

(Mice)

NO : 290
TITLE : Experimental Studies on the Combined Effect of some Amino Acids, Minerals and Vitamines on the Pathological Changes of Aflatoxin B₁ in Albino Rats.
AUTHORS : Nevien, M. Abdel-Elany
ADDRESS : Dept. of Pathology and Clinical Pathology, Fac. of Vet. Med., Assiut Univ.
SOURCE : Thesis (M.Sc), 1996.

ABSTRACT

Control of aflatoxicosis among domestic animals and birds is a subject of great concern. In these studies the combined affect of reduced glutathione, cystein, beta carotein and sodium selenite on clinico-pathological changes induced by aflatoxin B₁ were investigated in albino rats. A total of 240 albino rats were used for this experiment. It has been observed that the used chemo-therapeutic agents completely inhibit the mortality, clinical signs, serum biochemical changes. binding effect of aflatoxin B₁ to DNA, gross and histopathological changes induced by aflatoxin B₁. Hence it was concluded that the above mentioned chemotherapeutic agents could be safely used for protection and treatment of aflatoxin B₁ toxicity in albino rats.

NO : 291
TITLE : Morphological, Biochemical and Functional Changes in Astrocytes Due to lead Toxicity.
AUTHORS : A. A. Sherkawy
ADDRESS : Dept. of Forensic Med. and Toxicology, Fac. of Vet. Med., Assiut Univ.
SOURCE : Thesis (Ph.D), 1996.

ABSTRACT

This study was carried out by culturing the astrocytes by using G57 BL/6 pups. The astrocytes were cultured for 14 days and after that treated with lead acetate or in presence of 5 mol M D.T.T or 20 uM EDTA or 1,10,100 um Vitamin C&E. for 1 or 6 and 10 days and also treated with tetraethyl lead alone or in presence of 10 uM BAL for 24h. The action of lead compounds was appeared by studying the morphological, biochemical and functional changes in astrocytes. The results of this study were :

1-Astrocytes suffered from toxic effect of lead compounds.

2-The protection of astrocytes from toxic effect of lead compounds by using these previously mentioned chelating agents as following:

a- 48 % in case of EDTA.

b- 66% in case of Vitamins C & E,

c- 74 % in case of BAL.

d- 81 % in case of D.T.T.

3-Astrocytes accumulated lead in different amounts according to the dose of lead acetate and according to the time of treatment which result in disturbance of intracellular copper and iron.

(Mice)

NO : 292

TITLE : Effect of Melatonin on the Testicular Function in the Male Albino Rat.

AUTHORS : Omima, G. Ahmed

ADDRESS : Dept. of Physiology, Fac. of Med., Assiut University.

SOURCE : Thesis (M.Sc), 1997.

ABSTRACT

This work tried to investigate the effects of oral administration of melatonin in different doses on gonadal function of young and old male rats. Three groups of young male rats (n=6), group (1) was kept as a control, other two groups (group 2,3) were given melatonin orally with 2 different doses (0.5 mg and 2 mg daily for 21 days). Also, there were three groups of old male rats (n=6), group (4) was kept as a control, groups (5,6) received 0.5, 2mg/day for 21 days respectively. A blood sample was taken from each animal before treatment, after 15 days and after 24 hours of the last dose of melatonin for testosterone and melatonin assay. After 24 hours of the last dose of melatonin, all rats were decapitated and the testes were separated and weighed and stained to be examined histologically. The testis weight and diameter of seminiferous tubules were highly significantly ($P<0.001$) decreased when compared with the control. The reduction was dose dependent. The determination of the testosterone levels in serum in different groups showed a high significant decrease ($P<0.001$). The reduction in the level was dose dependent. The estimation of the melatonin levels in serum appeared to be highly significantly increased ($P<0.001$) in all group with marked increase in groups received high dose of melatonin. Histological examination of the testis treated with melatonin showed moderate inhibition in spermatogenesis in many with decreased number of interstitial cells of leydig in young group (2). While there were drastic inhibition of spermatogenesis, absence of sperms and marked decrease in the number of interstitial cell of leydig in young group (3). Also in old groups (5 and 6) there were marked inhibition of spermatogenesis and even arrest of spermatogenesis. This inhibition was dose dependent. From this work it can be concluded that the melatonin has a suppressive effect on male rats gonads and testosterone levels in both young and old group and the inhibition was dose and age dependent. Also melatonin has positive feedback effects on endogenous melatonin levels.

(Mice)

NO : 293
TITLE : The Effect of Succiner (Meso-2,3-Dimercaptosuccinic Acid) and some Vitamins on the Pathological Aterations Induced by Lead in Albino Rats.
AUTHORS : Kh. Kh. Soliman
ADDRESS : Dept. of Clinical Pathology, Fac. of Vet. Med., Assiut University.
SOURCE : Thesis (M.Sc), 1998.

ABSTRACT

In the present study, 83 male albino rats were classified into 3 tested and 2 control groups. The three tested groups were administered with lead acetate, lead acetate and mixture of vitamins B1, C and E and lead acetate and succimer respectively. The two control groups received distilled water and succimer as a control for lead and succimer in groups (I&III) respectively. Tissue specimens were obtained for tological examination and determination of some blood parameters and the activity of some enzymes. Intense histopathological changes especially in the central nervous system and blood vessels were observed in group (1). The tested blood parameters were significantly decreased and the tested enzymes were inhibited as well. Both succimer and vitamins proved useful to relief the effect of lead however vitamins were more effective in improving the activity of selected enzymes. So vitamins are recommended for prophylactic measures in areas with high lead exposure.

(Mice)

NO : 294
TITLE : Effect of Alcohol on the Postnatal Development of Corpus Callosum of Albinorat.
AUTHORS : Mohamed N. M. Saleh, Sayed A. Sayed, Shefaa M. Gawish and Rasha I. Anwar .
ADDRESS : Anatomy Department, Faculty of Medicine Assiut University.

BULLETIN : Assiut Med. J. Vol. 24, No. 3, 2000 .

ABSTRACT

Pregnant female albino rats were allowed free access to 10% ethanol as the only source of liquid starting from day 17 of pregnancy. Their pups were exposed to the same treatment after weaning. These pups, together with age matched controls, were sacrificed at 0, 5, 10, 20, 30 and 60 days of age. Sections of the brain were stained with gallocyanin and Holms silver technique. Ultrathin sections were prepared from 30 and 60 days old pups for electron microscopy.

In alcohol treated animals the corpus callosum showed a decrease in its thickness especially in the older age groups. The neuroglial cells appeared to be more densely packed in the newly born rats, while in the older age groups they appeared irregularly arranged with areas of degeneration. The callosal fibres appeared pale with ill defined outline in the silver stained sections.

Electron microscopic examination revealed that, while in the 60 days old control animals most of the callosed fibres were myelinated, the alcohol treato animals showed many unmyelinated fibres. The diameter of the myelinated fibres as well as the number of myelin lamella were significantly reduced in the alcohol treated animals at this age.

The alcohol treated animals showed reduction in the sectional area of the corpus callosum which was significant at 30 & 60 days of age. The genu showed earlier effects than other parts. Similar reduction in the sectional area of the cerebral hemisphere appeared in the alcohol treated animals resulting in absence of changes in the volume proportion of the corpus callosum in the cerebral hemisphere in most age groups. This could indicate that the reduction in the callosal area was apart of the changes taking place in the brain due to alcohol. Longer period of alcohol exposure (age of 60 days), seems to have affected the corpus callosum more severely than the rest of the brain. This appeared in the form of significant reduction in the volume proportion of the corpus callosum at this particular age.

(Mice)

NO : 295
TITLE : Combined Therapy for an Organophosphorus Insecticide (Azodrin) Toxicity in Male Albino Mice.
AUTHORS : Manal Abdel- Mohsen; A. A. Sharkawy Z.M. Zaky; M. Mubarak* .
ADDRESS : Dept. of Forensic Med. & Toxicology, and *Dept. of Pathology, Fac. Vet. Med. Assiut Univ.

Med., Assiut Univ.

BULLETIN : Assiut Vet. Med. J. Vol. 44 No. 88, January 2001.

ABSTRACT

Level in liver tissues were observed in subgroup C (180.7 ± 14.9 ppm) when compared with subgroup A (209.3 ± 12.4 ppm), while there was increase in the level of P with no significance in case of kidney tissues. The most common symptoms observed in exposed mice were depression and decrease in the body weight with arched back. The most pronounced histopathological changes were observed in subgroup F while mildest ones were those seen in subgroup C. Remarkable histopathological changes were detected in the parenchymatous organs in the form of degenerative and necrotic lesions. Also, neuronal changes and edema in the brain as well as demyelination in sciatic nerve were noticed. From our results we can conclude that the use of atropine sulfate (0.075 mg/kg b.w.) in combination with sodium bicarbonate 2% (5 mg/kg b.w) may consider the most effective antidote in treatment of azodrin toxicity in mice.

(Mice)

NO : 296

TITLE : A Study on the Effects of Inorganic Lead on Postnatal Development of the Motor Cerebral Cortex in Albino Rat.

AUTHORS : Mohamed A. Gabr; Mohamed El-Badry and Mohamed H. Wahdaan*

ADDRESS : Anatomy Departments, Faculties of Medicine, Assiut and *Cairo Universities
BULLETIN : Assiut Med. J. Vol. 26, No. 2, 2002

ABSTRACT

Lead is a major environmental toxin. Its toxicity causes haematological, gastrointestinal and neurological dysfunctions. In this study, there is a trial to elucidate how much inorganic lead affects the postnatal development of the motor area of the cerebrum.

