

كلية الزراعة

أولاً: الماجستير

قسم الأراضي

معايير جودة الأرض وتأثرها بمحاصيل منزرعة مختلفة SOIL QUALITY INDICATORS AS AFFECTED BY DIFFERENT CULTIVATED CROPS

طارق علي أحمد إبراهيم

ABSTRACT

The term ‘‘soil quality’’ has been coined to describe the combination of biological, bio-chemical, chemical and physical characteristics that enable soils to perform a wide range of functions.

In this study, a field experiment was conducted to measure soil quality by evaluating some biological, bio-chemical and chemical indicators and yield and yield components as affected by adopted farming system with different kinds of crops (wheat, sugar beet, berseem, faba bean, onion and garlic) were considered.

According to the obtained results, the T₄ treatment (dressing with recommended P, K and N which added as (١:١) co-organic mixture prepared from sewage sludge and poultry manures (١:١) on N content bases), recorded substantial increases in comparison with other treatments in the most biological, bio-chemical and chemical indicators. As well as, T₄ treatment recorded the highest increases in yield and yield components of all tested crops.

قسم الإرشاد الزراعي

دراسة تقييمية لجودة الخدمة الإرشادية المقدمة من خلال المراكز الإرشادية بمحافظة كفر الشيخ و الغربية

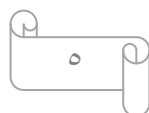
AN EVALUATIONAL STUDY FOR QUALITY OF THE AGRICULTURAL EXTENSION SERVICE PROVIDED FROM THE AGRICULTURAL EXTENSION CENTERS IN KAFRELSHEIKH AND EL GHARBIA GOVERNORATES

منال فهمي إبراهيم على

ABSTRACT

The main objective of this current study was to Identify level of quality of the Agricultural extension service provided from the Agricultural extension centers in Kaferelsheikh and elgharbia governorate

study data were collected by interview questionnaires, though a random sample amounted ١٠٠ respondents from every village of the villages in the research areas ٨٣% , ٧١% of farmers respondents were come in low and medium age in Arumon and Shbrato villages respectively, ٣٨% , ٦٤% of farmers respondents were illiterates in Arumon and Shbrato villages respectively, ٥٤% , ٦٩% of farmers respondents were dedicated to agriculture in Arumon and Shbrato villages respectively, ٥٨% , ٢٧% of framers respondents were come in low and medium contact to the Agricultural extension center in Arumon and Shbrato villages respectively, ٥٧% , ٥٠% of farmers respondents their appreciation for quality of the Agricultural extension service provided from the Agricultural extension centers was poorly in Arumon and Shbrato villages respectively, ٦٧% , ٧٧% of farmers respondents their appreciation for quality of the Agricultural extension service provided from the Agricultural extension centers in the field of agricultural was good Arumon and Shbrato respectively. ٩٦% , ٨٦% of farmers respondents their appreciation for quality of the Agricultural extension service provided from the Agricultural extension centers in the field of education was poorly in Shbrato and Arumon villages respectively... ٩٣ % , ٨٩% of farmers respondents their appreciation for quality of the Agricultural extension service provided from the Agricultural extension centers in the field of environment was good in Shbrato and Arumon villages respectively, ٦١ % , ٥٨% of farmers respondents their appreciation for quality of the Agricultural extension service provided from the Agricultural extension centers in the field of health was good in Shbrato and Arumon villages respectively.



الآثار التعليمية للحقول الإرشادية على زراع بنجر السكر في بعض قرى
محافظة كفر الشيخ

**THE EDUCATIONAL IMPACTS OF EXTENSION FIELDS ON SUGAR
BEET FARMERS IN SELECTED VILLAGES OF KAFR EL – SHEIKH
GOVERNORATE**

أحمد ممدوح عبد الجليل عبد العال عامر

ABSTRACT

This study aimed mainly to identify the educational knowledge impacts of the extensional fields in the farmers of sugar beet crop in some villages of Kafrelsheikh,

The personal questionnaire has been used as a tool for collecting data from the interviewees. Kafrelsheikh governorate has been selected to conduct this study because it is the first governorate in the total production and cultivated area of sugar beet crop, the study was conducted on three groups of growers of sugar beet crop, the first group they were all the farmers of extension fields of sugar beet in Kafrelsheikh governorate for the season ٢٠٠٧/٢٠٠٨, they were ٢٠ farmers all of them had been included in the study, the second group included ١٨١ farmares of neighbouring fields, The third group included ١٣٢ farmares of non -neighbouring fields.

Results proved that approximately ٦٥% of the farmers of extension fields included in high knowledge category, while approximately ٣٤%, and about ٨% of the farmers of neighbour fields and of non- neighbour fields included in the same category, respectively, also it found that ٢٥% of the farmers of extension fields were in the moderate knowledge category, while this percentage in farmers of neighbour fields and of non- neighbour fields about ٤٠%, and approximately ٤٢%, respectively. Finally, results cleared that ١٠% of the farmers of extension fields included in low knowledge category, while ٢٦% and ٥٠% of the farmers of neighbour fields and non- neighbour in the same category respectively.

To determine the significant differences between the degree of knowledge of each of the farmers of extension fields, farmers of neighbour fields and farmers of non- neighbour fields with extension recommendations of the sugar beet crop, results cleared that the calculated value of (F) was ١١٧.٣٣ and it was significant at the level of ٠.٠١ of significance, this results refers

clearly to a significant difference between means of degree of knowledge of the farmers of extension fields, farmers of neighbour fields and farmers of non-neighbour fields with extension recommendations of the sugar beet crop.

Accordingly, it is clear that the extension fields played an influential role in increasing the knowledge degree of extension recommendations on the cultivation of sugar beet crop of their owners compared with the farmers of neighbours and non- neighbour fields; also it was affected clearly in increasing the knowledge degree of neighbour fields with this recommendations compared with farmers of non-neighbour fields, it was reflect the role of extension fields in the diffusion the invented extensional recommendations.

الأثر التعليمي للاجتماعات الإرشادية في مجال استخدام المخصبات الحيوية في الأراضي الجديدة ببعض قرى مركز الحامول محافظة كفر الشيخ

EDUCATIONAL IMPACT OF EXTENSION MEETINGS IN THE AREA OF BIOLOGICAL FERTILIZER IN NEW LAND VILLAGES AL-HAMOUL DISTRICT, KAFREL-SHEIKH GOVERNORATE

ربيع علي سيد احمد أبو غالي

ABSTRACT

The study was carried out at three villages in El- hamoul district (El-nasr, El-thmaneen, and El-Salan) which were selected randomly also simple random sample amounted ١٠٠ respondents were selected from the three studied villages, the experimental sample amounted ١٠٠ respondents too whom exposure to the extension meeting about the advantages and benefits of biofertilizers use in new land such as (belogreen, phosphoreen, serialeen, and microbeen). Then the total farmer respondents (control & experimental amounted ٢٠٠ study data were collected through use personal interview questionnaire. Frequencies, percentages, arithmetic means, standard deviation, and "T" test were utilized for analyzing data statistically.

