

Using of organogenic-mineral sediments from the bottom of the Black Sea as ameliorant and for other aims

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Area of application: Agriculture

Scientific teams from the Institute of Oceanology – BAS in Varna and Agriculture University in Plovdiv are working jointly on the problem of using of deepwater organogenic-mineral deposits (sapropel, diatomitic and coccolithic oozes disposed at from 500 to 2200 meters depths at the Black Sea bottom) as ameliorant for soils and substrates.

From 1997 to 2004 were carried out a series of experiments on different agricultures as wheat, tomatoes, pepper, eggplants, oleaginous rose and others.

Reason for these joint research investigations give:

- The presence of inexhaustible reserves of alternative materials appropriate for improvement of the soils;
- Eventual exploitation of these materials will not give negative consequences for marine environment;
- The existed technical base for their extraction for scientific and technological tests;
- The policy of European Union concerning agriculture needs search of new alternative raw materials for improvement of the soil structure aiming ecologic agriculture production.
- Nowadays statement of the soils of our country needs a new approach for their improvement and recultivation.

The ameliorant is applicable for reclaiming acid, microelement-poor and destroyed soils, as well as a substrate improver and also for recultivation of polluted soils with heavy and radioactive elements. It stimulates the growth of plants, accelerates their ripening, increases yields, neutralizes the soil acidity and increases their moisture absorption. The ameliorant is a deep-water Black Sea sapropel with the following composition, in %: C_{org} 3, SiO₂ 3.13, CaO 14.5, MgO 2.75, Fe₂O₃ 4.57, Al₂O₃ 11.6, P₂O₃ 1.32, TiO₂ 0.4, chloroform extract 0.35, ethanol-



acetone-benzene extract 1:1:1 0.30, Cu 0.03, Cr 0.0125, Mn 0.0365, Zn 0.0085, Mo 0.0175, Co 0.0155, Ni 0.0073, Li 0.0025, Sr 0.0061 and V 0.0088.

During the First International Workshop which was held from 23 to 26 October 2004 in Varna, in the frames of European project in 5th Framework (2003–2006) ASSEMBLAGE (Assessment of the Black Sea sedimentary system since the Last Glacial Extreme)

7 papers presenting the problem with the alternative raw materials used as ameliorant for soil and substrate improver had been reported. These papers will be presented to the attention of EU experts at the beginning of 2005.

They are looking for possibilities for cooperation in system BAS, EU and private firms for the ameliorant introduction in rural economy.

There is patent for invention No 63868/ 30 April 2003 (<http://www.bpo.bg/abstracts/pdf/2003/2003-04-p.pdf>). Except as an ameliorant for soils and substrates this alternative raw material can be used in ceramic industry, mud-cure, pharmacy and cosmetics as well as filters for cleaning of waters and gases and others.

Tolerance for ambiguity

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Encounters with ambiguity are inherent to human life. One meets ambiguous situations at work, in everyday life, in interpersonal communication and in the interaction with social groups and institutions. Changes in individuals' life and processes of social transformation may induce ambiguity too. Situations where people have to act



with lack of information or lack of clarity on the available information are perceived and interpreted in different ways. Tolerance in one's reactions to ambiguity is contrasted with intolerance on the continuum of individual differences in ambiguity tolerance.

The monograph "Tolerance for ambiguity" (Lege Artis, 2003) summarises psychological research on tolerance – intolerance of ambiguity, synthesizes empirical results that have been obtained in Bulgaria with facts and findings reported elsewhere in the literature, and proposes an original conception of ambiguity tolerance as a personality characteristic. It describes individual traits that have an impact on one's tolerance – intolerance of

ambiguity. Then it examines the influence of ambiguity tolerance on attitudes, motivation and behaviors in children, adolescents, and adults. It further outlines the development of ambiguity tolerance in the life span as it outgrows from the interaction between one's subjective milieu and objective environment.

Many examples illustrate the impact of tolerance – intolerance of ambiguity on one's views, beliefs and opinions, on political preferences and attitudes towards authority, social objects, ideas and groups, on individual's activity and coping with psychological tension and stress. Research on organisational behaviour, risk taking, decision making, creativity, innovations and paranormal experiences has also included the dimension of tolerance – intolerance of ambiguity in the analysis of human behaviour. The notion of ambiguity tolerance is applied to studies in medicine, psychotherapy, psychological counselling and education too.

Information relevant to the self-report questionnaires and scales, experimental tasks and activities, projective methods and expert evaluations that have been used to measure ambiguity tolerance in different ages, cultures and settings is compiled as well. The reliability and validity of ambiguity tolerance measures are discussed. The book focuses in particular on the construction of an original

Bulgarian scale assessing the attitudes towards ambiguity tolerant – ambiguity intolerant behaviors. Graduate students in psychology and psychologists who have already graduated could receive an additional training to use the Bulgarian adaptation of Norton's measure of individual differences in ambiguity tolerance.

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Areas of application:

- in teaching and research in psychology and related disciplines in social sciences and humanities;
- in the practical work with different social and age groups;
- in planning, organization and evaluation of individual interventions, group projects and social programs and activities.

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