

Vol. 12 (1): 1-6 (2022)

CHARACTERISTICS OF CONSUMPTIVE WATER USE OF MILLET AND SORGHUM DEPENDING ON THE SOWING TIME IN DRY CONDITIONS OF STEPPE ZONE

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ABSTRACT

The article presents data on the influence of different sowing times on consumptive water use of millet and grain sorghum crops when grown in the conditions of the eastern part of Ukraine. The research was carried out on the experimental field of Lugansk State Agrarian University in 2011–2012 and 2016–2018. On average for 2016 – 2018 the total consumptive water use of millet from a metre-deep layer of soil was 2052.4 m³/ha. The greatest total consumptive water use was on the sowing date on May 5 (2589.7 m³/ha). The minimum total consumptive water use was during sowing on June 5 (1432.7 m³/ha). The smallest amount of water for the formation of 1 ton of grain was on the sowing date on June 5 (631.9 m³/t). The greatest payback of water resources by grain yield was on late sowing dates (1.43-1.66 kg/m³). More economical use of soil moisture for the formation of 1 ton of grain when growing grain sorghum was noted on a sowing date on May 15 (462.7 m³/t). The maximum payback of water resources with sorghum yield was also obtained at this sowing period (2.16 kg/m³).

Key words: sorghum, millet, sowing time, water-use ratio, yield, water availability, moisture reserves.

EXTRACELLULAR HYDROLYTIC ENZYMES OF YEASTS ISOLATED FROM FRUIT AND BEET PEELS IN ALGERIA

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ABSTRACT

Forty-two yeast strains were isolated from natural sources in Algeria. Based on the sequence analysis of the 26S ribosomal RNA D1/D2 domain they were identified to be of 8 species belonging to the genera *Aureobasidium*, *Candida*, *Clavispora*, *Hanseniaspora*, *Pichia*, *Rhodotorula* and *Vishniacozyma*. All yeast isolates were screened for cellulase, amylase, protease and lipase production. Six strains of *Aureobasidium pullulans*, *Rhodotorula diobovata* and *Vishniacozyma tephrensis* demonstrated ability to produce at least one extracellular enzyme. The enzyme activity index (EAI) for cellulase was noted to be prominent in the isolates of *A. pullulans* (A1, A3, A5) and *V. tephrensis* A4 as 2.3 and 2.1, respectively. Highest EAI for amylase and protease was also seen in *A. pullulans* isolate A1 (EAI = 2.9) and isolate A3 (EAI = 1.9), respectively. For lipase, the EAI was superior in *V. tephrensis* A4 (EAI = 1.5) when compared to the isolates of *R. diobovata* (B1, O5) (EAI = 1.4) and *A. pullulans* A5 (EAI = 1.3). To the best of our knowledge, this is the first report of cellulase and/or lipase activity in *V. tephrensis* and *R. diobovata* strains associated with apple, orange and beet peels in Algeria. Furthermore, the strain *A. pullulans* A5 showed enzymatic activities for all the enzymes screened in the current work. Thus, our study can provide further information about the diversity and enzyme production by yeasts and demonstrated the potential for yeast isolated from fruit and beet peels as sources for extracellular hydrolytic enzymes.

Keywords: yeast isolation, fruit peels, beet peels, extracellular hydrolytic enzymes, molecular identification.

Vol. 12 (1): 17-20 (2022)

DECOMPENSATION OF CHRONIC OPEN ANGLE GLAUCOMA FOLLOWING A SPINAL STEROID INJECTION: A CASE REPORT

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ABSTRACT

Corticosteroids are widely used in many different medical conditions. Increased intraocular pressure (IOP) is one of their side effects. We are presenting the case of a patient, female, 58 years old, who presented to our clinic with blurred vision in the right eye. Intraocular pressure was 33 mmHg in the right eye and 12 mmHg in the left eye. She had a history of controlled primary open angle glaucoma under conservative treatment in the right eye. Both eyes had undergone trabeculectomy in the past. The left eye had an advanced primary open angle glaucoma which had been controlled after the Trabeculectomy without any topical medication. She reported a history of a spinal steroid injection 3 weeks ago. Despite the immediate and prolonged use of antiglaucomatous medications, the intraocular pressure did not come back to normal levels, leading to further damage of the optic nerve in this eye. A right eye glaucoma surgery was performed, which stabilized the IOP. The IOP of the left eye remained unaffected. Considering this as a case of steroid induced decompensation of glaucoma, we think that clinicians should inform patients about the possibility of visual complications associated with steroid injections. This would be of great importance especially for patients already having glaucoma or ocular hypertension and for patients who have a family history of glaucoma. Ophthalmologists should also alert glaucoma patients for the possibility of decompensation of the disease from such injections. Nevertheless, we believe that further studies are needed to quantify the amount of IOP elevations following different types of steroid injections.