The results indicated that ٥٧% versus ٥٩% of the respondents in both experimental and control samples were come in the moderate category of age, ٩٢% versus ٩٨% of them in the experiment an and control samples gradually their families individuals number were reached between ٦-١١ individuals, ٧٢% versus ٧٧% (experimental and control) were either literates or illiterates, ٧٦% of experimental sample versus ٧٧% of control sample were worked, part time with farming, ٨٣% of experimental sample versus, ٧٦% of control sample their farming land-holding were either moderate or low, ٨٠% of experimental sample versus ٨٣% of control sample their farm animal holding were either low or moderate, ٩٤% of the experimental sample versus ٩٨% of the control sample their knowledge sources were either low or moderate, ٧٠% versus ٩٥% of them (experimental & control gradually) their developmental participation were either low or moderate, ٧٣% versus ٩٩% of the respondents in the experimental and control samples gradually their formal participation were either low or moderate, ٤٣% versus ٥٣% of the respondents in the experimental and control samples gradually their self estimation of opinion leadership were either low or moderate, the results also showed that ٦٩% of the respondents in the experimental sample their innovativeness were high, while ٩٨% of the respondents in the control sample

their in innovativeness were moderate, ٥٨% versus ٤٧% of the respondents in both experimental and control samples gradually their achievement motivation were either low or moderate.

قسم الألبان

اكتشاف بعض مضادات الميكروبات فى اللبن وتوزيعها فى بعض المنتجات اللبنية كآثر
للعمليات التكنولوجية

EFFECCTES OF ENVIRON MENTAL WASTES APPNICATION AS AMENDMENTS TO SEWAGE SLUDGE ON SOIL HEAVY METAL COCNCENTRATION AND PLANT UPTAKE

عبد العزيز محمود عبد العزيز عبد القادر

ABSTRACT

Simple tests commonly used in animal serum have been modified to be suitable for the routine detection of antimicrobial residues in raw milk, Liebermann's, Copper sulphate " M¹" and Aromaticity " M²" are simple suitable selected tests. Detection of amplicillin and oxytetracycline limits have been accomplished by Liebermann's test with minimum concentration of 1 µg/L for both. Aromaticity (M²) was used to detect minimum 1 µg/L of trimethoprim. However, using Copper sulphate test had detected sulphadiazine residues in minimum concentration of 1000 µg/L. We also, used microbiological screening test for quantitative detection of the antimicrobial residues utilizing Bacillus subtilis B.G.A.

We also studied the effects of those antimicrobial residues on thermophilic and mesophilic starter culture bacteria. The results showed that Sterptococcus thermophilus was more sensitive to antimicrobial residues than Lactobacillus bulgaricus. In the same order the coagulation time of both yoghurt and kareish cheese was longer when the concentration of antimicrobials was increased. Also, the concentration of antimicrobial residues had decreased by heating, the sterilization exerted the highest effect on the antimicrobials stability followed by boiling. On the opposite, pasteurization had less effect on the antimicrobials stability.

Finally we studied the effect of processing the antimicrobials distribution in dairy products.

قسم الإنتاج الحيواني

تأثير العوامل الوراثية والغير وراثية على عدد الخلايا الجسدية وعلاقتها بصفات اللبن ومكوناته في الجاموس المصرى

CENETIC AND NON – GENTIC FACTOR AFFECTING SOMATIC CELL COUNTS AND THEIR RELATIONS TO MILK TRAIT S AND MILK CONSTITUENT IN EGYPTIAN BUFFALOES

ابراهيم عطا محمد شعبان ابو النصر

SUMMARY

Total records ٢٥٤٨, normal lactation records included ٣٨٧cows, ١٠٦ sires, ٣٥٠ dams of the herd Egyptian buffaloes maintained at Mehallet Mousa farm of Animal Production Research Institute (APRI), Ministry of Agriculture. Data covered the period from ٢٠٠١ to ٢٠٠٦. Traits investigated in the present study were somatic cell counts (SCC ١٠٠٠) cells/ml, milk yield (MY) and constituent (F%, P%, Lact% and TS%).

Data were analysed by using Mixed model least squares analysis of variance (Harvey, ١٩٩٠), to determine the main fixed effects, and animal model by using multiple traits derivative Free restricted Maximum Likelihood (MTDFREML) according to Boldman et al.,(١٩٩٥)to estimate the genetic parameters to the different traits.

The objectives for this study were:

١. The effect of SCC on milk production and milk constitutes.
٢. Determine factors that affect the milk yield, milk constituents and SCC traits in Egyptian buffaloes.
٣. Evaluation milk losses and profit returns in Egyptian buffalo's farm, results in increase SCC level.
٤. Estimate genetic parameters and genetic relationships of SCC, milk yield and milk constituents of Egyptian buffaloes.

دراسات على بعض النباتات الطبية كمضادات للسموم الفطرية فى علائق الأسماك
**STUDIES ON SOME MEDICINAL PLANTS AS ANTI MYCOTOXINS IN
FISH DIETS**

محمد السيد محمد بسيونى

SUMMARY

The present work was carried out at the Department of Animal Production, Faculty of Agriculture, KafrelSheikh University, during summer seasons ٢٠٠٦ to study the effect of dietary contamination with aflatoxin B^١ (١٥٠ ppb, AFB^١) with and without (T^٢) the dietary supplementation of ١% of black seed, T^٣; liquorice, T^٤; onion meal, T^٥; garlic meal, T^٦; fenugreek, T^٧; and cinnamon, T^٨. This study was evaluated via growth performance and survival, feed and nutrients utilization, some organs indices, carcass composition, residues of AFB^١ in the whole fish body, and some parameters of blood hematology and biochemistry, of the experimented fish *Oreochromis niloticus*. Also, this study was conducted to evaluate the ability of the above mentioned nutritious agents to detoxify the drastic effects of this dangerous toxic AFB^١ on the Nile tilapia fish *O. niloticus* for ١٥ weeks.

قسم البساتين

دراسات فسيولوجية على بعض نباتات التنسيق الداخلي
(الزهور ونباتات الزينة وتنسيق الحدائق)

PHYSIOLOGICAL STUDIES ON SOME INDOOR PLANTS

أحمد محمد عبدالله الطراوى

ABSTRACT

Two pot experiments were carried out at the Experimental Farm of the Faculty of Agriculture, Kafr El-Sheikh University during the two successive seasons of ٢٠٠٥/٢٠٠٦ and ٢٠٠٦/٢٠٠٧. The first experiment aimed to study the effect of different growing media (clay, clay: sand (١:١ v/v), clay: sand (١:٢ v/v), sand and peatmoss) on vegetative growth, flowering and chemical constituents of *Anisacanthus wrightii*, Gray., *Jacobinia carnea*, Nichols. and *Weddelia trilobata* L. The second experiment was to study response of the same plants to addition of sulphur as a soil amendment at ١, ٢, ٣ and ٤g S/pot applied in one dose after one month from transplanting into plastic pots.

تأثير معاملات قبل الجمع على الصفات الثمرية والقدرة التخزينية في البرتقال أبوسره
(الفاكهة)

**EFFECT OF PRE-HARVEST TREATMENTS ON QUALITY AND
STORABILITY OF NAVEL ORANGE FRUITS**

مصطفى السيد المرسي زلط

ABSTRACT

This study was carried out during two successive seasons ٢٠٠٤/٢٠٠٥ and ٢٠٠٥/٢٠٠٦ at a private farm in Abo-Katfa, Kafr El-Sheikh Governorate to study the effect of some foliar sprays (GA_3 ٤٠ ppm, KNO_3 ٥% and urea ٢%) in individual case and aggregate effect for each one with CaCl_2 ٢% on fruit quality (physical and chemical properties) of Washington Navel orange fruits stored at room temperature and cold storage at ٥°C. Also, to study the effect of various treatments on weight loss and fruit decay on shelf-life after storage period.