Two groups of pregnant female albino rats were used; control and experimental. The experimental rats were fed on chow, tap water, libitum and 1% lead carbonate from the first day of parturition. The ages of the pups examined were 3,9,12,15 and 21 days postnatally for both groups. The rates were anaesthetized with ether and decapitated. The brains were extracted,

The results showed that the motor area of the control group has completed its maturation by the 21st day postnatally which is the end of lactation. This is indicated by the differentiation of the

increased thickness of the cortex with decreased packing of the cells. The experimental group showed, from day 9 postnatally, less distinct stratification of the motor cortex compared with the control group and delayed maturation of the cortical layers. There was as well cavitation and neurocytic chromatolysis particularly at days 12 and 15. Pericapillary space and capillary dilatation were seen.

(Milk)

NO : 297
TITLE : Lead Levels and Distribution in Milk and some Milk Products.
AUTHORS : Nagah M. Saad; D.A. Salem* and M. S. Sabreen

ADDRESS : Dept. of Food Hygiene, and *Forensic Med. & Toxicology Dept., Fac. of Vet. Medicine, Assiut Univ.

BULLETIN : Assiut Vet. Med. Vol. 45, No. 90, July 2001

ABSTRACT

Lead levels in sixty samples of raw milk, cream, butter, kareish and damietta cheese and yoghurt (10 samples each) that randomly collected from different localities in Assiut City were estimated using atomic absorption spectrophotometer. The mean lead levels in the examined milk, cream, butter, kareish and damietta cheese and yoghurt samples were 0.324 ± 0.117 , 0.348 ± 0.080 , 0.328 ± 0.48 , 0.859 ± 0.114 , 0.468 ± 0.126 and 0.353 ± 0.132 ppm, respectively. Statistical analytical results showed a significant elevation of lead contents in the examined samples especially in kareish cheese. Distribution of lead in some dairy products and their resultant by-products that are manufactured from manually contaminated milk by addition of 1.5 ppm lead acetate to the original milk was studied. The obtained results revealed that damietta and kareish cheese contained the highest lead levels, which reached about three to five times its level in other dairy products (cream, butter and yoghurt). Higher amounts of lead were released in the resultant butter milk, while other by products contained lower levels. Suggestive measures to protect human beings and animals from excessive intake of lead are given.

(Milk and Milk Products)

NO : 298

TITLE : Lead, Cadmium and Manganese in Milk and some Milk Products in Upper Egypt.

AUTHORS : K. A. Abdou and Eman Korashy*
ADDRESS : Dept. of Forensic Med. and Toxicology, Fac. of. Vet. Med. (Beni-Suef),
 Cairo Univ. and *Animal Health research Institute, Assiut
BULLETIN : Assiut Vet. Med. Vol. 45, No. 90, July 2001

One hundred and ten samples of milk and different milk products (Kareish, Damietta and pickled Kareish cheeses, butter, yoghurt, cream, full cream milk powder, baby milk powder, ice cream and powdered ice cream were collected randomly from different localities from Assiut and Beni Suef cities including farmer' s houses, groceries, supermarkets and pharmacies. Lead, cadmium and manganese were estimated after wet digestion by using flame atomic absorption spectrophotometer. The obtained results revealed that the mean concentration of lead in milk, cream, butter, yoghurt, soft cheese, Kareish cheese, pickled Kareish cheese, milk powder, baby milk powder, ice cream and powdered ice cream were; 1.65 ± 0.6 , 0.80 ± 0.38 , 1.25 ± 0.59 , 2.7 ± 1.13 , 1.53 ± 0.56 , 3.66 ± 0.94 , 1.44 ± 0.41 , 0.23 ± 0.28 , 0.14 ± 0.09 , 0.078 ± 0.05 and 0.12 ± 0.034 mg/kg dry weight, respectively and 0.25 ± 0.13 , 0.64 ± 0.25 , 0.51 ± 0.15 , 0.78 ± 0.43 , 0.77 ± 0.31 , 1.2 ± 0.37 , 0.67 ± 0.18 , 0.27 ± 0.22 , 0.13 ± 0.09 , 0.08 ± 0.05 , and 0.04 ± 0.01 mg/kg wet weight, respectively. For cadmium the mean values were; 0.067 ± 0.11 , 0 ± 0 , 0 ± 0 , 0.17 ± 0.36 , 0 ± 0 , 0 ± 0 , 0.06 ± 0.11 , 0.21 ± 0.06 , 0.06 ± 0.010 , 0 ± 0 and 0.19 ± 0.04 mg/kg dry weight, respectively and 0.001 ± 0.0 , 0 ± 0 , 0 ± 0 , 0.024 ± 0.051 , 0 ± 0 , 0 ± 0 , 0.02 ± 0.037 , 0.049 ± 0.018 , 0.06 ± 0.1 , 0 ± 0 and 0.094 ± 0.04 mg/kg wet weight, respectively. While the mean values for manganese were; 2.33 ± 1.27 , 1.07 ± 0.84 , 1.24 ± 0.37 , 6.4 ± 2.52 , 1.53 ± 1.63 , 3.59 ± 1.69 , 3.4 ± 3.16 , 2.69 ± 4.03 , 2.48 ± 1.91 , 1.62 ± 0.86 , and 4.43 ± 4.05 mg/kg dry weight, respectively and 0.61 ± 0.6 , 0.61 ± 0.73 , 0.79 ± 0.33 , 0.87 ± 0.3 , 1.01 ± 0.8 , 1.3 ± 0.8 , 1.22 ± 0.92 , 2.63 ± 3.95 , 3.57 ± 4.62 , 1.65 ± 0.89 and 1.19 ± 1.28 mg/kg wet weight, respectively. Possible health risk of these metals were discussed.

(Mouse)

NO : 299
TITLE : Effect of Morphine Sulphate on the Ultrastructure of Mouse Lung Alveoli .

AUTHORS : Madiha M. Mohammed .

ADDRESS : Histology Dept, Fac. of Med., Assiut Univ.

BULLETIN : 1st Internat. Conf. on Basic Sci. & Advanced Tech., Nov. 9-12,1996, Assiut

ABSTRACT

The most obvious histological alterations observed in the lungs of mice treated with morphine were the destruction of most interalveolar septa, dilatation of the blood vessels with thickening of their walls, infiltration of inflammatory cells and degeneration of most alveolar lining epithelium especially the great alveolar cells (type II cells).

The small bronchioles of mice treated with morphine showed hypertrophy of the epithelial lining with the accumulation of their secretion in the lumen.

Ultrastructural changes in the great alveolar cells of treated mice were studied by transmission electron microscope. It was noticed that the mitochondria were swollen and most of their cristae were distructed. An increase in the number of lamellar bodies was also observed.

These histological changes caused by morphine may be interpreted as a result of oxygen lack in the lung tissue.

(Mules and Donkeys)

NO : 300

TITLE : Some Heavy Metals Concentration in the Blood of Horses, Mules and Donkeys as an Indicator for Environmental Pollution in Assiut Governorate.

AUTHORS : A A. Sharkawy and Rateb, H. Z.*

ADDRESS : Dept. Forensic Medicine & Toxicology, and *Internal Medicine Faculty Vet. Med., Assiut University.

BULLETIN : Ass. Univ. Bull. Environ. Res. Vol. 3 No. 2, October 2000

ABSTRACT

Because of the wide distribution of heavy metals throughout the earth crust, as well as the remarkable environmental pollution, it is inevitable that even small levels of these metals can be detected in all animal tissues. Some of these metals (lead, Pb and cadmium, Cd) are major contaminants and have toxic effects, whereas others such as manganese (Mn), copper (Cu), iron (Fe) and zinc (Zn) are essential for all living organisms. However, these essential metals can also be dangerous at higher concentrations. The health status of animals such as horses, mules and donkeys is directly dependent upon the chemical and biochemical nature of their feedstuffs, water and the air quality they breath. Forty- three blood samples (23 of mares, 10 of mules and 10 of she-donkeys) were collected randomly and analyzed for hematological parameters (RBCs, WBCs counts, PCV, Hb and differential leucocytic count), sodium, potassium, chloride and metals (Pb, Cd, Mn, Cu, Fe and Zn). Our results for metals concentration (mean in ppm) in blood samples revealed that their levels were: (1) in Mares, 2.028 Pb, 0.16 Cd, 2.128 Mn, 1.141 Cu, 5.17 Fe and 3.317 Zn, (2) in mules, 1.985 Pb, 0.145 Cd, 3.755 Mn, 0.785 Cu, 5.60 Fe and 4.405 Zn, and (3) in she-donkeys, 2.435 Pb, 0.525 Cd, 3.11 Mn, 1.36 Cu, 5.78 Fe and 4.76 Zn. K⁺ and Cl⁻ levels showed significant increase in all investigated animals but Na⁺ showed significant increase only in donkeys. No significant variations of RBCs, WBCs and PCV in investigated horses and mules while donkeys showed their significant decrease. Hb content appears significantly decreased in all these investigated animals. Neutrophils and band cells showed significant decrease in donkeys and horses respectively. No significant variation in case of lymphocytes. Monocytes showed significant increase in all animals but basophil showed significant decrease only in horses and mules. Highly significant increase was observed in case of eosinophils in mules and donkeys. The correlation between our evidence of high Pb and Cd levels in different investigated animals with especial references to donkeys and that previously recorded in Feedsuffs and water at Assiut Governorate support our results and indicating environmental contamination with heavy metals especially that of major health effects like Pb and Cd.