Keywords: glaucoma, intraocular pressure, corticosteroids, spinal injection.

Vol. 12 (1): 21-28 (2022)

**ACCOUNTABILITY OF CORPORATE TOWARDS ENVIRONMENTAL
ISSUES THROUGH THE LENS OF CORPORATE SOCIAL
RESPONSIBILITY (FINANCIAL) AND BUSINESS RESPONSIBILITY
(NON-FINANCIAL) REGULATIONS WITH REFERENCE
TO TOP 30 COMPANIES ON NIFTY**

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ABSTRACT

Purpose: The purpose of this article is to comprehend the response of the corporate towards the environmental concern and how the corporate restore the environment by spending CSR funds on environmental activities. The purpose of this article also comprehends the non-financial environmental disclosure by the corporates and its compliance. **Design / Methodology/ Approach:** In this study, there is a sample of the top 30 companies selected on NSE excluding banks (regulated by RBI) down the line from 2017 to 2020. The methodology is to check the CSR spending on the environment from the total CSR of top 30 companies and for non-financial disclosure on the environment, this paper checked the compliance of BRR by corporates. **Practical Implication:** The study on the corporate performance toward the environmental concern and provide comprehensive viewpoints for contributing financial and non-financial by implementing the policies through CSR and BRR. **Originalities/value:** This paper contributes the literature, as well as the resultant of the corporate compliance on regulation 34, read with regulation 101(2) of Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015. **Finding:** The finding of this paper show the mixed results the corporate spend more amount on CSR does not have a positive relationship with more spending on environmental activities. The other finding regarding non-financial disclosure where again the mixed resultant some of the top companies non-complied under Principle 6 of National Voluntary Guidelines in Business Responsibility Report.

Keywords: Business responsibility report, corporate social responsibility, corporate environmental responsibility, environmental disclosure, national voluntary guideline.

Vol. 12 (1): 29-40 (2022)

REGENERATION EFFICIENCY ASSESSMENT OF A UMO TREATED WITH ACTIVATED KARAQEVA'S KOSOVO BENTONITE

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ABSTRACT

The regeneration efficiency of activated Karaqeva's (Kosovo) bentonite was assessed with a used motor oil (UMO) having run about 15 000 - 20 000 km. The bentonite was activated with three activation methods: acid, alkaline and combined acid - alkaline activation. The optimal activation conditions of Karaqeva's bentonite with the employed oil and each of the three activation methods was found out. Bentonite samples were characterized using X-ray powder diffraction (XRD), Fourier transform infrared (FTIR), as well as cation exchange capacity (CEC), surface and porosity properties before and after treatment with all three methods. The activated bentonite's oil regeneration efficiency could be predicted using the following key parameters; CEC, Ssp, Vt, Smi and Sext. Karaqeva's bentonite activated by the acid and combined activation method in the totality of the performance shows the best efficiency for the UMO regeneration.

Keywords: Karaqeva's (Kosovo) bentonite; acid, alkaline and combined activation; UMO regeneration efficiency.

Vol. 12 (1): 41-58 (2022)