The following characters were attended: flowering rate, fruit set, leaf/fruit ratio, leaf content of N, P, K, Ca and Mg, fruit cracking, yield/tree and fruit characters as volume, weight, juice volume, length/width ratio, peel thickness, SSC, acidity, SSC/acid ratio and vit. C.

Also, chemical properties of fruits storage under room temperature and cold storage at ٥°C two weeks intervals were studied. Weight loss and fruit decay during shelf-life after storage were studied.

It was found that foliar spray has no effect on flowering rate, final fruit set, leaf/fruit ratio but has a great effect on other characters. Control treatment showed a lower value of fruit yield and acidity but increased SSC and SSC/acid ratio, so accelerate fruit ripening than other treatments. Foliar sprays has a great effect of macro-nutrient elements N, P, K, Ca and Mg. Briefly, most treatments and cold storage, led to decrease ripening rate compared to control and stored at room temperature. Also, different treatments and cold storage showed less weight loss and fruit decay compared to storage at room temperature and control.

استنباط وتقييم بعض هجن البطيخ الصنفيه تحت ظروف منطقة جنوب التحرير
(الخضر)

**DEVELOPING AND EVALUATION OF SOME WATERMELON
VARIETAL HYBRIDS UNDER SOUTH TAHRIR CONDITIONS**

علي ابراهيم علي محمد مصري

ABSTRACT

These experiments were conducted during the summer seasons of ٢٠٠٤ - ٢٠٠٧ to produce some superior hybrids of watermelon suitable for Egyptian cultivation. Six cultivars of watermelon Viz., Giza^١, New Hampshire, Crimson Sweet, Charleston Elite, Sugar Baby and Tirga were crossed in all possible combinations (complete diallel) to produce ٣٠ F_١ hybrids. Seeds of the ٦ parents and ٣٠ F_١ hybrids in addition to Aswan F_١ as a check hybrid were sown in evaluation trial at El-Sadat City South of El-Tahrir region on ٩th March ٢٠٠٧. Data were obtained on main plot basis for each character in each genotypes. Griffing's diallel analysis method ١ model I was used to estimate GCA and SCA. Some genetic parameters were determined according to Hayman (١٩٥٤). Broad and narrow sense heritability were estimated.

دراسات على أصول المانجو

STUDIES ON MANGO ROOTSTOCKS

أحمد عزت جاب الله قاسم

SUMMARY

The present work was carried out during ٢٠٠٦ and ٢٠٠٧ seasons at the experimental Farm of faculty of Agriculture of Kafr El-Sheikh University, Egypt. On one and half year old seedlings of four un-grafted mango rootstocks to evaluate these rootstocks, and one, half year old seedlings of Keit mango variety which grafting on the same tested mango rootstocks to study the growth of Keit mango variety as affected by the tested rootstocks.

The tested rootstocks were Zebda, Socaria, ١٣/١ and ٤/٩ rootstocks. The experiment of seedlings was planted in ٢٨, Feb., ٢٠٠٦, in containers which contained ١٥٠ Kg soil. In this respect, considered each seedling of rootstock and keit grown on each rootstock as a treatment in complete randomized design and each treatment contained five replicates, each of them included three plants. Thus the field experiment included ١٢٠ seedlings (٨ treatment x ٥ replicates x ٣ plant). The planting soil was mixture between Clay, Sand and Organic matter by percent ٢:٢:١ respectively.

The purpose of this study was to evaluate and compare the four tested mango rootstocks as main mango rootstocks in Egypt. In addition to under stand their effects on Keit mango variety as a scion grown on them, to have some information about their behavior as rootstocks

قسم الحشرات الاقتصادية

دراسات بيئية على نطاطات الأوراق ونطاطات النبات المصاحبة لأربع محاصيل في منطقة
كفر الشيخ

ECOLOGICAL STUDIES ON THE LEAFHOPPERS AND PLANTHOPPERS ASSOCIATED WITH FOUR CROPS AT KAFR EL- SHEIKH REGION.

كريم محمد سعد موسى

SUMMARY

The present investigation that lasted for two seasons, the first ٢٠٠٥-٢٠٠٦ and the second ٢٠٠٦-٢٠٠٧ was done at the experimental farm, Faculty of Agriculture, Kafr El-Sheikh University. Four crops were selected for carrying the present investigation, two of them represented the summer season, cotton (*Gossypium barbadense*), and maize (*Zea mays*), while the winter crops were represented by the two crops, faba bean (*Vicia faba*) and wheat (*Triticum aestivum*). Samples were collected biweekly from the four plant species which exist there by sweeping net, light trap, water pan trap and sticky trap methods.

قسم المبيدات

دراسة فاعلية بعض المبيدات على بعض الآفات الناقلة للأمراض
وأثرها على الصحة العامة للإنسان

STUDIES ON THE EFFECT OF SOME PESTICIDES AGAINST SOME TRANSPORT DISEASES PESTS AND THEIR EFFECTS ON HUMAN HEALTH

مصطفى جمعه شعبان

SUMMARY

The transport diseases pests play a dangerous role in transferring many diseases to human as Malaria, Fever, Typhoid and Digestive system diseases. These diseases which insects transfer caused human losses and economic losses, because weakness of human ability to work and decreasing production level. So this study was aimed to focus the effect of two pesticides chemicals compounds. Chlorpyrifos and Cyhalothrin insecticides which present two groups (organophosphorus and pyrethroid) respectively on one of these transport diseases insects (mosquito), the study was directed to effectiveness of these pesticides on the larval and adult stages of mosquito (*Culex pipens*). Also the study showed effect of two kinds of oil (orange and lemon oil) against mosquito. So the used pesticides in this field had an effect on human health and also happen a pollution in environment, this study showed the effect of this two pesticides and the side effects on (ChE). That's a trying to decrease the pollution of environment to pesticides specially its harm on human.

مكافحه بعض فطريات التربة باستخدام بعض الطرق البيولوجية والكيمائية
**CONTROLLING OF SOME SOIL FUNGI BY USING SOME
CHEMICALS AND BIOLOGICAL METHODS**

السيد كامل صالح عباس

SUMMARY

The use of conventional fungicides to control soilborne pathogens which causing pre and post emergence damping – off and root – rot seedlings of cotton proved to desturb the ecology of soil beside developing hazardous impact on the surroundings environment . So , it is of great concern to search on alternatives agents for these fungicides which may be more eco - friendly . So , the current study was carried out in order to assay six plant oils ; black seed , olive , garlic , chamomile , castor and almond for their efficienci y on four pathogenic fungi ; F. solani , R. solani , P. debaryanum and S. rolfsii under both laboratory and green – house conditions . The phytotoxicity of those oils was also determined using the effect on total chlorophyll cotent and some growth paramaters of cotton var Giza "٤٥" (shoot length , root length and plant height) . and vitavax was used as a refrence in all tests indicators . Moreover , biological control of pathogenic fungi using antagonistic fungi became one of the developing interests . So , three species of Trichoderma beside Gliocladium (as afungi and as an extract) were assayed under laboratory conditions for their potentialities in controlling the four pathogenic fungi .

