



# مؤتمر المنيا الدولي الثاني للزراعة والري في دول حوض النيل ٢٣-٢٥ مارس ٢٠١٥م المنيا- مصر

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23<sup>rd</sup> - 25<sup>th</sup> March 2015, Minia, Egypt

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الجلسات العلمية وملخصات أبحاث  
مؤتمر المنيا الدولي الثاني للزراعة والري في دول حوض النيل  
٢٣-٢٥ مارس ٢٠١٥م

**essions and Abstracts of 2<sup>nd</sup> Minia International  
nference for Agriculture and Irrigation in the Nil  
sin Countries, 23<sup>rd</sup> -25<sup>th</sup> March 2015, Minia, Egypt**

## 12- CLIMATE CHANGE AND SUSTAINABLE USE OF HIGH ASWAN DAM RESERVOIR

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### Abstract

The water resources management experts in Egypt are facing the challenge of achieving sustainable use of water resources. In fact, Egypt is one of the most vulnerable countries to prospective impacts and hazards of climate change to major resource sectors including water, land, coasts, and agriculture. Many climate scenarios predict that rainfall in the Nile basin will be highly sensitive to climate change and, consequently, might affect the Nile flow into High Aswan Dam Reservoir (HADR). Moreover, the possible temperature rise will influence evaporation from HADR as well as the evapotranspiration from agricultural lands leading to lower crop yields. Actions must be taken to diminish climate change hazards, such as measures to decrease the evaporation losses from High Aswan Dam Reservoir through reducing the water surface area. This study analyzed four alternatives: constructing new dam 130 km upstream from the High Aswan Dam (HAD); removing the sediment loads; eliminating some khors or combining these alternatives. Landsat TM images were used to simulate the lake morphology at different water levels to model the lake's hydrological characteristics. The results demonstrated that alternative four would save about from 25% to 30% by the end of this century which enables sustainable use of HADR.

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## 13- MAXIMIZATION PRODUCTIVITY AND OIL QUALITY FOR SOME SUNFLOWER (HELIANTHUS ANNUUS L.) GENOTYPES BY USING PLANT SPACES AND NITROGEN FERTILIZATION LEVELS

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### Abstract

In order to determine optimum plant spacing, nitrogen fertilization level of promising line (L120) submitted for approval as variety as well as two local sunflower cultivars, a field experiment was conducted at the experiment Farm of Kafr-El-Hamam Research Station, Zagazig, Sharkia Governorate, Agricultural Research Center, Egypt during the two successive summer seasons 2013 and 2014 to achieve maximize yield and good oil quality of three tested sunflower genotypes. In both seasons, the experiment was conducted by using the split split plot design in randomized complete block design with three replicates arrangement keeping plant spaces (15 – 20 and 25 cm) in main plots, nitrogen fertilization levels (15 – 30 and 45 N/fad.) in sub plots and sunflower genotypes (Giza 102 – Sakha 53 and promising line of L120). Seed yield and its attributes as well as chemical composition of sunflower seeds i.e. seed oil content, seed protein content and major fatty acids composition of oil were measured.

Results showed that all of the studied yield and quality characters were significantly influenced by both plant spaces, nitrogen fertilization levels and cultivars as well as their dual and triple interactions in both seasons and their combined analysis. Compared to narrow spacing of 15 cm, as in the average of both seasons, the significant increase in days to 50% flowering (day) by 2.23 and 4.81 %, stem diameter (cm) by 1.64 and 4.00 %, head diameter (cm) by 15.55 and 21.44 %, 100-seed weight (g) by 4.88 and 7.82 %, seed yield/plant (g) by 6.01 and 10.39 %, and hence seed yield/fad. (kg)

## 10- SUSTAINABLE USE OF ARABLE LANDS WITHIN THE ELBE RIVER BIOSPHERE RESERVE IN LOWER SAXONY, GERMANY USING SAR DATA

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### Abstract

Sustainable use of arable lands requires mainly flood protection measures. Floods cause one of the major hazards in both rural and urban areas worldwide. They are considered the source for huge risks mainly in urban areas, resulting in severe impacts on people, industry and economy. The Elbe River suffered from many severe floods during the last decades. The century flood of Elbe River occurred during summer 2002 caused enormous damage amounted to over 11 Billion Euros in Germany. Dozens of people deceased, in addition to 200,000 people were affected by this flood. Other less intensely floods occurred in 2006. 2011 and 2013 had again two huge harmful century floods. There are many cities, roads and industrial parks in these flooded areas. Therefore, the flood hazard is still a matter of concern. This study will use TerraSAR-X images in mapping the flood water extension in 2010 and 2011 within the area around Wahgingen oxbow. They are located between Elbe-Kilometer (533-543) within the Lower Saxonian Elbe River Biosphere Reserve being characterized by several types of land use, where agricultural land use is the dominating one. The flooded zones during 2010 and 2011 will be analyzed using a digital elevation model for the area in order to identify the flooded arable lands. Measures for sustainable use of these lands will be discussed to mitigate from flood hazards in the future.

## 11- THE EFFECT OF APPLIED N, P AND K ON YIELD, NUTRIENTS UPTAKE AND SOME PHYSICAL PROPERTIES OF PEANUT AND ITS RESIDUES

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### ABSTRACT

Two pot experiments were carried out at El-Serw Agricultural Research Station during 2013 and 2014 summer growing seasons to investigate the effects of applied N, P and K on peanut yield, nutrients uptake and some physical properties in sandy soils. Results showed that increasing N, P and K rates from (30-30-24 to 60-45-48kg NPK fed-1) significantly increased seed weight plant-1, pod yield fed-1, 100-pod weight, and N, P and K uptake. Physical properties often required for designing the equipment for planting, harvesting, and pods-harvesting operations. Several physical properties of peanut were evaluated as a function of applied N, P and K. The results showed that the mean masses of peanut stalks were varied from 0.59 to 1.66 g; The mean diameters of peanut stalks were varied from 0.39 to 0.65 cm. The mean lengths peanut stalks were varied from 12.12 to 15.99 cm. The mean masses of peanut pods were varied from 2.01 to 3.12 g. The mean diameters of peanut pods were varied from 1.5 to 1.72 cm. The mean lengths of peanut pods were varied from 3.51 to 3.86 cm with applied N, P, K levels (30 +30 +24, 30 +30+ 48, 30 +45 +24, 30+ 45 +48, 45 +30 +24, 45 +30 +48, 45 + 45 + 24, 45 + 45 + 48, 60 +30 + 24, 60 +30 +48, 60 + 45 +24 and 60 +45 +45 Kg/Fed), respectively.