(Oil)

NO : 301

TITLE : Effect of Oil Contamination on some Engineering Properties of Soil.
AUTHORS : M. A. Kenawy
ADDRESS : Dept. of Civil Eng., Fac. of Eng., Assiut University.
SOURCE : Thesis (M.Sc), 1998.

ABSTRACT

The present research is concerned with the study of the effect of oil contamination on the physical properties, shear strength parameters and consolidation properties of clayey soils. Oil-contaminated clayey soil was noticed in a big residential district in Sohag city, the capital of Sohag Governorate in upper-Egypt. Oil leakage into soil resulted from breakage of three oil-pipe lines for a long period, which are carrying kerosene, solar and diesel from a pumping station on the River Nile shore to huge oil storage tanks along a distance of about 2.0 Kms. Contaminated soil samples were extracted from the site and tested in the laboratory. Two type of uncontaminated soils; i.e. clean soil; were extracted from other site with different plasticities. Three types of oil with different viscosities 2.5, 160 and 420 centisokes at 30 C were mixed with clean soil at percentages 5%, 10% and 15%. Consildated undrained traxial compression tests with pore pressure measurements under different cell pressures, conventional consolidation test and standard physical properties tests were carried out on undisturbed and remolded samples of contaminated and clean soils. Results of test showed significant effects on physical properties as liquid limit, plastic limit and plasticity index. In addition, considerable effects were noticed on shear strength parameters and consolidation properties. Moreover, the effect of oil contamination on the bearing capacity of soil and settlement of buildings in the district were studied.

(Pesticides)

NO : 302
TITLE : Monitoring of Insecticide Sensitivity Change in Different developmental Stages of the Cotton Whitefly, *Bemisia Tabaci* (GENN) to Certain Insecticides.
AUTHORS : Samir H. Manna .
ADDRESS : Plant Protection Dept., Agric., Assiut University.
BULLETIN : Assiut J. of Agric., Sci., Vol. 31, No. 2,2000.

ABSTRACT

Efficiency of six insecticides (three organophosphate, two carbamates, and one synthetic pyrethroid) to different developmental stages of susceptible (S-) and field (F-) strains of the aleyrodid cotton pest, *Bemisia tabaci* (Genn), was determined in the laboratory using leafdip technique. Based on the LC_{50} values, the egg stage, within the same strain, seemed to be less sensitive for the most insecticides tested, comparing with pupal and adult stages. Concerning the anticholinesterase insecticides tested, pirimiphos-methyl and profenofos were the most potent, furathiocarb and pirimicarb occupied a moderate position, while malathion was the less potent, against egg, pupal and adult stages of (S-) and (F-) strains. Cypermethrin (synthetic pyrethroid) was the less effective compound against egg stage, but ranked the second potent compound against adult stage of (S-) and (F-) strains. Slope values for all the insecticides tested against the three stages of both strains of *B. tabaci* were low. Generally, egg stage of (F-) strain was still sensitive toward all insecticide tested (RR ranging from 0.83 to 1.25), whereas, pupal and adult stages exhibited a low level of tolerance (RR ranging from 3.50 to 5.00; from 1.67 to 5.00, for pupal and adult stages, respectively). The results were discussed in relation to monitoring insecticide tolerance in the aleyrodid, and provide information about the implication of *B. tabaci* tolerance.

(Plants)

NO : 303
TITLE : Effect of some Growth Regulators on Vegetative Growth, Flowering and Fruit
AUTHORS : Y. A. Mahmoud
ADDRESS : Dept, of Horticulture, Fac., of Agric., Assiut University.
SOURCE : Thesis (M.Sc), 1996.

ABSTRACT

in Orchard of Faculty of agriculture, Assiut University. Spray with 25 or 50 ppm GA₃ as well as 100 or 200 ppm CCC at three different application times was conducted to study their effects on physical and chemical properties of the grapevine as well as the productivity per vine.

Results obtained from this study showed considerable differences in not only the vegetative growth and bud burst percentage but also in the productivity and fruit quality of grape berries. Thus, the conclusive recommendation is to utilize two applications of both CCC and GA₃ to realize the objective of this study.

NO : 304
TITLE : Proline as an Enhancing Effect Shoot Generation and Protein Synthesis in Tomato Salinity-Stressed Cultures in vitro .
AUTHORS : A.F. El-Enany.
ADDRESS : Botany Dept., Fac. of Sci., Assiut Univ.
BULLETIN : 1st Internat. Conf. on Basic Sci. & Advanced Tech., Nov. 9-12,1996, Assiut

ABSTRACT

Efficient de novo shoot organogenesis from hypocotyls and cotyledons of tomato (*Lycopersicon esculentum* Mill) was affected by sodium chloride and proline. Sodium chloride at 100 and 150 mM inhibited the shoot regeneration. The fresh and dry weights were also reduced. Addition of proline (100 mg/L) to the medium containing NaCl counteracted the inhibitory effect of NaCl and enhanced shoot regeneration, especially at high NaCl levels.

SDS-PAGE analyses of extracted proteins, revealed that in cultures grown in medium with proline, extra polypeptides of Mr. 190, 58, 45 kDa accumulated. These polypeptides were not present in control cultures, but also accumulated at 25 mM NaCl. As NaCl was increased in the medium a new protein of Mr. 67 kDa also accumulated. Proteins of Mr. 67, 52-45 and 62 kDa were also accumulated when proline was added to the saline medium. Proline directly or indirectly play an important role in protein accumulation and in cell adaptation to salinity stress .

(Plants)

NO	: 305
TITLE	: Chronic Administration of Plant Growth Hormones in Rats; some Histological Studies.
AUTHORS	: Saly, Y. A.
ADDRESS	: Dept. of Forensic Med. and Toxicology, Fac. of Med., Assiut Univ.
SOURCE	: Thesis (M.Sc), 1998.

ABSTRACT

The effect of the chronic administration of some plant growth hormones on kidney, liver and heart of adult albino rats have been investigated. These organs are considered to be the most susceptible tissues to the toxins in the body. As they are the site of metabolism, excretion or direct contact with blood. As these plant growth hormones are widely used nowadays they may have a serious impact on the environment and exert their adverse effects on associated organisms. Eighty adult albino rats were used in this study. The animals were divided into 4 groups G1, G2 and G3 received daily oral dose 1/10 LD50 2,4-D, gibberellic acid and kinetin respectively and G4 served as control group. Two months after administration of these hormones half of the animals were sacrificed and the rest were sacrificed one month after stoppage of treatment to study the recovery from the effect of these substances. The specimens were taken and processed for examination by light microscopy.

The results revealed that the gibberellic acid was the most injurious substance especially on the kidney then the kinetin and the 2,4-D. Renal tubules of the treated animals revealed marked destruction and loss of architecture the cells showed vacuolated and disintegrated cytoplasm and dense nuclei. There was interstitial cellular infiltration by plasma cells and lymphocytes. Liver cells showed focal necrosis in some areas and cellular infiltration in other areas. As regards the myocardial cells, there were patches of loss of myofibrils and loss of striation in some areas. Recovery from these destructive effects was incomplete. So the duration for recovery must be prolonged to study whether these toxic effects are reversible or not. The mechanism of action of these plant growth hormones was thought to be due to stimulation of protein synthesis through stimulation of guanylate cyclase enzyme. The toxic effect of these hormones could be due to increase in the production of free radicals. In conclusion, these growth promoting hormones and other analogous have deleterious effects on the vital organs therefore the food supply should be protected from these substances by using more ecologically acceptable methods. Intensive efforts must be carried out by the research group to create institute for plant growth hormones.

(Plants)

NO : 306
TITLE : Studies on Storage of Lentil and wheat after Fumigation with Phosphine.
AUTHORS : Asmaa, S. Soliman
ADDRESS : Dept. of Crops, Fac. of Agriculture, Assiut University.
SOURCE : Thesis (M.Sc), 1998.

ABSTRACT

The study was carried out at the laboratory of the Agronomy Dept, College of Agric., Assiut University, during 1994 to study the effect of phosphine fumigation on wheat (var. G. 164) and lentil (var. G. 9) for storage periods up to six months fumigation doses and the time of exposure to the gas were also studied Storage was carried out under the open storage conditions of the lab. The result showed that long period storage had reduced all the studied germination and quality traits for both wheat and lentil. However, the response of the measured traits to fumigant dose and exposure period varied according to treatments level.

NO : 307
TITLE : Studies on Physiological Effects of some Growth Regulators on Banaty Grapes During Storage.
AUTHORS : Soad, M. Mohamed
ADDRESS : Dept. of Horticulture, Fac. of Agriculture, Assiut University.
SOURCE : Thesis (M.Sc), 1998.

ABSTRACT

Orchard of Assiut University during 1994, 1995 years. Certain fruit characteristics of grapes stored at 3-5°C, 5-90% RH. were studied) in response to gibberellic Acid) (GA₃) and kinetin (K1) 0,25 or 50 ppm each as well as Cycocel (CCC) at 0.100 or 200 ppm applied once or twice sprays at prebloom and anthesis period of grapevines to study the effect of investigated growth regulators at different concentration of storability and keeping quality of grapes during storage period. The obtained data were statistically analysed. Application of both GA₃ and KC. at 25 ppm prolonged storage period of grapes with commercial characteristics however, for short period storage, it is useful to apply grapevines with CCC at 200 ppm to improve fruit quality specially sugars content.