تأثير المبيدات على العلاقة بين الاكاروسات ومفترساتها
**EFFECT OF PESTICIDES ON THE RELATIONSHIP BETWEEN
SPIDER MITES AND THEIR PREDATORS**

هدى طلبه محمد احمد سالم

ABSTRACT

The present study is directed to evaluate the relative toxicity of six chemicals of different mode of action, four pesticides (abamectin , ethion, chlorfenapyr and cyhalothrin) , one mineral oil (Nat\) and one plant extract (black cumin) against the adult female mites *Tetranychus urticae* and their predatory mites *Amblyseius fallacies* and *Phytoseiulus persimilis* using standardized method for bioassay. The effects of sublethal doses of these chemicals on some biological aspect of the mite and their predators were also evaluated. Abamectin has a special position in integrated mite management while cyhalothrin is a promising compound in mite control programs.

The contaminated prey egg consumption was different according to the chemical used. The pyrethroid compound cyhalothrin and the acaricide abamectin were the most effective on prey egg consumption, egg production and egg hatchability of the predatory mites *A.fallacis* and *P.persimilis* . Nat\ and black cumin extract were the safest compounds that allowed the predator's egg to hatch producing the next stages to the biological agent to minimize prey populations.

قسم المحاصيل

تأثير معدلات التسميد الأزوتى على إنتاجية وجودة بعض أصناف القمح تحت مستويات مختلفة من الكثافة النباتية

EFFECT OF NITROGEN FERTILIZER RATE ON PRODUCTIVITY AND QUALITY OF SOME WHEAT CULTIVARS UNDER DIFFERENT PLANT DENSITIES

داليا عبد ربه عبد العزيز الحاج

ABSTRACT

This investigation aimed to study the effect of nitrogen fertilizer rates and plant densities on two newly released wheat cultivars (Sakha ٩٤ and Gemmiza ١٠) and Sakha ٩٣ cultivar, at Faculty of Agriculture, Kafr El-Sheikh University, during ٢٠٠٥/٢٠٠٦ and ٢٠٠٦/٢٠٠٧ seasons. The experimental design was split-split plots with four replications. Nitrogen fertilizer rates were ٢٥, ٥٠, ٧٥ and ١٠٠ kg N/fed. and the plant densities were ٢٠٠, ٤٠٠ and ٦٠٠ seeds/m^٢. The studied traits were growth analysis and attributes, earliness characters, yield and yield components and seed quality. Effect of wheat cultivar, nitrogen fertilizer rates and plant densities were significant on most of the studied traits. Sakha ٩٣ recorded the lowest number of days to heading under application of ٢٥ and ٥٠ kg N /fed., while Sakha ٩٤ recorded the highest number under application of highest nitrogen fertilize level, ١٠٠ kg N /fed. The earliest maturity date was obtained when planting with ٦٠٠ seeds/m^٢ with applying ٢٥ kg N/fed. Increasing both nitrogen rate and plant denesties increased grain filling period. Sakha ٩٤ and Gemmiza ١٠ were recorded the higher grain filling rate in both growing seasons. Gemmeza ١٠ had the highest flag leaf area value under ١٠٠ kg N /fed. comparing with Sakha ٩٤ in both seasons. Sakha ٩٤ recorded the tallest plants with the highest rate of nitrogen fertilizer and the highest seeding rates in both seasons. The effect of interaction between each of wheat cultivar, nitrogen fertilizer rate and plant densities were not significant on number of spikes/m^٢, number of kernels/spike and ١٠٠٠-kernel wheight. Seeding rate had insignificant effects on biological yield in both seasons. Sakha ٩٤ and Sakah ٩٣ produced the highest grain yield in both seasons. Increasing nitrogen fertilizer level up to ١٠٠ kg N/fed. caused significant increasing in grain yield in both seasons. The effect of seeding rate on grain yield was insignificant in both seasons. Sakha ٩٣ cultivars

produced higher grain yield with nitrogen fertilizer rate of ١٠٠ kg N/fed. and ٦٠٠ seeds/m^٢.

دور الخدمة وطرق الزراعة ومكافحة الحشائش على الأرز والحشائش المصاحبة
**ROLE OF TILLAGE, PLANTING METHODS AND WEED CONTROL
ON RICE AND ACCOMPANIED WEEDS**

صبري صبحي محمد عبد النبي

SUMMARY

Two field experiments were carried out in the Experimental Farm of Rice Research and Training Center (RRTC), Sakha- Kafr-El Sheikh, Egypt during two summer seasons ٢٠٠٦ and ٢٠٠٧.

The study aimed to investigate effects of tillage (zero tillage, plowing only, plowing + puddling once and plowing + two puddlings), planting methods (broadcasting and transplanting) and weed control (weedy check, hand weeding and herbicide at recommended and half doses) on rice (Sakha ١٠٤ cultivar) and accompanied weeds. A strip split plot design with four replicates was used in the two experiments. Planting methods were distributed in horizontal plots, tillage and puddling processes located in vertical plots, then weed control treatments assigned in sub plots during both seasons. Rice and weeds measurements were taken at two times through vegetative growth of rice as shown. Rice sampling were taken during mid-tillering stage (MT) and panicle initiation (PI), while weeds samples were taken at ٣٠ and ٤٥ days after the application of herbicidal treatments (DAT) during both seasons of study. Yield and yield attributes were measured at rice harvest. Some rice grain quality characters were measured at grain quality laboratory. The associated weeds in rice plots were Echinochloa crus-galli, Echinochloa colona, Cyperus difformis and Scirpus spp. and the following characters were recorded for each weed and for total weeds.

إنتاج الأرز العضوى تحت معاملات عضوية مختلفة
**ORGANIC RICE PRODUCTION UNDER DIFFERENT ORGANIC
TREATMENTS**

أمانى مرغنى محمد بدر

SUMMARY

Two field experiments were performed during ٢٠٠٥ and ٢٠٠٦ seasons at the experimental farm of Rice Research and Training Center (RRTC), Sakha, Kafrelshiekh, Egypt.

Mineral fertilization application significantly increased vegetative characters and yield attributes compared with organic fertilization which surpassed in enhancement soil content with organic matter and supply valuable quantities of plant nutrients, which can help to meet crop fertilizer requirements and maintain soil fertility beside reduce environmental pollution and also its positive economic effect in reduce the expensive mineral fertilizers costs. Incorporation of farmyard manure had better effects than compost on most of characters under study. Application of ٧.٥ tons per feddan was the effective rate of organic fertilizers applied.

Further studies might be needed especially in organic fertilization to reduce environmental pollution and maintain sustainable agriculture.

