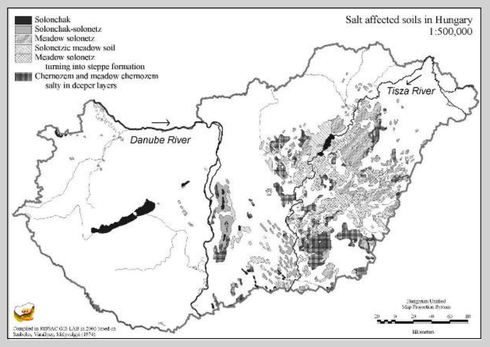
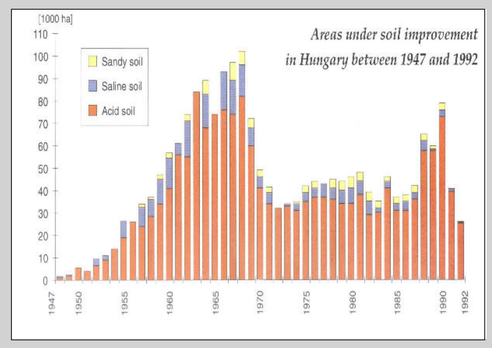
Short chronology of the study of salt-affected soils in Hungary

In Hungary the relative area of salt-affected soils (SAS) is highest in Europe, therefore the study of these soils is one of the most important topics among Hungarian soil scientists. The origin, formation, properties and reclamation of SAS has been investigated thoroughly during the last two centuries. A list of the monographs on salt-affected soils, important milestones and achievements are presented here in headwords. The mapping of these soils has started in 1897, mapping at the scale of 1:25,000 was carried out by the 1950-ies, and their last assessment, now of the areas covered with native halotolerant vegetation, was carried out in the years 2003-6 at the scale of 1:75,000 by Bölöni et al.



Map of Hungarian salt-affected soils as published by Szabolcs, 1974



Areas reclaimed yearly between 1947 and 1992 in Hungary (as published by the Center for Plant and Soil Conservation)

1767 Beginning of systematic soil reclamation of SAS **Tessedik, S**

Tessedik Sámuel (1742-1820)

1839 „The lake of Konyár" **Irinyi, J**

1840 „Natural history of the sodic regions of Hungary" **Balogh, J**

1857 „Our sodic lands" **Szabó, J**

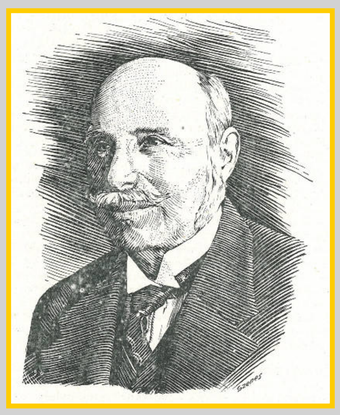
1890 Agrogeological department of Hungarial Geological Institute **Treitz, P; Inkey, B**

1893 Gypsuming of sodic soil **Treitz, P**

1898 "Salt-affected soils in Hungary" **Treitz, P**

1903 '…the flora on the sodic soils shows the quantitity, and quality of the salt in the soil…' **Treitz, P**

1909 **Conference on Agrogeology, Budapest**



Péter Treitz (1866-1935)

HONORARY MEMBER OF ISSS

1910-1990 ~Improvement, reclamation and agricultural utilization of salt affected soils prediction and prevention of secondary salinization-alkalization

Arany, S; Ábrahám, L; Bocskai, J; Darab, K; Filep, Gy; Harmati, I; Herke, S; Jassó, F; Molnár, E; Nyíri, L; Prettenhoffer, I; de Sigmond, A; Szabolcs, I; Szentannay, S; Tóth, T; Várallyay, Gy

1923 "Hungarian salt-affected soils and the methods of their reclamation" **de Sigmond, A**

1926 Mapping, of the SAS, T=soil scientist, B=botanist

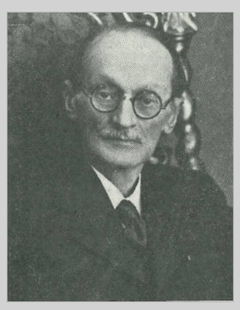
Arany, S (T); Galambos, J (T); Herke, S (T); Jávorka, S (B); Lengyel, G (B); Magyar, P (B); Moesz, G (B); Pinkert, Zs (B); Rapaics, R (B); Strömpl, G (geographer); Timkó, I (T); Timkó, Gy (B); Treitz, P (T); Zsák, Z (B);

1927 Experimental Station for the Afforestation of Salt-Affected Soils at Püspökladány **Magyar, P**

1927 "Nature of sodic, and saline soils" **Treitz, P**

1927 "Hungarian alkali soils and methods of their reclamation" **de Sigmond, A**

1928-1933 State soil liming campaign **Treitz, P**



Alexius de Sigmond (1873-1939)