(Plants)

NO : 308

TITLE : Formation of Ca Oxalate Crystals in Leaves and Calli of *Hibiscus Subdariffa* in Relation to Ca Availability in Growth Medium.

AUTHORS : A.M.A. Mazen and A. El-Enany*

ADDRESS : Botany Dept., Fac. of Sci. at Sogah South Valley Univ., Sohag, and *Botany Dept., Faculty of Sci. at Assiut Univ.

BULLETIN : Bull. Fac. Sci., Assiut Univ. 29 (2-D), P-P.313-323 (2000).

ABSTRACT

Light and scanning electron microscopic examination of Ca oxalate crystal formation in *Hibiscus subdariffa* revealed presence of intracellular crystalline deposits of druse type (a spherical aggregate of individual crystals) in the cells of both leaves and calli of this species. Crystal idioblasts (CI) were found located throughout the leaf tissue but more concentrated around veins. In Callus tissue, crystals can be found in any cell with no specific distributional preference. The crystal idioblast cells are not different in size or shape from other non-crystal cells. A strong and dynamic relationship between Ca concentration in the growth medium and CI number was revealed. Raising Ca concentration from 0.5 to 5 mM in the growth medium increased number of CIs per unit area by 250% in case of intact leaves and by 200% in case of callus tissues. Sizes of crystals were noticed to be dependent on exogenous calcium concentration or Ca effector presence. Addition of the calmodulin antagonist chlorpromazine or the Ca ionophore A23187 to growth media significantly reduced the number of crystal idioblasts per unit area despite the presence of 5 mM Ca. The effect of these Ca effectors on crystal formation was reversible. When these Ca effectors were flushed out and replaced with fresh medium, crystal idioblast formation restored.

(Plants)

NO : 309
TITLE : Effect of Phosphorus Fertilization on Yield and Quality of Onion Bulb Under Upper Egypt Condition.
AUTHORS : G.H. Abd El-Rehim
ADDRESS : Horticulture Dept., Faculty of Agriculture, El-Azhar University, Assiut.
BULLETIN : Assiut J. of Agric., Sci., Vol. 31, No. 3, 2000.

ABSTRACT

This work was carried out at shandaweel research station, Sohag Governorate in the 1997/98 and 1998/99 seasons to study the effect of 5 levels of phosphorus fertilization i.e. 0.0, 15, 30, 45 and 60 kg P₂O₅/feddan on yield and quality of onion bulbs. Total, marketable, culls yields and average bulb weight increased, while, percentage of missing plant, doubles and bolters were decreased by increasing the rate of P₂O₅ fertilizer in both seasons of study.

(Plants)

NO	: 310
TITLE	: Effect of Farmyard Manure Application and Late Foliar Nutrition with Nitrogen During the POD-Filling Stage on Yield and some Nutrients Content in Seeds of Faba Bean.
AUTHORS	: K.K. Attia and M.M. El-Dsouky
ADDRESS	: Soil and Water Dept, Faculty Agriculture, Assiut University.
BULLETIN	: Assiut J. of Agric, Sci., Vol. 32, No. 2, 2001

ABSTRACT

A field experiment was carried out during two winter seasons in the Experimental Station of the Faculty of Agriculture, University of Assiut at El-Ghorib (Typic Torripsamments) to study the effect of farmyard manure application and late foliar nutrition with nitrogen during the pod-filling stage on yield, N, P and K contents of some faba bean varieties.

Twenty seven treatments were used to represent the combinations of 3 varieties (Giza 674, Giza 2 and Giza 402), 3 farmyard manure levels (0, 10 and 20 m³/fed) and 3 regimes of nitrogen spray (one early spray at the pre-flowering stage, one late spray at the pod-filling stage and two sprays at both stages).

The obtained results could be summarized as follow :

- The straw and seed yield as well as nutrient contents in the seeds increased by farmyard manure application.
- Giza 674 variety gave higher mean values for straw and seed yields as well as total N, P and K contents in seeds compared with Giza 2 and Giza 402 varieties.
- The late foliar spray (at the Pod- filling stage) had significant effects on the yield (straw and seed) as well as the total contents of N and K compared with the early spray at the pre-flowering stage.
- In presence of farmyard manure, foliar spray with urea showed no clear effect on the studied parameters.

Faba bean seed yield and quality can be improved through the supplementary foliar fertilization with N during the pod-filling period and/or farmyard manure application to meet the high N requirements of faba bean plants during the late stages of pod development.

(Plants)

NO : 311

TITLE : OVI-Larvicidal Activity of Spinosad in Comparison to *Bacillus Thuringiensis* Subsp *Kurstaki* for the Control of *Virachola Livia* (Klug) on Date Palm Trees in the Field, New Valley, Egypt.

AUTHORS : S.A. Temerak and A.A. Sayed*

ADDRESS : Plant Protection Dept, Fac. of Agric, Assiut University and *Plant Protection Research Institute, Agric., Research Center, MOA., Egypt.

BULLETIN : Assiut J. of Agric., Sci., Vol. 32, No. 4, 2001

ABSTRACT

Two years of field trials with twice applications / season were carried out to evaluate the natural product, spinosad for the control of the pomegranate butter fly *Virachola livia* (Klug) on date palm fruit in the New Valley. All rates of spinosad 24 SC even the lowest 10/100L showed 100% reduction at the last sample before harvest in 1999 and 2000 seasons. The recommended product Dipel, *Baccillus thuringiensis* subsp *kurstaki* (B.t) at 150g/100L performed significantly poor and unsatisfactory results. The last biocide showed only 15.5 and 18.5% as reduction for 1999 and 2000 seasons, respectively. In 1999, before harvest time sample, 20-29% of the eggs were not hatched at the rate 10-40 ml/100L of spinosad, respectively. In 2000, unhatched eggs% were ranged from 17-23% for 10-40 ml/100L of spinosad, respectively. Dipel did not show any ovicidal activity. In both seasons, spinosad at any rate did not show any successful penetration of larvae at the last sample. However, Dipel showed 79-86% successful penetration. Spinosad proved to have some ovi-larvicidal activity. Also, spinosad proved to be working under dry hot condition up to 52 C with no phytotoxicity. Product could be recommended at 10 ml/100L control this pest.

(Plants)

NO : 312
TITLE : Influence of Filter MUD Cake, Elemental Sulphur Applications and Micronutrients Fertilization on Yield and Nutrient Content of Onion.
AUTHORS : K. K. Attia
ADDRESS : Dept, of Soil and Water, Fac., of Agric., Assiut University.
BULLETIN : Assiut J. of Agric, Sci. , Vol. 32, No. 5, 2001

ABSTRACT

Two field experiments were conducted at El-Ghorieb Experimental Farm, Faculty of Agriculture, Assiut University, Egypt, during seasons of 1998/99 and 1999/2000 to study the effect of filter mud cake (0, 2.5 and 5 ton/fed), elemental sulphur added at the rate of 800 kg/fed in four regimes and two methods of micronutrient (Fe, Mn, Zn) application: soil dressing and foliar spray on the total yield and nutrient content of onion . The interaction of these factors was also studied.

The obtained results could be summarized as follows:

- Application of filter mud cake significantly enhanced the yield, dry matter and total contents of N, P, K, Fe, Mn and Zn in onion bulbs. The highest values occurred when 5.0 ton filter mud cake/fed were added.
- Sulphur applied at a rate of 800 kg/fed in the two doses (50% at pre-transplanting and 50% at post-transplanting) exerted significant increases in all studied parameters.
- Applying micronutrients as a soil fertilization or as a foliar spray significantly increased total yield and total contents of all studied nutrients in both seasons.
- The highest values of all studied parameters were obtained by using two doses of sulphur combined with filter mud cake was applied at a level of 5.0 ton/fed.
- The interaction of elemental sulphur and micronutrients had significant effects on yield and total contents of all studied nutrients in onion bulbs. Applying 400 kg sulphur before transplanting and 400 kg after transplanting with micronutrients application resulted in the highest values of the studied parameters, whereas these values were intermediate when sulphur was applied in one dose before transplanting or after transplanting.

Filter mud cake or sulphur application increased the micronutrient fertilizer use efficiency particularly when added to the soil.

The combined application of filter mud cake, elemental sulphur and micronutrients showed certain synergistic relationships.

(Plants and Soils)

NO : 313
TITLE : Studies on Certain Heavy Metals in some Plants and Soils.
AUTHORS : Hala, H. Goma
ADDRESS : Dept, of Soil and Water, Fac., of Agric., Assiut University.
SOURCE : Thesis (M.Sc), 1996.