قسم الميكروبيولوجيا الزراعية

ارتباط بعض البكتيريا الموجودة بالتربة و فطر الميكروهيذا و أهميتها في مقاومة نيماتودا
تعقد الجذور

THE INTERRELATIONSHIP BETWEEN RHIZOBACTERIA AND ARBUSCULAR MYCORRHIZAL FUNGI AND THEIR IMPORTANCE IN THE CONTROL OF ROOT-KNOT NEMATODES

عبير إبراهيم عطية سرور

SUMMARY

The presented work in suggests that substantial benefits to commercial tomato production could be gained by inoculating seedlings in the nursery stage before transplanting into the field. However colonization was relatively low at the same time of transplanting in the seedling inoculation experiment and successful inoculation seemed to be dependent on the amount of soluble fertilizer applied. Furthermore, the cost of inoculation on a commercial scale would be considerable using the method and rates employed here.

قسم النبات الزراعي

الزراعية المعاملات ببعض وتأثيرها اليكونت الكثرى أشجار إنتاجية

TUDY OF FLORA PLANTS IN NORTH KAFR EL-SHEIKH PROVINCE

عصام عبد العزيز إسماعيل الورقي

SUMMARY

Wild plants are deemed like any other economic plant , grow in cultivatable lands and arable, being used for human and animal foods.

The objective of the current study is to investigate the ecological, physiological and chemical composition studies of such wild plants, which are associated with field crops in north kafr El Sheikh governorate; Sidi Salim province (Abo Ghanima, El Haddady and Islah Shalma) and Baltim province (EL Khasha , Abo Shalaan and El Sheikh Mubark) .

Hence, four weeds belonging to different botanical families were selected for this investigation, these plants were: *Mentha viridis* (Labiatae), *Brassica nigra* (Cruciferae) *Beta vulgaris* (Chenopodiaceae) and *Melilotus indicus* (Leguminaceae).

دراسات نباتية على نبات الكسبرة

BOTANICAL STUDIES ON (CORIANDRUM SATIVUM L.)

رضوى مراد محسن إبراهيم

SUMMARY

Two pot experiments were carried out during two successive seasons of ٢٠٠٥/٢٠٠٦ and ٢٠٠٦/٢٠٠٧ at the greenhouse of the Department of Agricultural Botany, Faculty of Agriculture, Kafrelsheikh University, to study the effects of growth regulators: Indole acetic acid (IAA) at ٥٠, ١٠٠, ١٥٠ ppm and Kinetin at ١, ٥, ١٠ ppm on morphological, physiological, anatomical characteristics as well as yield parameters of coriander plants (*Coriandrum sativum* L.).

قسم الوراثة

تحسين إنتاجية إنزيم بيتا جلوكوسيداز في فطر التريكوثيرما هيرزينيوم باستخدام تقنيات التكنولوجيا الحيوية الميكروبية

IMPROVEMENT OF β -GLUCOSIDASE PRODUCTION IN TRICHODERMA HARZIANUM USING MICROBIAL BIOTECHNOLOGY TECHNIQUES.

نوسة حسن رضوان

SUMMARY

Cellulose is one of the most abundant substrates available in nature. The potential importance of cellulose hydrolysis in the context of conversion of plant biomass to fuels, chemicals, foods and pharmaceutical and other industries. Cellulose hydrolysis also represents one of the largest material flows in the global carbon cycle.

The present study aimed to construct superior *Trichoderma harzianum* isolates for improvement β -glucosidase production via induced mutants and protoplast fusion techniques. This study was carried out at the Department of Genetics, Faculty of Agriculture, Kafrelsheikh University and Applied Microbial Genetics Laboratory, Genetics and Cytology Department, National Research centre, Egypt.

دراسات وراثية و بيوكيماوية على النقاوة الوراثية لسلاسل ذات عقم ذكرى سيتوبلازمى فى الأرز

GENETICAL AND BIOCHEMICAL STUDIES ON GENETIC PURITY IN RICE CYTOPLASMIC MALE STERILE LINES

محمود عبد الله على السيد

SUMMARY

This study was carried out at the laboratories of Genetics Department, Faculty of Agriculture, Kafrelsheikh University, and the experimental farm and Biotechnology laboratory of the Rice Research and Training Center (RRTC), Sakha, Kafrelsheikh, Egypt during the three growing seasons ٢٠٠٥, ٢٠٠٦ and ٢٠٠٧. Three cytoplasmic male sterile lines wild abortive (WA) IR ٦٩٦٢٥ A, IR ٧٠٣٦٨ A and IR ٥٨٠٢٥A with their maintainers were chosen and used as parental lines to determine the genetic purity, stability and inheritance analysis for some morphological, yield and its component characters.

دراسات وراثية على الصفات المورفولوجية والمحصولية في الأرز

**GENETICAL STUDIES ON MORPHOLOGICAL AND YIELD
CHARACTERS IN HYBRID RICE**

عصام عادل زكى الشامى

SUMMARY

This study was carried out at the experimental farm of the Rice Research and Training Center (RRTC), Sakha, Kafrelsheikh, Egypt and laboratories of Genetics Department, Faculty of Agriculture, Kafrelsheikh University, during the two growing seasons ٢٠٠٤ and ٢٠٠٥. Three cytoplasmic male sterile lines wild abortive (WA) type; IR ٥٨٠٢٥ A, IR ٦٩٦٢٥ A and IR ٧٠٣٦٨ A were tested using ten testers; Giza ١٧٨ R, Giza ١٨١ R, Giza ١٨٢ R, IR ٦٩١٣٧-٣٤-١-٣-١, Hayat, Aricombo, Estrela, IR ٣٨٩٤-٤٠D-PN-S-١, Arabi and Blue Belle, and produced ٣٠ crosses to study the morphological, floral and yield and its component characters and the correlation between these characters and hybrid vigor.

الاستجابة الوراثية للنقل الجيني والتباينات الجسمية لبعض الأجناس النباتية
**GENETICAL RESPONSE FOR GENE TRANSFER AND SOMACLONAL
VARIATIONS OF SOME PLANT GENERA**

عزيزة محمد ابو ليلة

ABSTRACT

The development of a robust Agrobacterium-mediated transformation protocol requires the identification and optimization of the factors affecting DNA delivery and plant regeneration. Three different explants from three plant genera (tomato, cucumber and tobacco) were used to study the effect of genotype, explant type and plant growth regulators treatments on callus induction and plant regeneration to determine protocol for genetic transformation using Agrobacterium tumefaciens strain LBA 4404 and evaluate the effect of infection time and the bacterial cells concentration on transformation frequency. Different types of cultured MS medium were used in this study (MS¹ for tobacco, MS¹ and MS² for tomato and MS¹ for cucumber). Genetic transformation of calli and regenerated plantlets was confirmed by histochemical β . glucuronidase assay and biochemical analysis.

The results indicated that, MS¹ and MS² medium (MS¹ = MS supplemented with 2.5 mg/L BAP + 0.2 mg/L IAA, MS² = Ms supplanted with 2 mg/L BAP + 0.5 mg/L IAA) ranked the best media for shoot formation of tomato, MS¹ medium (MS + 1 mg/L BAP + 10 mM proline) for cucumber gave the highest number of shoots and MS¹ medium (MS + 2 mg/L BAP) for tobacco gave the highest number of shoots. For explant, the hypocotyls, cotyledonary leaves and leaf disks gave the highest number of shoots for tomato, cucumber and tobacco respectively. All shoots were rooted on MS medium free hormones. For the time of infection, 10 minutes gave the highest percentage of regenerated shoots (30%) when the explants infected with on OD = 0.7-0.8. The methods have been used to develop a more efficient transformation and regeneration protocol that can be introducing transgenic plants tolerant to the saline conditions.

