



KASTAMONU UNIVERSITY
Faculty of Engineering and Architecture



KASTAMONU 2018
TÜRK DÜNYASI KÜLTÜR BAŞKENTİ



International

Ecology

2018

Symposium



SYMPOSIUM PROGRAM

19-23 JUNE

KASTAMONU/TURKEY

14:15-14:30	A Sustainable Campus Strategy-Ege University	<u>S. Tuğçe Dağlıoğlu</u> , Nuri Azbar
14:30-14:45	COFFEE BREAK	
SESSION A.6	Ecological Growth and Development	
	Session Chair: Prof. Dr. İbrahim ATALAY	
14:45-15:00	A Research on the Vegetation Structures of the Mountain Pastures in District Adana	<u>Selahattin ÇINAR</u> , Rüştü HATİPOĞLU, Mustafa AVCI, İlker İNAL, Celal YÜCEL
15:00-15:15	The Effect of Different NaCl Doses on Germination and Plant Growth of Buckwheat (<i>Fagopyrum esculentum</i> Moench)	<u>Sema Leblebici</u> , Erdem Gülümser, Zeki ACAR
15:30-15:45	Physiological Alterations of Strawberry Plant Under PhotoSelective Nets	<u>Servet ARAS</u> and Ahmet EŞİTKEN
15:45-16:00	Estimation of Growth of Pedunculate Oak (<i>Quercus robur</i> L.) Individuals by Using Ecological Based Models	Tuğrul VAROL, Halil Barış ÖZEL, <u>Sezgin AYAN</u> , Nebi BİLİR and Uğur ÇAKMAKLI
16:15-16:30	COFFEE BREAK	
SESSION A.7	Ecological Growth and Development	
	Session Chair: Prof. Dr. Sezgin AYAN	
16:30-16:45	Effects of Some Stand Parameters and Physiographic Factors on Above-Ground Biomass of Calabrian Pine Stands	Aydın Kahrıman, Turan Sönmez, Abdurrahman Şahin, <u>Mehmet Yavuz</u>
16:45-17:00	Garlic (<i>Allium sativa</i>) Cultivators of Applications in Ecological Context	<u>Nevin AKARSU</u> , Sefa PEKOL
17:15-17:30	The Ecology of Forest Vegetation in the Western Part of Black Sea Region	İbrahim ATALAY
17:30-17:45	Benthic Habitat Mapping With Multi Beam Echo Sounder System	Mustafa Ümit Gümüşay, <u>Tolga Bakırman</u> , Nedim Onur Aykut and İnci Tüney Kızılkaya

Thursday, 21 June 2018 (HALL H)

SESSION A.8	Ecological Growth and Development / Ecogeography / Environmental Biology	
	Session Chair: Prof. Dr. Ömer KÜÇÜK	
9:00-9:15	Eco-physiological Responses of Drought Tolerant Woody Species to Desert Conditions in Karapınar/Konya	<u>Bülent Akgün</u> , Emre Yazar and Ferit Kocaçınar
9:15-9:30	Comparison of Fatty Acids and Amino Acids Profiles of Whiting (<i>Merlangius merlangus euxinus</i> Nordman 1840) Meat and Roe During Fishing Season	<u>Demet Kocatepe</u> , Can Okan ALTAN, Hülya TURAN
9:30-9:45	Post-Fire Regeneration Strategies of Mediterranean Region Pines	<u>Nursema Aktepe</u> , Ömer Küçük, Özkan Evcin
9:45-10:00	We Know About the Level of Microplastic Pollution, the Methods of Treatment and Impacts	<u>Nejdet DEĞERMENÇİ</u> and Gökçe Didar DEĞERMENÇİ
10:00-10:15	COFFEE BREAK	
SESSION A.9	Environmental Biology	
	Session Chair: Assoc. Prof. Dr. Tolga ULUSOY	
10:15-10:30	Suitable Site Conditions for the Distribution of Black Pine in Gölhisar District, Turkey	<u>Özdemir ŞENTÜRK</u> , Serkan GÜLSOY and M. Güvenç NEGİZ
10:30-10:45	The Effects of Vermicompost Tea on the Root Growth and Mitosis of Onion (<i>Allium cepa</i>)	<u>Salih Dikilitaş</u> , Sibel Sütüoğlu and Özlem Aksoy
10:45-11:00	Scots Pine Pollen in the Areas of the Technogenic Pollution of Ural	<u>Svetlana Makhniova</u> , Pavel Mohnachev and Sezgin Ayan
11:15-11:30	Physiological Determination of Reactions Formed by Different Boric Acid Applications in Some Safflower (<i>Carthamus tinctorius</i> L.) Types	<u>Şifanur Sülüş</u> and <u>Sema Leblebici</u>

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ORAL PRESENTATION

The Effect of Different NaCl Doses on Germination and Plant Growth of Buckwheat (*Fagopyrum esculentum* Moench)

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Introduction: 1.5 million ha of Turkey's land is affected by salinity which is equal to the 7% of agricultural land. The response of plants to the salt may be various depending on the growth period of the plants, the concentration of the salt and the duration that the salt is effective. In studies on salt stress many plant species were used until today. However, there are also plant species which grow easily in many soil structures such as buckwheat. Even though buckwheat plant is grown for grain, it is used as nectar source for bees and fodder crop.

Material and Methods: Pot and petri experiment were carried out in this study to determinate the effect of different NaCl concentrations (0, 25, 50, 75, 100, 125, 150 mM) on germination and plant growth of *Fagopyrum esculentum* Moench. These experiments were done in the plants chamber with 25°C±1 temperature with 16 hours light/8 hour dark photoperiod. In the petri study, germination rate (%), plant height (cm), root length (cm), root and stem bioamass, and in the pots study, plant height (cm), number of leaves (number/plant), stem diameter (mm), aboveground fresh and dry weight (g), root fresh and dry weight (g), chlorophyll a and b values (mg FW) were determined.

Results: Petri experiments: The highest plant height and root length were determined in 0 mM NaCl treatment (11.92 and 5.71 cm respectively), while they were lowest in 150 mM NaCl treatment (0.10-0.56 cm respectively). Stem and root biomass were ranged between 7.67-1965.7 g/ha and 36.08-629.63 g/ha respectively and the highest root and stem biomass values were determined in 25 mM NaCl treatment.

Pot experiments: The highest plant height was determined in 0 mM NaCl treatment, while it was the lowest in 150 mM NaCl treatment. Number of leaves and stem diameter were ranged between 5.55-7.77 and 2.50-2.84 mm. The highest chlorophyll a and b were determined in 25 mM NaCl treatment (0.0052 and 0.0025 mg fresh weight respectively).

Discussion: In a study which determines the effect of different NaCl doses on germination and plant growth of buckwheat, it is found out that experiments, when salt concentration increased, germination and plant growth were affected negatively as a result of experiments. In addition, the root and stem biomass with chlorophyll a and b values were promoted by 25 mM NaCl. However, it was found out that 50 mM NaCl and higher concentrations had significant negative effect on the plant.

Keywords: buckwheat, salt, germination, plant growth.