ABSTRACT

Several greenhouse experiments were conducted to study the effects of Cd and Ni additions to different soils (clay and sandy calcareous) on growth, concentration and distribution of Cd, Ni, Fe, Mn, Zn and Cu in Corn, Broad bean and Wheat plants. The residual effect of the added elements on the subsequent plants was also investigated. Results obtained from these experiments can be summarized in the following:

- 1-Increasing the DTPA-extractable Cd more than 13.2 ppm Cd resulted in reducing the growth of corn plants.
- 2-Cd concentration in corn shoots was increased with increasing the added Cd in both soils, being higher in plants grown on sandy calcareous soil.
- 3-All levels of Ni added to the sandy calcareous soil were equally harmful to the growth of corn plants.
- 4-Due to the dilution effects, the concentration of Ni was always higher in corn plants grown on sandy calcareous soil than in plants grown on clay soil.
- 5-In both soils, increasing the DTPA. extractable Cd in the rhizosphere of bean plants reduced the growth and dry matter of the plants harvested at 9 and 12 weeks after planting.
- 6-Cadmium concentration in broad bean plants was increased with increasing the DTPA-extractable Cd.
- 7-Toxicity symptoms appear on most recent leaves of plants grown on the highest level Cd (242 ppm).
- 8-In both soils, Ni has no significant effect on the fresh and dry weights of broad bean plants harvested at either 9 or 12 weeks after planting.
- 9-Increasing the DTPA-extractable Cd in soil up to 36.1 ppm had no significant effect on dry matter accumulation in shoots and spikes of wheat plants grown on Cd - contaminated clay soil.
- 10-Increasing the DTPA-extractable Ni to 9 ppm and higher significantly increased the accumulation of dry matter in leaves, while it had no effects on dry matter accumulation in stems and seeds of bean grown on Ni contaminated soil.
- 11-In case of wheat, significant increases in dry matter of the spikes occurred when the Ni increased up to 6.6 ppm.

* Availability of some elements in soil contaminated with Cd or Ni had been also studied.

(Rabbits)

NO : 314
TITLE : Effect of Lead on the Prenatal Development of the Spinal Cord of Rabbit (Lumbosacral Region).
AUTHORS : Doria, A. Zaghlol
ADDRESS : Dept. of Anatomy, Fac. of Med., Assiut University.
SOURCE : Thesis (Ph.D), 1999.

ABSTRACT

A total number of 160 rabbit embryos was used. Samples for routine histological examination were taken at 12 days old rabbit embryo and every 2 days up to the age of newborn. At 12 days old rabbit embryo, the dorsal root ganglion was presented as a loose grouping of cells. At 14 days, the ganglion attained an ovoid mass. At 16 days, unipolar cells started to appear. At 24 days the cells appeared unipolar. A 26 days old rabbit embryo till birth, some cells attained a centrally located nucleus.

NO : 315
TITLE : Accumulation of DDT Residues in Slaughtered Rabbit Tissues .
AUTHORS : Y.A. Hefnawy, S.M. Fathi, A.T. Abdallah and M.N. Gadalla
ADDRESS : Dept. of Food Hygiene, Fac. of Vet. Med., Assiut University.
BULLETIN : Assiut Vet. Med. J. Vol. 44 No. 88, January 2001.

ABSTRACT

Accumulation of DDT in fat, liver, kidney, cooked and uncooked muscles of rabbits orally administrated 5mg/kg dose of the pesticide daily for 10 days was followed weekly after 1, 8, 15 and 21 days post treatment employing high performance thin layer chromatography (HPTLC). Variation of DDT content was demonstrated in the different tissues. An increase in the pesticide concentration in the fat was shown in the second group 8 days Post-administration then decreased in the third and four groups. Cooking of muscles resulted in diminishing the concentration of the pesticide residues in the four groups examined. Freezing of muscles resulted in undemonstrable change in the pesticide content .

(Rabbits)

NO	: 316
TITLE	: Effect of Induction of Parturition by Using Prostaglandin Analogue on Reproductive and Productive Performance In Superovulated Rabbit Does.
AUTHORS	: O.S Afifi And A. El - Din Zain*
ADDRESS	: Dept. of Animal Production, Fac. Agric. *Dept. of Theriogenology, Fac. of Vet. Med., Assiut university
BULLETIN	: Vol. 45 July 2001 No. 90

ABSTRACT

To determine the effect of induction of parturition by the administration of prostaglandin analogue on reproductive and productive performance in rabbit, a total of 24 non lactating Bouscat rabbit does were superovulated by daily injection of 15 I.U. of Pregnant mare serum gonadotropin (PMSG) for 4 days. Immediately after mating, each doe was injected with 50 I.U. of Human chorionic gonadotropin (hCG). At day 29 of pregnancy, the does were randomly divided into two equal groups (n=12). The first group was subcutaneously injected with saline solution (0.9% NaCL) and used as control. The second group was injected subcutaneous by 50 µg of a synthetic PGF_{2α} (Itelin) at 10.00 a.m. The breeding traits studied were: number of matings/conception for kindling, number of does copulated, receptivity at copulation (R+or R-), kindling interval (days), conception rate (%), gestation length (days), litter size, litter total weight, litter gain and pre-weaning mortality rate (%). The obtained results indicated that:

- 1-The conception rate (%) for the treated does with synthetic analogue of PGF_{2α} (91.7) was significantly (P≤0.05) higher than that of the control does (83.3).
- 2-The gestation period for the treated group was significantly reduced than that for the control group.
- 3-The kindling interval for treated group (45.3±0.4 days) was significantly (p≤0.05) shorter compared with the control group (49.0 ±0.6 days).
- 4-The litter size at birth for the group injected with PGF_{2α} was 8.3 ± 0.2, while the corresponding value for the control group was significantly different (7.6±0.1).
- 5-The neonatal mortality rate for the group injected with PGF_{2α} was significantly reduced by about 38.9%.
- 6-No significant difference in acceptance of mating was detected when comparing PGF_{2α} the treated does with the control ones.
- 7-No significant effects of PGF_{2α} treatment were observed on litter size at 21 and 30 days of age, litter body weight, daily litter gain, bunny weight, bunny gain weight and pre-weaning mortality (%). From the above results, it may be concluded that the injection of 50 µg synthetic analogue of PGF_{2α} at day 29 of pregnancy for superovulated Bouscat rabbit does is effective in induction of parturition without any side effects.

(Rats)

NO : 317
TITLE : The Effect of Aluminum Pollution on the Male Reproductive System in Rats: Role of Oxyradicals
AUTHORS : G.A. Megahed; M. M. Anwar*, and Madeha, M.**
ADDRESS : Dept. of Theriogenology, *Dept. of Physiology, and **Dept. of Histology , Fac. of Medicine, Assiut University
BULLETIN : Vol. 45 July 2001 No. 90

ABSTRACT

Aluminum (Al) is one of the trace elements that has no any biological function in the body. In this study, oral administration of Al chloride (2 mg/kg B.W) to 4 weeks immature male rats for two and three months produced regression in testicular development and functions. In another experiment adult rats ingested orally the same dose of Al chloride of one and two months, it produced suppression in testicular functions with interruption in stages of spermatogenesis and reduced in the number of leydig cells. The epididymal spermatozoa showed a significant suppression in motility and alive percentage with significant elevation in total abnormalities and protoplasmic droplets percentage in spermatozoa in both immature and mature treated rats. Al significantly produced a reduction in testosterone of serum and testicular tissue homogenates, in both immature and adult treated rats. While serum LH levels were reduced significantly in immature treated rats for three months. The testicular superoxid dismutase (SOD) activities and Zinc contents were reduced significantly in all rats (immature and adults). The levels of malondialdehyde (MDA), as an indicator for lipid peroxidation, were elevated significantly in testicular tissue homogenates in immature treated rats for two and three months, while it was elevated significantly in testicular tissues in adult rats treated for two months only. The motility of spermatozoa regressed significantly with MDA levels in immature treated rats and with testosterone levels in adult treated rats. The alive percentage of spermatozoa was regressed significantly with testicular SOD activities in immature treated rats. The total abnormalities and protoplasmic droplets regressed significantly with testicular SOD activities, zinc content in immature treated rats while protoplasmic droplets percentage regressed significantly with SOD activities and zinc content and MDA levels of testicular tissues in adult treated rats. The present study indicates that Al significantly induced imbalance between antioxidant/prooxidant system in testicular tissue and this effects may be due to elevation of free radicals. There may be affected the viability of leydig cells as well as disruption of spermatogenesis. Moreover, elevation in sperm abnormalities due to testicular and/or epididymal origin.

(Retina)

NO	: 318
TITLE	: Retinal Functions Modifications as Reflected on the Electroretinogram in Different Stages of Diabetic Retinopathy.
AUTHORS	: Dalia, G. Zaky
ADDRESS	: Dept. of Ophthalmology, Fac. of Med., Assiut University.
SOURCE	: Thesis (M.Sc), 1998.

ABSTRACT

This study deals with detecting the electrical changes in the retina in different stages diabetic retinopathy using Flash Electroretinogram. The study included 41 eyes of 34 diabetic patients and 10 eyes of 5 non diabetic control. It was found that the b-wave amplitude and the b-a amplitude difference were the first parameters to be affected in early cases even with normal visual acuity and they were further reduced as the severity of retinopathy progressed indicating further deterioration in the functional changes of affected retina. The a - wave amplitude was not found to be significantly affected except in advanced cases.

(Semen)

NO	: 319
TITLE	: Correlation Between Serum and Semen Levels of Melatonin Hormone and Changes in Human Semen Parameters.
AUTHORS	: E. K. Ibrahim
ADDRESS	: Dept. of Dermatology, Venereology and Andrology, Fac. of Med., Assiut University.
SOURCE	: Thesis (M.Sc), 1999.