دراسات وراثية وبيوكيميائية علي التبكير في القمح
GENETIC AND BIOCHEMICAL STUDIES ON EARLINESS IN WHEAT

سيدهم عبد الخالق محمد عبد الخالق

ABSTRACT

The field experiment was carried out during the three wheat growing seasons i.e., ٢٠٠٤/٢٠٠٥, ٢٠٠٥/٢٠٠٦ and ٢٠٠٦/٢٠٠٧, to study the effect of gamma irradiation on earliness and yield characters of three wheat genotypes viz; Gemmiza ٩, Line ١ and Line ٢. Grains of the used genotypes received ٠, ١٠, ٢٠ and ٣٠ Krad of gamma rays. The treated and untreated seeds were immediately sown to raise M_1 populations. Thereafter, bulked seeds of each M_1 treatment were planted to give M_2 populations. Thirty two families from each genotype M_2 generation population were selected based on days to heading and grain yield to sown in M_3 generation. Observations were noted for days to heading, days to maturity, grain filling period, grain filling rate, spikes plant⁻¹, kernels spike⁻¹, ١٠٠-kernel weight and grain yield.

Significant differences were observed due to genotypes and different doses of gamma irradiation, for most traits. The genotypes were responded differently to different gamma rays doses with similar trend for most traits. In both M_1 and M_2 generations, days to heading, days to maturity and spike plant⁻¹ were significantly increased due to ٣٠ krad dose. The other traits were decrease with increasing gamma ray doses. Among gamma ray treatments, the dose of ٣٠ Krad induced the maximum genetic variability in all studied characters. Estimates of phenotypic and genotypic coefficients of variation and heritability of most traits were differed according to the mutagenic treatment. Highest estimates of such genetic parameters were recorded for the grain filling period and rate, spike plant⁻¹, kernel spike⁻¹ and grain yield. High genetic variability may be indicating the progress that could be achieved in selection plants with desirable traits from a segregating population after irradiation.

دراسات وراثية وبيوكيميائية على مقاومه الحشائش في الأرز
GENETIC AND BIOCHEMICAL STUDIES ON ALLELOPATHY IN
RICE

نعمه كمال محمد الخولى

SUMMARY

This investigation was carried out at farm and Biotech, Lab, of Rice Research and Training Center (RRTC), Sakha, Kaferelsheikh, and Lab, of Microbial Genetic, Department of Genetics, Faculty of Agriculture, Kaferelsheikh University, Egypt, during four successive seasons from ٢٠٠٥ to ٢٠٠٨.

This study included three parts:

١. Field screening of ٣٤ genotypes to allelopathic activity in rice comprising with Giza ١٧٦ as check (poor allelopathic) by using ١٥gm / seeds of rice genotypes with ٢g / m seed of weeds to determined weed control percentage in ٢٠٠٥ and ٢٠٠٦ season, after this experiment we selected four genotypes which crossed in half diallel fashion to obtain ٦ F_١ crosses in ٢٠٠٦ season and the ٦ F_٢ generation in ٢٠٠٧ to grow together in R-C-B-D with three replication under two condition in ٢٠٠٨ season:
٢. The genetics of agronomic and yield ; some of its component traits.
٣. Isozyme variations included peroxidase, esterases and catalase isozymes to the leaves of ٢١ days old seedling were studied for four parents, their ٦ F_١ and their ٦ F_٢ by using a polyacrylamid gel electrophoresis, as well as, molecular analysis for four parents as trying to know allelopathic ability for this parentes.

*The data were analyzed according to Griffing (١٩٥٦) , methods – ٢ model – ١ .

قسم أمراض النبات

دراسات على مرض البياض الدقيقى فى القمح فى مصر

STUDIES ON WHEAT POWDERY MILDEW DISEASE IN EGYPT

سمر محمد عادل محمد اسماعيل

SUMMARY

Wheat (*Triticum aestivum* L) in Egypt is liable to the attack of many disease i.e. rusts, mildews, smuts.....and other disease of minor importance .

The present investigation threw high lights on one of important disease viz. powdery mildew incited by *Blumeria graminis* f sp tritic. The work resulted in the following topics and could be summarized in:

The two seasonal surveys indicated the presence of the disease in most of the northern governorates of Egypt, especially Kafr-El Sheikh and Gharbia due to the presence of experimental station, and cvs. Sakha-٦١, Sakha-٦٩, Sakha-٨ which proved their high susceptibility. conversely, Giza-١٦٨ and Giza-١٦٣ exhibited lowest rate of susceptibility.

Electron microscopy revealed the more accurate dimension of the superficial mycelia, conidiospores and appressoria .

Variatal evaluation indicated the distinction of Giza ١٦٨, Gem.٩, Gem ٧ and Giza ١٦٣. relevant to disease reaction, ١٠٠٠k.w and test weight, on the ether hand, fungicides i.e. Sum-٨, Ate mi and Tilt were conspicuous as compaired with punch ٧٥ and fangshow. They overcome other fungicides in disease reaction, ١٠٠٠ k.w. and test weight. A high significance could be detected between one and two sprays.

Biocontrol of powdery mildew indicated that *Bacillus subtilis* and *B.Chitinospore* came in the second rank after the fungicide viz Tilt.

Determination of chlorophyll content in ٥ entries indicated that more susceptible entries inhibited the lowest chlorophyll content. The reverse was true with the lesser susceptible ones.

The results of this investigation world serve as an effective tool in breeding programmer of disease resistance.

قسم إنتاج الدواجن

تأثير استخدام الخميرة والاعشاب الطبيعية (الينسون والنعناع) كإضافات غذائية على الاداء الانتاجي للارانب النيوزيلاندى النامية .

EFFECT OF USING YEAST CULTURES AND NATURAL HERBS ANISE AND MINT AS FEED ADDITIVES ON PRODUCTIVE PERFORMANS OF GROWING NEW ZEALAND WHITE RABBITS

ابتهاال عبد المنعم حسن ابو احمد

ABSTRACT

Eighty weanling New Zealand White (NZW) rabbits, ٦ weeks old, were used in this study to compare the effect of yeast cultures, anise and mint (natural herbs) as safe feed additives on rabbit growth performance, mortality, nutrients digestibility, caecotrophy, carcass and economic efficiency. Four diets were formulated; unsupplemented control diet, with ٠.٤ g/kg yeast cultures (Bio-Yeast), ٥ g/kg dried and ground mint or ١٢ g/kg ground aniseed, respectively.