CHAIRMAN OF THE ALKALI SUBCOMISSION 1924-1939

1929 Conference on Salinity Problems, Budapest

1934 "Hungarian salt-affected soils" **Sajó, E; Trummer, Á**

1938 "The geologic and morphological relations of the layers of Pleistocene and Holocene and the context of these with the soil development, especially with the saline soil development in the Hungarian plain" **Scherf, E**

Sándor Arany (1899-1984)

1947 Research Institute of Karcag

1949 Research Institute for Soil Science and Agricultural Chemistry

1954 "Soils of Hortobágy" **Szabolcs, I**

1956 "The salt-affected soil and its reclamation" **Arany, S**

1956-1986 ~Role of environmental conditions in the genesis and formation of salt affected soils and saline lakes

Arany, S; Darab, K.; Jassó, F; Kuti, L; Máté, F; Molnár, B; Molnár, E; Rajkai, K; Szabolcs, I; Szekrényi, B; Várallyay, Gy

1956-1998 ~Studies on the processes of soil salinization-alkalization, effect of salts on soils and soil properties

Blaskó, L; Csillag, J; Darab, K; Filep, Gy; Gerei, L; Jassó, F; Karuczka, A; Rajkai, K; Rédly, M; Reményi, M; Szabolcs, I; Szendrei, G; Várallyay, Gy; Zsembeli, J

1959 "Farming on our salt-affected soils" **Herke, S; Mihályfalvy, I; Prettenhoffer, I; Tury, E; Vezekényi, E**

1960-1992 ~Study and evaluation of salt affected soils, preparation of maps with different scales

Csillag, J; Darab, K; Fórizs, I; Kabos, L; Kertész, M; Kuti, L; Molnár, E; Rajkai, K; Szabolcs, I; Tóth, T; Várallyay, Gy; Rédly, M

M Rédly was the Chairman of the Subcommission on Salt Affected Soils, 1994-1998

1961-2009 ~Soil-plant studies

Bagi, I; Bodrogközy, Gy., Molnár, E; Molnár, Zs; Oertli, JJ; Précsényi I; Rajkai, K; Tóth, T;

1961 "The effect of drainage and irrigation on soil formation in Tiszántúl region" **Szabolcs, I**

1964 Symposium on Sodic Soils, Budapest

1967 Subcommission on Salt Affected Soils 1st Board Meeting, Budapest

1968 Workhop of Subcommission A, Budapest

1969 "The reclamation and use of Hungarian salt-affected soils in Tiszántúl region" **Prettenhoffer, I**

1969 "Soil mapping of irrigated territories" **Darab, K; Ferencz, K**

1971 "European solonetz soils and their reclamation" **Szabolcs, I**

1971 "Improvement of salt-affected soils" **Ábrahám, L; Bocskai, J**

1972 "Afforestation of salt-affected soils" **Tóth, B; Jassó, F; Leszták, J-né; Szabolcs, I**

1973&5 Hortobágy (1973) and Kiskunság (1975) National Parks

István Szabolcs (1924-1997)

HONORARY MEMBER OF ISSS

CHAIRMAN OF THE SUBCOMISSION OF SALT AFFECTED SOILS, 1964-1982

1974 "Salt-affected soils in Europe" **Szabolcs, I**

1979 "Review of Research on Salt Affected Soils" **Szabolcs, I; Várallyay, Gy**

1983 "Improvement and utilization of salt-affected soils in the Danube-valley" **Herke, S**

1991-1992 ~Remote sensing of soil salinization

Baumgardner, M; Biehl, L; Büttner, Gy; Csillag, F; Juhász, I; Michéli, E; Pásztor, L; Szilágyi, A; Tóth, T

1993-2007 ~Spatial statistical analysis of soil salinization

Douaik, A; Kabos, L; Kertész, M; Marchand, D; van Meirvenne, M; Kuti, L; Oertli, JJ; Pásztor, L; Rajkai, K; Tóth, T; Várallyay, Gy

2003-2008 ~Mycorrhiza studies on SAS

Bíró, B; Bothe, H; Füzy, A; Tóth, T

1962-2009 ~Study of the dynamism of salinization

Bakacsi, Zs; Filep, Gy; Harmati, I;Jassó,; Kovács, D; Szekrényi, B; Tóth, T, Várallyay, Gy

2003-2009 Dismissal of earlier rice field's traces in National Parks

2006 "Surface salt-minerals of the Hungarian salt-affected soils" **Szendrei, G; Tóth, T**

2009 Compilation of the map of salt-affected soils in the European Union

Tóth, G; Tóth, T; Várallyay,Gy

2009 **IUSS Conference on Salinization, Budapest**

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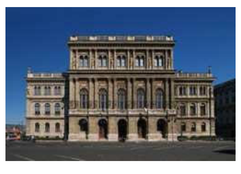
web: www.taki.iif.hu; www.mta-taki.hu

Bridging the Centuries
1909–2009

Hungary – B u d a p e s t
16–17 September, 2009