ABSTRACT

The aim of the work was to study the correlation between the levels of melatonin hormone in the serum and seminal plasma of infertile males. 46 infertile males and 10 normal fertile males (control cases) were included in the study. The results reported proved that serum melatonin level in the functional azoospermic group was significantly higher than that of the control group. Seminal plasma melatonin levels have significant positive correlation with serum melatonin levels in normozoospermic and functional azoospermic patients. Serum melatonin levels in asthenozoospermic group were significantly higher than those of control group. Serum melatonin levels in asthenoteratozoospermic group were significantly higher than those of control. Highly significant negative correlation was recorded between serum melatonin levels and serum testosterone levels in asthenozoospermic group with highly significant negative correlation between serum melatonin levels and serum PRL in asthenoteratozoospermic patients. Significant positive correlation was established between seminal plasma melatonin and serum PRL in asthenoteratozoospermic patients. It was recorded that melatonin hormone may have a role in human reproduction and male infertility. The relationship between melatonin hormone and human male infertility is a large debate that had not settled uptill now and needs further detailed studies.

(Semen)

NO : 320
TITLE : Effect of Cigarette Smoking on Semen Quality.
AUTHORS : Doaa, S. Abdel-Kader
ADDRESS : Dept. of Dermatology, Venereology and Andrology, Fac. of Med., Assiut Univ.
SOURCE : Thesis (M.Sc), 1999.

ABSTRACT

This work was performed to investigate the possible hazardous effect of cigarette smoking on human semen quality including semen parameters and some of the antioxidants in semen and serum. The study included 30 male smokers and 60 non smokers. We concluded that cigarette smoking has minimal deleterious effect on semen quality and increase lipid peroxides and some antioxidants in semen and plasma.

(Sheep)

NO : 321
TITLE : Concentrations of some Heavy Metals in Sheep Tissues as Indicator for Environmental Pollution.
AUTHORS : A. A. Sharkawy
ADDRESS : Dept. of Forensic Med. and Toxicology, Fac. Vet. Med., Assiut Univ.
BULLETIN : Int. Conf. for Develop. and the Env. in the Arab World, March, 26-28, 2002

ABSTRACT

A total number of 35 adult non-pregnant ewes rearing in Assiut city , aged 4-6 years, were used in this study. Blood, liver, kidney and muscles were taken from each animal and analyzed for estimation of metal content (lead, Pb; cadmium, Cd; mercury, Hg; manganese, Mn; copper, Cu; iron, Fe and zinc; Zn) by using atomic absorption spectrophotometer. The obtained results in this study revealed that the concentration of Pb, Cd, Hg, Mn, Cu, Fe and Zn respectively were 0.372±0.019, 0.0158±0.0013, 0.007±0.0004, 0.027±0.002, 0.392 ±0.031, 5.475±0.392 and 0.522±0.032 ppm in blood, 1.134±0.113, 0.685±0.054, 0.0069±0.0005, 0.958±0.064, 9.889±0.775, 14.982±1.527 and 20.603±1.720 ppm in liver, 1.145±0.108, 4.202±0.115, 0.0117±0.0009, 0.652± 0.075, 3.930±0.142, 37.749±3.173 and 16.794±1.505 ppm in kidneys and 0.171±0.008, 0.081±0.007, 0.0038± 0.0003, 0.150±0.013, 0.889±0.048, 19.902±1.604 and 26.972±2.020 ppm in muscles. The high concentrations of Pb, Cd and Hg in different investigated samples when compared with the normal values indicating environmental contamination with heavy metals especially that of major health effects like Pb, Cd and Hg.

(Soil and Plants)

NO : 322
TITLE : Pollution Impact on Soils and Plants in an Industrial Area Near Assiut City.
AUTHORS : M.A. El-Desoky and A. Ghallab
ADDRESS : Department of Soils and Water, Faculty of Agriculture, Assiut University.
BULLETIN : Assiut Univ. Bull. Environ. Res. Vol. 3 No. 1, March 2000

ABSTRACT

Soil and plant samples were collected from 19 sites located around the superphosphate factory that lies 9 km North of Assiut city, Egypt, to evaluate soils and plants with respect to some elements and heavy metals pollution. Surface and subsurface soil samples were taken from each site. Each plant sample was divided into 2 subsamples, one was washed with dionized water and the other was left unwashed.

In most cases, salinity and extractable P in the soil decreased with distance from the factory in both south and southeast directions. Dominance of soluble Ca, Mg salts as well as extractable P in the soil material around the factory indicates that phosphate dusts are the main contaminants in this area. Sulfur oxide fumes resulting from the factory could be the source of obtained high levels of extractable S in the soils around the factory. The eastern and southeastern parts of the studied area showed the highest levels of DTPA-extractable metals indicating that factory dusts and smokes could be the reason for soil pollution.

Pronounced differences in P and K contents between the washed and unwashed plant samples were observed. Concentrations of P and K in a variety of plants decreased with distance far from the factory. No significant differences in S concentrations in plants with distance from the factory or between washed and unwashed plants was observed. Unwashed plant samples had higher levels of heavy metals than dionized water washed samples. However, concentrations of these metals in plant tissue did not reach the phytotoxic levels. Most studied metals in plants did not show a specific trend of distribution with distance from the factory.

(Soils and Plants)

NO	: 323
TITLE	: Pollution Status of Soils and Plants Around the Factory of Ferrosilicon Alloys, Edfo, Aswan.
AUTHORS	: A. Ghallab
ADDRESS	: Soil and Water Dept., Faculty of Agric., Assiut University
BULLETIN	: Assiut Univ. Bull. Environ. Res. Vol. 5 No. 1, March 2002

ABSTRACT

A study was carried out in summer 2000 to evaluate the pollution status of the soil and the plants around the factory of Edfo ferrosilicon alloys, Aswan Governorate, Egypt. Three sites were chosen for the study in the south, east and north directions, whereas seven sites were selected in the southeast direction of the factory. These sites were located at different distances from the factory. Soil samples were taken from two depths, i.e. (0-25 cm) and (25-50 cm) at each site. Plant samples were also collected from each site. Each plant sample was divided into two equal subsamples, are washed with dionized water and the other left unwashed. Dust materials from the factory cheminies were collected. These dusts were found to contain Fe, P, S, K, Ca, Mg, Mn, Zn, Cu, Cd, Pb, Ni and Cr probably resulting from using iron oxide, coke coal and quartz in the industrial processes of ferrosilicon alloys.

Salinity of the soil increased southward with increasing distance from the factory, whereas the soil samples of the sites that were located away from the factory showed lower pH values than those near the factory.

Concentrations of calcium and magnesium in the soil samples were highest at a distance of 1 km from the factory in the southeast direction. El-Sebaeia phosphate-mine dusts could be responsible for the high extractable levels of P found in soil. Sulfur oxide fumes resulting from factory could be the source of the obtained high levels of extractable S in the soils around the factory. South and southeast sites of the studied area had high levels of DTPA-extractable metals indicating that the factory dusts, smokes and fumes could play an important role in that matter.

Levels of P, K, S, Fe, Mn, Zn, Cu, Cd, Ni, Pb and Cr in plant samples showed pronounced differences due to washing. Significant correlations were found between iron levels in washed sugar-cane samples and its DTPA-extractable levels in the surface layers (0.952*), whereas lead levels in the washed sugar-cane samples were significantly correlated with its levels in the subsurface layers (0.817*). Significant correlations were also found between both manganese and chromium concentrations in date palm trees and their concentrations in the surface soil layer (-0.967* and 0.948*, respectively).

(Table Salt)

NO : 324
TITLE : Application of Stripping Voltammetry in the Determination of trace Metal Ions in Common Salt (Table Salt).
AUTHORS : Azza M. M. Ali .
ADDRESS : Dept. of Chemistry, Faculty of Science, Assiut University.
BULLETIN : 1st Internat. Conf. on Basic Sci. & Advanced Tech., Nov. 9-12,1996, Assiut

ABSTRACT

Sensitive Voltammetric methods using cathodic and anodic differential pulse stripping techniques have been applied for the determination of trace metal ions; Zinc (II), copper (II), lead (II), cadmium (II), cobalt (II), and nickle (II) which usually found in the different grades of the common salt as contaminants. The optimum conditions i.e. deposition time, preconcentration potential, supporting electrolyte and ionic strength have been investigated for the determination of each metal ion individually. The concentration of each metal ion is determined using standard addition method. It has been found that the metal content is varied according to the quality of the table salt distributed in the market.

(Tumour)

NO	: 325
TITLE	: Evaluation of Intravesical Chemotherapy and Immunotherapy in Patients with Superficial Transitional Cell Carcinoma of the Urinary Bladder.
AUTHORS	: H. A. Abo-Elalla
ADDRESS	: Dept. of Urology, Fac. of Med., Assiut University.
SOURCE	: Thesis (Ph.D), 1997.