Results showed that daily gain, growth rate and performance index were significantly increased in the rabbits fed diets supplemented with yeast cultures or mint than those fed the other two diets, while feed intake decreased ($P < 0.001$) by ٨.١٩, ٧.١٦ and ٩.٤% in the yeast, mint and anise diets, respectively, as compared with control diet. The best feed conversion rate was found in the mint and yeast diets. The mortality rates reduced in rabbits fed diets supplemented with additives. The yeast treatment significantly increased all nutrients digestibility and gave the best values of DCP and CP digestibility, followed by mint which improved significantly the EE and GE digestibility and DE, while anise improved ($P < 0.001$) the CF digestibility. Additives caused a significant decrease in DM intake, while soft faeces excretion increased ($P < 0.05$) by ٣٨.٥, ٢٧.٩ and ٤٨.٧% in the yeast, mint and anise diets, respectively, as compared with control diet. The highest ($P < 0.01$) value of caecal turnover rate was obtained with anise diet (٧١.٩٣%), followed by yeast and mint diets (٦٧.٠٦ and ٦٣.٨٧%, respectively),

while the lowest value was detected by control diet (٥٣.٢٦%). Carcass % was significantly increased in the diets supplemented with additives, but abdominal fat was decreased ($P < 0.001$). Additives caused a significant increase ($P < 0.001$ & $P < 0.05$) in CP and EE (%) of meat as compared with control diet. Feed additives increased plasma glucose, cholesterol and total lipids, while total protein did not show any significant differences. The highest value of economic efficiency (%) was found in the rabbits fed mint diet, followed by yeast diet, while the poorest value was detected in rabbits fed the anise and control diets.

It could be concluded that the diets supplemented with yeast culture and mint recorded the best growth performance, nutrient utilization and economic efficiency in NZW rabbits.

الانتخاب في اتجاهين لصفة الماء المستهلك في السمان الياباني

BIDIRECTIONAL SELECTION FOR WATER CONSUMPTION TRAIT IN JAPANESE QUAIL

محمد محمد رجب غانم

ABSTRACT

This experiment was carried out at the experimental farm of Poultry Production Department, Faculty of Agriculture, Kafrelsheikh University, during three successive generations (٢٠٠٦ - ٢٠٠٧) in order to study the direct response to bidirectional selection for water consumption trait in Japanese quail and its correlated response on body weight, growth rate, egg mass, egg quality traits and feed conversion at ٧-١٠ weeks of age. Moreover, estimation of the heritability coefficient for water consumption, genetic and phenotypic correlations between water consumption traits and other traits were also considered.

The main results obtained could be summarized as follows:

The females had a significantly ($P \leq 0.05$) higher water consumption, feed consumption, body weight and growth rate than males in all generations.

The consumption of water in summer season was increased with a significant differences ($P \leq 0.05$) more than spring and winter seasons.

The response of selection for water consumption and feed consumption were higher in the high line with a significant differences ($P \leq 0.05$) than the low and control lines in most periods at the ١st generation, while the differences were significant at all periods at the ٢nd generation. However, the differences were significant at both generations concerning water: feed ratio.

The high line for water consumption had higher body weight at ٦ week (marketing age) than the low and control lines at both generations.

Egg mass was higher in spring season than in summer and winter seasons with significant differences ($P \leq 0.05$)

The differences among lines in egg mass were not significant at the 1st generation, while the high line had higher egg mass than the other lines with significant differences ($P \leq 0.05$) along with better feed conversion at 2nd generation.

The heritability estimates of water consumption were 0.46-0.57 (multi-traits animal model) and 0.18-0.19 (repeatability animal model)

The genetic correlation estimates between water consumption and the most other traits were favorable and highly positive except with feed conversion which was negative

التأثيرات الفسيولوجية و الضدأكسديه لمستخلص صمغ النحل

فى السمان اليابانى

PROPOLIS EXTRACT ON JAPANESE QUAIL

عبير عبد العاطى كامل السيد قرله

SUMMARY

The present study was designed to investigate the response of Japanese quails to the various biological effects of propolis (bee glue) when administered via drinking water during their growing and laying stages. The current study was carried out at the Poultry Research Farm Department of Poultry Production, Faculty of Agriculture, Kafrelsheikh University, from June to October ٢٠٠٧. The growing period started with ٤٠٥ one-week-old Japanese quail chicks divided into three treatment- groups (n= ١٣٥) with three replicates each. The first group (LP) was given ٨ ml propolis extract / ١٠٠٠ ml drinking water, the second group (HP) was given ١٦ ml propolis extract / ١٠٠٠ ml drinking water and the third group was served as control and provided with fresh water without any supplements.

قسم تكنولوجيا الأذية

الاستفاده من مخلفات تصنيع الطماطم كمصدر للبروتين والزيت لتدعيم بعض منتجات
المخابز

UTILIZATION OF TOMATO PROSSING WASTES AS SOURCE OF PROTEIN AND OIL FOR COMPLEMENTATION OF SOME BAKERY

سلوى جمال محمد عرفة

SUMMARY

The study was proposed to investigate the possibility of utilization of tomato processing wastes and to evaluate the addition of meal, protein isolated and oil extracted from these wastes to some bakery products. Tomato processing wastes were obtained from El-Nasser Co., at Kaha, Egypt. The seeds were separated from peels and both were grounded. Tomato processing wastes meal was obtained after defatting process.

Chemical composition of either whole or defatted tomato seeds or peels was determined. Minerals analysis of defatted tomato wastes was also carried out. Protein was isolated from defatted tomato seeds and peels. The optimum conditions of protein isolation were studied. Amino acids of isolated proteins were identified and quantified. Chemical scores of amino acids, biological values and computed protein efficiency ratios of tomato seeds and peels protein were calculated.

The oil was extracted from tomato seeds and peels. Physical and chemical properties of tomato oils were conducted and the fatty acids composition of these oils were also identified and quantified.

The defatted meal of seeds and peels as well as the protein that isolated from seeds and peels were added to the cake at three levels ١٠, ٢٠ and ٣٠% as replacement of wheat flour. In addition, the tomato seeds and peels meals were added at three levels ١٠, ٢٠ and ٣٠% as replacement of wheat flour to prepare pizza. The oil extracted from seeds and peels was added to prepare pizza in ١٠٠% replacement of sunflower oil. The organoleptic evaluation for color, taste, odor, texture and overall acceptability of prepared cake and pizza was performed. Some functional properties of prepared cake were also determined. In addition, chemical composition of prepared cake and pizza was estimated

انتاج كربوكسى ميثيل سيليلوز من قش الارز ومصاصة القصب
**PRODUCTION OF CARBOXYMETHYL CELLULOSE FROM RICE
STRAW AND BAGASSE**

عصام محمد السباعى احمد

ABSTRACT

Agro-industrial residues are renewable, widespread and cheap source of lignocellulosic materials. Suitable utilization of the agro-industrial residues helps minimize environmental and energetic problems. Furthermore, this approach can generate products with relevant applications in the food and pharmaceutical industries. Cellulose is the main constituent of higher plants, including rice straw and sugarcane bagasse. Carboxymethyl cellulose is the most important water soluble cellulose derivative, it used in many applications in the food industry and in cosmetics, pharmaceuticals, detergents and other industries. Sodium carboxymethyl cellulose is a polyelectrolyte which is formed when chloroacetic acid, or its sodium salt, reacts with alkali cellulose. Na CMC is a copolymer of two units: β -D-glucose and β -Dglucopyranose γ -O-(carboxymethyl)-monosodium salt, which are linked via β -1,4-glycosidic bonds. Soluble silica has a hazard metabolic effects in the human body such as inhibiting invertase. At body temperature the solubility is about 180-190 ppm as SiO_2 . The present work was conducted to study how to reduce silica content of rice straw and sugarcane bagasse, the optimum conditions for isolation pure cellulose of rice straw and sugarcane bagasse and the optimum conditions for converting it to carboxymethyl cellulose which had a lot of application in food processing field.