USE OF SOYBEAN GENETIC RESOURCES TO CREATE HIGHLY ADAPTIVE VARIETIES

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ABSTRACT

The scientific work highlights the importance of legumes in the agricultural sector of the world and Ukraine. The role of soybeans as an important protein crop in solving the world's food problem is shown. The narrow genetic base of existing soybean varieties requires the involvement of new source material in hybridization, especially one that has high adaptive properties. The study of a large volume of collection material over many years, numbering more than 6,000 samples, has identified donors and sources of such economically valuable traits as precocity, increased productivity, drought resistance, high attachment of lower beans, increased protein and fat content in seeds. It was found that ultra-early accessions of soybeans originate mainly from Sweden, Canada, Poland, Germany, and the Far East of Russia. Late-maturing genotypes are concentrated in the United States, Argentina, Brazil, Japan, India, Korea, Morocco, Australia, and Colombia. Such varieties as Arcadia Odeska, Khersonska 2, Prikos №5, Swift, Hodgeson, Evans are distinguished by high adaptive potential in the conditions of the South of Ukraine. Increased soybean yield is not due to one economically valuable feature, but the optimal combination of a number of indicators. High combination ability is characterized by soybean varieties from the USA Amsoy 71, Beeson, Corsoy, Evans, Swift, Harrison, as well as domestic origin – VNIIMK 9186, Kirovogradskaya 4, Belosneshka, Peremoga, Arcadia Odeska, Iskra. At the present stage to hybridization is necessary to involve new varieties Amethyst, Krasa Podillya, Alma, and Anthracite. The data of general and specific combination ability which need to be considered in breeding work are resulted. Highly adaptive varieties of soybeans have an increased growth rate in the initial stages of development, deeply penetrating into the soil root system, able to use moisture from deeper horizons. At the beginning of the growing season, the leaf surface of such genotypes grows rapidly before flowering, and then remains at the same level. They are characterized by small, upright leaves, especially in the upper and middle parts of the bush, which promotes better penetration of light into the lower sections of the canopy. In the process of research in the period 1979-2020, 36 soybean varieties were created, which are entered in the state register and recommended for cultivation in all areas of Ukraine.

Keywords: soybean, vegetation period duration, adaptability, collection samples, yield, protein content, economically valuable traits, new varieties, general and specific combination ability.

Vol. 12 (1): 59-66 (2022)

THE CONDITIONS OF MARKET FISH POPULATIONS, THAT IMPACT ON SHKODRA LAKE STABILITY, WATER QUALITY AND SUSTAINABLE FISHING

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ABSTRACT

Fishes are the component that performs the transport of nutrients in the pelagic of the Lake Shkodra. They constitute one of the few links of the food chains, which in food regimes is dominated by herbivorous-detrital structures and which contribute to the ecological stability. Market fishes constitute the main biomass of the lake fish community, therefore the study of the situation of their populations is important in terms of problems and management, for a sustainable fishing. Situations of fish populations have been studied through the assessment of threatened species (CR, EN, VU), based on declining of catch (IUCN, Version 3.1 of Red List of Threatened Species, 2001 Categories & Criteria). *Alburnus scoranza* and *Chondrostoma nassus* are defined in the CR category. *Carassius gibelio* (that compete *Cyprinus carpio*), *Perca fluviatilis* and *Leucos basak* predominate in catch and should continue so for a long time. In the Montenegrin part of the lake there is a large decrease in the catch of migratory species to the sea. Catching of fish should be planned in accordance with the lake productivity, licensed for catching in detail by species, as well as controlled in detail. Factors leading to negative developments, such as water regime disturbance, the presence of pollutants, damage of the shore vegetation, erosion and especially illegal fishing, should also be monitored.

Keywords: market fish populations, impact, Shkodra lake, stability, water quality, sustainable fishing.

ASSOCIATION OF DELIVERY MODE AND BREASTFEEDING

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ABSTRACT

Breast milk is a rich fluid. The benefits of it already are worldwide known because there are a lot of studies that show it. But there are some factors that affect the process or the choice of feeding with breast milk like as mother and fetal conditions. This study aims to describe the association between mood of delivery and breastfeeding and especially the initiation of the breastfeeding How the breast's condition affects the breastfeeding. This is a point (cross-sectional) study, which was implemented for a period of 5 months during the years 2018-2019. The survey included 200 women with a distribution by race, educational level, age, number of pregnancies, mode of delivery, number of abortions, etc. The study used a questionnaire with structured and semi-structured questions through which information was obtained on a number of general elements and mainly those related to the way the birth process and the impact on breastfeeding. The results show that the age group with the greatest involvement in this study is 19-29 years old with 51.5% followed by the age group 30-39 years old with 47% and only 1.5% are in the age group over 39 years' old. Mothers with higher educational level (49.7 %) followed by mothers with 8 years of schooling (29.1%) and mothers with high school (19.9%). 50% of mothers delivery by normal delivery and 49 % of them by cesarean- section. There is a statistically significant relationship between the delivery mode and breastfeeding, $\chi^2 = 4.348$, $P < 0.05$ ($P = .037$); between the delivery mode and the time of starting breastfeeding, $\chi^2 = 6.943$, $P < 0.05$ ($P = .031$).

Keywords: normal delivery, cesarean section, breastfeeding.