ABSTRACT

This randomized clinical study includes 112 with superficial TCG of the urinary bladder, 25 patients of them (control group) i.e TUR alone who were treated of upefical TCG and presented to the study by a recurrent upefical TCC. This study was carried out at Urology Department, Assiut University Hospital, from October 1992 to August 1996. The age of patients ranged between 21-82 years old, with mean age 57.7 years, 107 were males and 6 were females two weeks after complete TUR of all visible tumours, patients randomly received intravesical thiotepa in 18 patients, intravesical doxorubicin hydrochloride in 18 patients, intravesical 4-epiodoxorubicin (epirubicin) in 16 patients , and intravesical Bacillus Calmette Guerin (BCG) in 60 patients. Follow-up urine cytology, urethrocystoscopy, and abdominal sonography were done every 3 months in the first year, every 4 months in the second year, and every 6 months thereafter. Excretory urography was done every year. Complete response was reported in 66.7% of patients in thiotepa group, 72.2% in patients of doxorubicin group, 75% of patients in epirubicin group, and 70% of patients in BCG group. Partial response was reported in 6.7% of patients in BCG group only. Recurrence rate/100 patient-months was 1.5 recurrences in thiotepa group, 1.2 recurrences in doxorubicin group, 1.8 recurrences in epirubicin group, 2.6 recurrences in BCG group, 18.6 recurrences in TURT alone group. Disease-free interval was propoged after prophylactic intravesical chemotherapy and BCG, which was 22.8 months for thiotepa group, 22.5 months for doxorubicin group, 13.8 months for epirubicin group, 17.8 months for BCG group, but for control group it was 7.5 months. Tumour progression in stage was repored in I patient (5.6%) in thiotepa group, and in 3 patients (5%) in BCG group, who were managed by total cystectomy. As regard the complications of intravesical chemotherapy and BCG, no major adverse effects were reported. Cystitis was reported in 23.2% (26/122), 16.7% in thiotepa group, 22.2% in doxorubicin group, 18.8% in epirubicin group, and 26.7% in BCG group. Cystitis was usually mild and not required interruption of treatment. Haematuria was reported in 13.4% (15/112), in 5.5% of doxorubicin group, 12.5% in epirubicin group and BCG group haematuria was usually mild and not required blood transfusion. Ferer (38.5 C) was reported in 2 patients (3.3%) of patients in BCG group, which managed by prophylactic. Isoniazid 300 mg and BCG intravesical instillation resumed without further complications. From the study conclude that it inpatients with favorable superficial TCC are candidate for prophylactic intravesical chemotherapy. Patients with unfavourable superficial TCC are candidate for prophylactic intravesical BCG. Intravesical instillation should be started after 14 days from TURT, done by a traumatic sraumatic catheterization, and by gravity flow. BCG was more effective for patients with unfavourable superficial TCG, and with low cost.

(Tumour)

NO	: 326
TITLE	: Clinical Study Evaluating Salvage Chemotherapy Platinum and Etoposide in
AUTHORS	: Amal Khalifa and Mohammed Galal*.
ADDRESS	: Unit of Radiation Oncology, Assiut Univ. Hospital. and *Dept. of Pathology, Faculty of Medicine Assiut Univ.
BULLETIN	: Assiut Med. J. Vol. 24, No. 2, 2000 .

ABSTRACT

The aim of this prospective single arm study is to evaluate the safety and efficacy of the combination of Platinum-tumour.

were included in this study all of whom had received previous surgery chemotherapy and/or radiotherapy to their primary disease. Site of recurrent disease was abdominal (local) in 2 patients, lung in 4 patients, liver in 1 patient and multiple in 10 patients (local, lung, liver).

Cisplatin was given in a dose of 100 mg/m² Day 1 after proper hydration and Etoposide in a dose of 100 mg/m² Days 1-3. Cycles were repeated every 21 days and initial response was assessed after the 2nd cycle. The efficacy and/or toxicity of the drugs were evaluated during and after treatment.

After initial assessment, only 2 patients (11.8%) attained complete response (CR), 4 patients (23.5%) had a partial response (PR), 6 patients (35.3%) had a stationary disease (SD) and 5 patients (29.4%) had progressive disease (PD).

At the end of the study, a total of 76 cycles were administered to 17 patients. The overall response rate (CR+PR) was 41.2%. The median follow - up period was 8.9 months (range 4 - 20 months). The combination was tolerable, chemotherapy had to be delayed for 1 week due to neutropenia on 8 occasions (10%) of courses. No toxicity related deaths were recorded.

Etoposide-Cisplatin combination is tolerable, but the salvage rate was not as high as reported in other studies. New drug combinations should be tried to increase the rescue rate of these patients.

(Urine)

NO	: 327
TITLE	: Enzymuria as an Index for Fairly Intoxication Due to some Analgesics.
AUTHORS	: Samira, M. Saleh
ADDRESS	: Dept. of Forensic Med. and Toxicology, Fac. of Med., Assiut Univ.
SOURCE	: Thesis (M.Sc), 1998.

ABSTRACT

The study evaluated the effects of oral administration of some analgesics on kidneys and liver of rats. The study included 100 male albino rats divided into 3 main groups. The first group (40 rats) were given Idarac solution. The second group (40 rats) were given Ponstan suspension. The third group (20 rats) were given Sodium Phosphate Buffer and kept as a control. The 2nd and 3rd groups were furtherly subdivided into 4 subgroups, the first of them given the drug for 6 days, the 2nd for 10 days, the 3rd for 12 days and the 4 th subgroup for 14 days. Blood and urine samples were collected and the kidneys and liver were homogenized. The samples used for determination of transaminases GPT, GOT, alkaline phosphatase, lactate dehydrogenase, N-acetyl -B-D glucosaminidase, phosphohexose isomerase and urinary lysozyme. No deaths could be recorded in animals. The data presented clearly showed the nephrotoxic effects of either Idarac and Ponstan which is clear in the first days of drug use. Therefore care should be taken in prescribing these two drugs especially in patients with known liability of renal function i.e elderly patients and diabetics. It is advisable to perform renal function tests when the use of these drug is indicated in big doses for several days.

(Water)

NO : 328
TITLE : Geochemistry of Groundwater Aquifers in the Nile Basin. Eastern Assiut, Egypt.
AUTHORS : E.M. Abu El-Ella.
ADDRESS : Geology Dept., Fac. of Sci., Assiut Univ.
BULLETIN : 1st Internat. Conf. on Basic Sci. & Advanced Tech., Nov. 9-12,1996, Assiut

ABSTRACT

Geochemical models are tools that aid the interpretation of geochemical reaction. The geochemical WATEQF and BALANCE have been used to deduce the major chemical reactions controlling the groundwater chemistry in the Nile Basin aquifers, Eastern Assiut. The chemical system was assumed to be closed to mass transfer of carbon dioxide. Principal aqueous chemical reactions appear to occur in reaction zones in the aquifers and include feldspar hydrolysis to kaolinite, calcite dissolution, and calcium for sodium cation exchange.

(Water)

NO : 329
TITLE : Impacts of Different Water Pollutants on Aquatic and Mesophytic Plants in Assiut Governorate, Upper Egypt.
AUTHORS : M.A.A. Gadallah and S.A. Sayed.
ADDRESS : Botany Department, Faculty of Science, Assiut University
BULLETIN : Bull. Fac. Sci., Assiut Univ. 29 (2-D), P-P.57-71 (2000).

ABSTRACT

The impacts of surface water pollution with wastes coming from industries (sites 6 and 7), sewage effluents (site 5), agricultural runoff (sites 1 and 3) and animals excreta and municipal ships (site 4) on the distribution and changes in chlorophyll (Ch1), soluble sugars (SS), total free amino acids (TAA) and soluble proteins (SP) of two submerged (*M yriophyllum spicatum* and *Potamogeton crispus*), two floating (*Eichhornia crassipes* and *Ludwigia stolonifera*) and five emergent (*Typha domingensis*, *Phragmites australis*, *Polygonum plebejum*, *Cyperus alopecuroides* and *Paspalidium geminatum*) aquatic macrophytes and two cultivated mesophytes (*Lycopersicon esculentum* and *Zea mays*) were studied. Plants were collected from eight sites located at different water habitats including the River Nile, irrigation and drainage canals at Assiut Governorate. Among the aquatic macrophytes *E. crassipes* and *P.australis* grow abundantly in the Nile, irrigation and drainage canals and are represented in most sites of investigation. *P. plebejum*, *P. geminatum* and *T. domingensis* exhibited moderate presence value whereas *M. spicatum* the lowest ones. The contents of chlorophyll were significantly higher in plants growing at the unpolluted sites of the Nile (sites 2 and 8) than in those collected from polluted areas. Submerged macrophytes had lower Ch1 content than the other groups studied. Emergent macrophytes were generally lower in their water content than the submerged and floating plants. The lowest water contents were detected in *P. australis* collected from drainage canals. Industrial waste water (sites 6 and 7) resulted in a higher soluble sugars (SS) accumulation in most plants studied. Total free amino acids (TAA) and soluble proteins (SP) showed great variation in their response to water pollution. In many cases water pollution enhanced soluble sugars and total free amino acids translocation from the leaves to stems and roots. The internal concentration of soluble sugars and total amino acids were significantly correlated with the tissue elemental contents. The results indicates that the metabolic activities of some species such as *P.australis* and *P.geminatum* appear to be adapted to water pollution. Other plants, the cultivated tomato and maize and the submerged *P.crispus* appear to be sensitive in their metabolism to water pollution.

(Water)

NO : 330
TITLE : Capacity of Aquatic and Mesophytic Plants to Treat Wastewater from Different Sources in Assiut Governorate, Egypt.
AUTHORS : M.A.A. Gadallah and T. Ramadan.
ADDRESS : Botany Dept., Faculty of Science, Assiut University.
BULLETIN : Bull. Fac. Sci., Assiut UNIV. 29 (1-D), P-P.175-187 (2000).