استخدام مضادات الأكسدة الطبيعية والسليلوز المستخلصة من بعض المخلفات
الزراعية في تحسين بعض المنتجات الغذائية

SOME PLANT WASTES IN DEVELOPMENT SOME FOOD PRODUCTS

وليد زكريا حسن متولى

ABSTRACT

This study was carried out to investigate the possibility of extraction of some natural antioxidative phenolic compounds from some plant sources (sugarcane bagasse and pomegranate peel). The extracted phenolic compounds were tested as natural antioxidants on some edible oils (cotton seed and soybean oils) comparing with synthetic antioxidant (tertiary-butylhydroquinone(TBHQ) and mixture of ٧٠٪ propylene glycol, ٢٠٪ TBHQ and ١٠٪ citric acid). Study includes their effects on the oil stability against oxidative rancidity during storage at room temperature for ٩٠ days in the light and the dark conditions. Measurement of peroxide value (PV), thiobarbituric acid (TBA) value and acid value (AV) are suitable potent methods to characterize oxidative changes in the tested oils. Results indicated that PV, AV and TBA values were gradually increased by storage for ٩٠ days, and the amount of increasing for untreated oils (controls) were greater than all of the treated oils. Mixture of (٧٠٪propylene glycol, ٢٠٪TBHQ and ١٠٪citric acid),and TBHQ(٢٠٠ppm) possessed stronger antioxidative more than bagasse and pomegranate peel phenolic extracts. The order of antioxidative activity was found in the following order, mixture > TBHQ > bagasse phenolic extract > pomegranate peel phenolic extract > control (untreated samples).On the other hand, cellulose was extracted from bagasse, then used it in different substitutions for preparing biscuits, then organoleptically evaluated.

قسم الميكنة الزراعية

إدارة مياه الري في منطقة الدلتا فعالية استخدام قنوات الري المطورة في تحسين إدارة مياه الري UTILIZATION EFFECTIVENESS OF DEVELOPED IRRIGATION CANALS FOR ENHANCING IRRIGATION WATER MANAGEMENT

محسن محمد محمد شرف

SUMMARY

Large quantities of fresh water are required in many parts of the world for agricultural, industrial and domestic uses. Water shortages have economic, technical, social, cultural, physical, hydro climatic and political dimensions. Since irrigation outstrips all other sectors in its use of water, crop production would be the first area to suffer when water supplies are inadequate.

The present study aims to study the effectiveness of the developed irrigation canal on irrigation water management and compare its performance with the traditional ones. Experimental field was located in the middle northern part of the Nile Delta (Kafrelsheikh Governorate) during the two successive seasons of winter (٢٠٠٥/٢٠٠٦) and summer ٢٠٠٦.

To fulfill the intended objective, several factors are studied as follow:

- One improved canals named Dakalt canal used as the main source of water.
- Six improved meskas and three different locations (Head, middle and tail)
- One unimproved meska was selected on Dakalt canal.
- Six cultivated areas (fields) on each meska were selected.

Irrigation water was delivered from Dakalt canal into the meskas using different pumps putted at irrigation stations and operated at normal speed. The obtained results can be summarized as follow:

Amount of Applied and Saved Water:

Amount of applied water:

- The results indicated that the amounts of water applied for sugar beet crop were ٢٨٦٨.٥, ٢٨١٥.١, ٢٨٣٦.٥, ٢٩٢٢.٨, ٢٩٠٢.٥, ٢٨٢٥.٣ and ٣٤٨١.٦ under meskas Edrega El-Bhria "A", Edrega El-Bhria "B", Direct, El Aaly, El Kom, Shams El-Den and Om Sen, respectively . While they were ٦٥٤٨.٧, ٦٧٢٢.٧, ٦٥٨٥.٤, ٦٩٣٣.٢, ٦٨٧٣.٥, ٦٧٤٥.٣ and ٧٦٨٧.٦ of rice crop for the previous meskas respectively. The recorded data revealed that increased a mount applied water for all crops with undeveloped meska as compared to developed meskas
- Om- Sen meska gave the highest value of applied water for all treatments .

It is clear that, the highest values of applied water for all crops were found at meska \forall (Om- Sen) during winter as well as summer season

تطوير نظام الري لبعض المحاصيل
تطوير وتقييم الري بالخطوط لمحصول فول الصويا تحت نظام الزراعة الآلية
**DEVELOPMENT OF THE IRRIGATION SYSTEM FOR SOME CROPS
DEVELOPMENT AND EVALUATION OF FURROW IRRIGATION FOR
SOYBEAN CROP UNDER MACHINE PLANTING SYSTEM**

محمد صبحي محمود خطاب

ABSTRACT

The field experiments were conducted at Gemmiza Agricultural Research Station farm (Gharbeia Governorate) through agricultural season of ٢٠٠٦ to evaluate the performance of the developed ridge and furrow shape and study the effect of furrow width and forward speed for ridging machine on applied irrigation water, water use efficiency, growth and productivity of soybean plants. The study also includes the effect of furrow width and forward speed on the actual field capacity and field efficiency, tractor wheel slip, some plant feature, total yield, fuel consumption and power requirements. A split-split plot design was used in this study. The furrow length treatments (٢٠, ٤٠ and ٦٠m) with the main plots. The furrow width of ٠.٦m with ٥ shanks on ridger and working width ٣٠٠cm (with sown on one side of the ridge), furrow width ٠.٨m with ٤ shanks on ridger and working width ٣٢٠cm (with sown on two sides of the ridge) and furrow width ١m with ٣ shanks on ridger and working width ٣٠٠cm (with sown on two sides and middle of the ridge) treatments occupied the sub plot. While the forward speed were (٢, ٤ and ٦km/h) with in sub sub plot. The result showed that ridging at furrow width of ٠.٨m with planting two ridge to obtain maximum yield with suitable applied water irrigation, high germination ratio and good plant characteristics. Consequently forward speed for ridging machine ٤km/h which gives the optimum ridge dimensions, field capacity and field efficiency. The furrow lengths of ٢٠ and ٤٠m especially ٢٠m where saving applied irrigation, maximum water use efficiency in water and high grain yield.

دراسة على ميكنة محصول ألياف
ASTUDY ON MECHANIZATION OF FIBER CROP

محمد احمد السيد نعمة الله

SUMMARY

Cotton crop is considered as one of the most strategic crop and major staple field crop in Egypt. It is one of the major cash crops and plays a vital role in increasing the Egyptian national income. Cotton growing as an industry started to suffer from the great deficit in manpower due to the increasing flux of immigration of agricultural workers to the oil counties in the last decades. Moreover, the agricultural worker even left the rural areas to the urban areas. The full mechanical harvesting is one alternative method of cotton harvesting. Proper cleaning and ginning equipment could preserve the good qualities of cotton brought to the gin plant. Efforts for improving the gin process could be directed towards either improving the efficiency of the traditional working machinery or installing new or improved ginning units.

This investigation was carried out during year ٢٠٠٦/٢٠٠٧ which includes two parts and they are cleaning and ginning processes. Cleaning process was carried out at Rice Mechanization Center, Meet El-Deeba, Kafr El-Sheikh Province by using cleaning machine. While, ginning process was carried out at the Cotton Ginning Research Division Lab (CGRD), Sakha Agriculture Research Center, Cotton Research Institute