Zanjan Agricultural Research Center in 2001. The experiment was carried out in three replications using a factorial experiment in randomized complete block design. Five rates of N (0, 60, 120, 180 and 240 kg/ha) from four different sources (Sulfur coated urea, Urea, Ammonium nitrate and Ammonium sulphate, were used in this experiment. The effect of nitrogen on the canola yield components can be seen in the increased number of the seedpods per plant, which is the main factor in improving the yield of canola seeds. The level of glucose inolate in canola is considered as an important canola quality index, which seems to be affected by the level of nitrogen supplements. The highest seed yield was obtained from the application of 240 kg N/ha, the highest oil content in the seeds was obtained with applications of 120 kg N/ha and the highest oil yield was also obtained with highest level of nitrogen, so it shows that rapeseed has high nitrogen requirement. The canola seed meals content of glucose inolate decreased significantly with increasing nitrogen rates. The largest number of seedpods per plant was obtained with 240kg N/ha. The highest protein content (19/6%) was obtained from highest level of nitrogen. Most accumulation of phosphorus in the leaves of plant was occurred in 60 kg N/ha and it decreased significantly with increasing nitrogen. Potassium uptake increased with increasing nitrogen rates. There was a great correlation between oil yield and grain yield ($r=0/99^{**}$). According to these results, selection of fertilizers and level of nitrogen should be evaluated by oil yield character.

Keywords: *Nitrogen levels, SLM046, Oil yield, Glucose inolate, Potassium, Phosphorus*

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Analysis of effective parameters on water head over the underground dams and an innovative methodology for estimation of it

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Abstract

Underground dams have been considered for ground water resources development and prevention of ground water losses all around the world especially in arid and semi-arid regions. A physical model with dimensions of (4x0.85x1.3m) accompanied by a numerical model, MODFLOW, were used to simulate the flow in the reservoir of ground water dams and thus the head of water over the crest was determined. Numerical model was calibrated based upon more than 200 data, which are carried out on the physical model in different conditions. Studies clarified that the most important factors which control the height of water on underground dams are: discharge, the height of dam, initial level of water table, hydraulic conductivity of the aquifer, dam thickness and finally bed rock slope. Also a formula for estimating the height of water on underground dam (H) was derived form: $H=S \cdot F$ in which S is a factor reflects the condition of discharge, hydraulic conductivity, dam thickness and bed rock slope and can be computed by the equation of $S=S_T \cdot S_q \cdot S_k \cdot S_s$ and F is a power product of dam height (H_{dam}) to initial water table level (H_0) ratio and were calculated from formula $F=2.0632(H_{dam}/H_0)^{-0.379100}$.

Keywords: Underground dam, Numerical model, Physical model, Calibration, Verification

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