ABSTRACT

Changes in eight essential elements in leaves, stems and roots of two submerged (*Myriophyllum spicatum* and *Potamogeton crispus*), two floating (*Eichhornia crassipes* and *Jussiaea repens*), five emergent (*Typha domingensis*, *Phragmites australis*, *Polygonum plebejum*, *Cyperus alopecuroides* and *Paspalidium geminatum*) aquatic macrophytes, and two cultivated mesophytes (*Lycopersicon esculentum* and *Zea mays*) exposed to different sources of water pollution in Assiut Governorate were studied. Floating macrophytes accumulated low concentrations of Na^+ and high concentrations of K^+ , Mg^{2+} and Cl^- in their organs than the submerged ones. Emergent plants accumulated Na^+ and K^+ in minor and moderate concentrations, respectively, compared with floating and submerged species. Floating and cultivated plants accumulated more Ca^{2+} in their roots, while emergent plants accumulated more Ca^{2+} in their leaves. Concentrations of NO_3^- in organs of emergent plants were lower than that in floating and submerged ones (*C. alopecuroides* was an exception). The wide variation in response to water pollution was dependent on the plant species, plant organs and the source of pollution. Waste water coming from fertilizers factory and oils and detergents factory was associated with an increase in accumulation of Na^+ , Ca^{2+} and PO_4^{3-} but reduced concentrations of Cl^- and K^+ in organs of most plants. Sewage waste water reduced K^+ , Ca^{2+} , Mg^{2+} and Cl^- (*T. domingensis* and *C. alopecuroides* were exception for Cl^-) but increased PO_4^{3-} accumulation, especially in cultivated plants. The Nile surface water polluted with animals excreta and ships wastes increased concentrations of Cl^- and PO_4^{3-} especially in *E. crassipes* and *P. plebejum*. Concentrations of minerals in the plant tissues were positively or negatively correlated with that found in the polluted water; but a wide variation was noticed. It is founded that Na^+ was accumulated with more affinity by roots of the mesophytic plants cultivated in polluted sites.

(Water)

NO	: 331
TITLE	: Estimation of some Chemical Pollutants in Drinking and Surface Water in Upper Egypt.
AUTHORS	: Salem, D. A., Abdou, K. A* and Zaky, Z. M.
ADDRESS	: Dept. of Forensic Med. and Toxicology, Fac. of Vet. Med., Assiut University and *(Beni-Suef), Cairo University.
BULLETIN	: Assiut Univ. Bull. Environ. Res. Vol. 4 No. 1, March 2001

ABSTRACT

This study was carried out to evaluate some chemical pollutants in drinking and surface water in Upper Egypt. Eighty water samples were collected randomly from Aswan, Qena, Assiut and Beni Suef cities and from River Nile water in Aswan, Assiut, Beni Suef regions in addition to samples from Bahr Yousef canal (10 samples each) during January-June 2000. Samples were analyzed for nitrites, inorganic and total phosphorus, copper, iron, fluorine, manganese, lead and cadmium. Nitrites, inorganic and total phosphorus were estimated spectrophotometrically. Fluorine was estimated by selective ion electrode. Copper, iron, manganese, lead and cadmium were estimated by using atomic absorption spectrophotometer.

The obtained results revealed that 20% of the analyzed samples from the River Nile water in Beni Suef region and Bahr Yousef canal were above the U.S. drinking water standards (1 mg/l) and WHO guide (3 mg/l) for nitrites. These values were accepted for livestock according to the 33 mg/l recommended limit of US EPA (1973) and National Academy of Science (1974).

region and Bahr Yousef canal, respectively. Inorganic and to evaluated because of the lake of the recommended limits. Copper, iron and fluorine concentrations never exceeded the U.S. and WHO maximum contaminant level (MCL) in all analyzed water samples. Manganese values were above WHO MCL (0.5 mg/l) in 30% of samples from Qena city only. More than 40% of the different water samples were above the U.S. EPA guide (0.05 mg/l). There is no available limit for manganese in livestock drinking water. Lead mean values were more than the U.S. action level (0.015 mg/l) and WHO guide (0.01 mg/l) for lead in all the analyzed samples. Most water sources were accepted for livestock as the MCL is 0.1 mg/l according to U.S. EPA (1973) and National Academy of Science (NAS, 1974). Cadmium mean levels were above the U.S. and WHO MCL (0.005 and 0.003 mg/l) in Assiut and Beni Suef cities and water samples from River Nile and Bahr Yousef canal but most samples were accepted according to U.S. EPA (1975) guide (0.01 mg/l). All sources were within the cadmium recommended guide for livestock (0.05 mg/l). Public health importance of these pollutants was discussed.

(Water)

NO	: 332
TITLE	: Laboratory Investigations to Detect the Contaminated Rocks by Resistivity Measurements.
AUTHORS	: Mahmoud M. Mansour and Mohamed Abuel-kassem Mohamed
ADDRESS	: Mining Engineering Department, Faculty of Engineering, Assiut University
BULLETIN	: Int. Conf. for Develop. and the Env. in the Arab World, March, 26-28, 2002

ABSTRACT

The possibility of using apparent resistivity to detect the water content, effect of temperature and the underground water properties in terms of chemical constituents are investigated. The apparent resistivity is measured for the natural rock samples, for temperature change, different water content and the contaminated water with different chemical constituents. Exceedence of the chemical constituents can pose a harmful health effects on human. The maximum effect of water volume content is found in the range of 10% to 20%. The effect of temperature changes on the resistivity is significant for temperatures less than 100°C. The increase of the apparent resistivity is small at a temperature range from 20°C to 70°C, while it is high at temperature in the range of 70°C to 90°C. The resistivity is high when rocks are saturated with water contains Fe and Mg. Also, it is inversely related to Na concentration and is directly proportional to NO₃ concentration. Findings of this study provide a basis for using the apparent resistivity as a tool to detect the water content in the rocks and the geothermal regions as well as underground water characteristics in terms of chemical constituents during the prospecting stage.

(Water and Soil)

NO	: 333
TITLE	: Growth and Chemical Composition of <i>Thuja Orientalis</i> . Seedlings as Affected by Saline Irrigation Water, Soil Moisture Content and Soil Type.
AUTHORS	: El-Sallami, I.H. and B. Sh. Makary*.
ADDRESS	: Horticulture Dept., Fac. Agric., Assiut University and *Soils, Water & Environment Res. Institute, Agri. Res. Center, Giza.
BULLETIN	: Assiut J. of Agric. Sci., Vol. 32, No. 3, 2001.

ABSTRACT

A pot experiment was carried out in 1999 and 2000 at the Experimental farm of Assiut University to investigate the effect of different levels of saline irrigation water; control (tap water), 2000, 4000 and 8000 ppm of NaCl and CaCl₂, two soil moisture (80 and 120% of F.C.) and two soil types (clay loam and sandy) on vegetative and root growth as well as chemical composition of *Thuja orientalis*, L. seedlings.

In general, saline water of 2000 and 4000 ppm had no significant effects on most growth measurements. Meanwhile the high level (8000 ppm) resulted in significant decreases in these parameters. All salinity treatments decreased leaf contents of N, K, Mg and pigments (chlorophylls {a&b} and carotenoids. Sodium Ca and total phenolic compounds were increased by increasing salinity. Meanwhile, P and total carbohydrate contents were not affected.

The high soil moisture content (120% of F.C.) decreased the injurious effect of salinity and improved the vegetative and root growth as well as increased leaf contents of N, P and K, while Na, Ca and Mg were decreased. However, low soil moisture content (80% of F.C.) increased leaf contents of Na, Ca, Mg, pigments, total carbohydrates and phenolic compounds.

Clay loam soil was superior to sandy one in stimulating the vegetative and root growth as a result of absorption more N, P, K and Mg as well as enhanced the chlorophyll and carbohydrate synthesis. Meanwhile, sandy soil increased leaf contents of Na, Ca and total phenolic compounds.

Interaction showed that combination of the salinity level (2000 or 4000 ppm) under high soil moisture content in clay loam soil resulted in satisfactory growth response to salt stress. However, the seedlings in sandy soil tolerated low salt level (2000 ppm) at higher soil moisture content.

(Well Water)

NO	: 334
TITLE	: Quality Tracing of Well Water In Irrigated Agricultural Lands, Nile Valley of Egypt.
AUTHORS	: Ahmed Khalaf Abdel-Lah
ADDRESS	: Civil Engineering Department, Faculty of Engineering, Assiut University.
BULLETIN	: Int. Conf. for Develop. and the Env. in the Arab World, March, 26-28, 2002

ABSTRACT

In Egypt, Ground water is the dominant water resource in the rural areas. In addition, use of chemical fertilizers in Egypt has increased extensively since construction of the Aswan High Dam due to the need for more agricultural productivity. In the Nile Valley aquifer, the main ground water recharge is the irrigated water. Increased applications of chemical nutrients in the irrigated lands of the studied area are likely to threaten the quality of ground water and to create non-point sources of chemical fertilizer species.

A drinking wellfield located in Upper Egypt (Qena Governorate) was studied to assess the potential effect of agrochemicals on the quality of pumped ground water. To achieve this goal, water pumped from three municipal wells (50 m depth and total pumping rate 800 m³/d) was analyzed. Monthly monitoring of water chemistry was carried out for this wellfield over 12-month period. Concentrations of nitrate, phosphate, and sulfate (NO_3^- , PO_4^{3-} , SO_4^{2-}) ions and other quality parameters were measured.

Analysis of water samples indicates that the water is within the drinking-water standards. However, elevated concentrations of nitrate, sulfate, and phosphate above naturally occurring levels in wells are detected. Therefore, extensive use of chemical fertilizers in the Nile Valley threatens the quality of ground water supply in the future. Protection of ground water from fertilizers can be achieved by applying best management practices (BMP) for fertilizer use and deepening the municipal well screens.

