

REFERENCES

REFERENCES

- Aizupiete, I. (1968). Boron importance in agriculture. Macroelement Lauksaium. Kult. 21- 42 (c.f. Chem. Abst. 71 (18): 60257, 1969).
- Anikeev, A.S.; G.I. Bershak and Z.D. Pronina (1978). Effect of trace elements on root yield, sugar contents and technological qualities of sugar beet roots. Referativnyi, Zhurnal 4 (55): 534. (c.f. Field Crop Abst., 32 (3) 1979).
- Antoniv, S.F. (1981). Nutrient uptake by sugar beet and its yield in relation to fertilizer application in a rotation. Agrokhimiya, (8): 39- 46 (c.f. Soils and Fert. Abst., 46 (9) 1983).
- Association of Official Agriculture Chemists (1980). Official Methods of Analysis A.O.A.C. Washington, 13rd ed., D.C. pp. 832.
- Balba, A.M. (1968). Soil Fertility. Dar El- Matboly. El- Gadida, Alex. Egypt.
- Bamberg, K. (1966). Effect of trace elements on the quality of sugar beet, broad beans and output of trace elements by crops. (c.f. Field Crop Abst. 19 (4): 2293).
- Benedycka, Z., A. Krauze and T. Bowszys (1986). Residual effects of boron fertilization. Acta Academic Agriculture ac Technicae. Olsteneusis, Agricultura (43): 51- 56. (c.f. Field Crop Abst., 41 (1): 1988).

- Bertic, B.; S. Manojlovic; V. Vukadinovic and V. Kovacevic (1987).
The relation between manganese contents of soil and in sugar beet
in East Croatia. *Agrochemia* 27 (12): 361- 363. (c.f. Field Crop
Abst., 41(11): 1988).
- Boawn, L.C. and F.G. Jr. Viets (1956). Zinc fertilizer testes on sugar
beet. Washington. J. Amer. Soc. Sugar beet Technol., 9: 212-
216.
- Bonilla, I.; C. Cadahia.; O. carpena and V. Hernand (1980). Effects of
boron on nitrogen metabolism and sugar levels of sugar beet.
Plant and soil 57 (1): 3- 9 (c.f. Soils and Fert. Abst., 44 (7):
1981).
- Brown, J.C. (1976). Genetic potentials for solving problems of soil
mineral stress deficiency and boron toxicity in alkaline soils.
Wright, M.J. (Editor): Plant adaptation to mineral stress in soils.
Proceedings of a workshop held at the National Agricultural
Library. Beltsville. Maryland November 22- 23 (c.f. Field Crop
Abst., 31 (10): 1978).
- Brown, I.D. and O. Lilliland (1964). Rapid determination of potassium
and sodium in plant material and soil extracts by flame
photometry. Proc. Amer. Soc. Hort. Sci., 48, 341- 346.
- Burcky, K. and C. Winner (1979). Studies on the importance of
nutrient supply for sugar beet quality. 3 Trace- elements.
-

Zeitschrift für die Zucker Industrie 29(1): 44- 49 (c.f. Soils and Fert. Abst., 43(2): 1980).

Byasov, K. Kh. (1972). Effect of trace elements on root yield and sugar content in sugar beet. Nauchno Issledovatel Skii Inst. 4: 46- 50. (c.f. Field Crop Abst., 26(2): 821, 1973).

Chapman, H.D. and P.E. Pratt (1961). Methods of analysis for soils, plants and water. Univ. of Calif., Div. of Agric. Sci.

Chernova, L.M. (1974). Effect of manganese and molybdenum fertilizers on nutrient uptake, growth and yield of sugar beet. Referativnyi Zhurnal 11: 55- 631. (c.f. Field Crop Abst., 28 (8): 4757, 1975).

Djillali, H.M.; A.P. Conesa, M. Roux; P. Baillon; G. Lemaire and C. Maginieu (1974). Relations between environmental features and uptake of trace elements by sugar beet. Bull. des Recherches Agronomiques de Gembloux 1974, 9 (2): 224- 245. (c.f. Soils and Fert. Abst., 39(2): 1976).

Dolya, V.S. and Ostrovskii (1971). Effect of some trace elements and vitamin B1 on the process and productivity of sugar beet seed plant. Fiziol. Anat. Biokhim., Tekhnol., 338- 47. (c.f. Chem. Abst. 79 (23): 135800, 1973).

Draycott, A. P. and R. Holliday (1970). Comparison of liquid and solid fertilizer and anhydrous ammonia for sugar beet. J. Agric. Sci., 74: 139- 145.

- El-Hady, A.H. Hammam (1969). The effect of boron on sugar beet. M. Sc. Thesis Fac. Agric. Ain Shams Univ.
- El- Kobbia, T.; H. Hamdi and A. Abd El- Hady (1971). Effect of boron fertilization on yield of sugar beet grown in calcareous soils. U.A.R.J. of soil Sci. 11 (1): 53- 59.
- El- Mashhadi. H.H.M. (1988). The effect of some micro elements on the nutrition of sugar beet. Ph. D. Thesis. Fac. of Agric. Ain Shams Univ.
- El-Sayed, S.S.M. (1993). Biochemical studies on the effect of pollution on plant metabolism. M. Sc. Thesis, Fac. of Agric. Cairo Univ.
- Emelyanova, V.M. and G.L. Nelyubova (1978). Productivity of sugar beet in relation to the nutrient levels of potassium and boron. Nauch. Tr. Kursk. Inst. 185: 15- 22 (c.f. Chem. Abst. 92 (11): 179804, 1980).
- Erjala, M. (1986). Control of manganese deficiency in sugar beet by placement of a manganated compound fertilizer. J. of Agric. Sci. in Finland 58(5): 215- 220. (c.f. Field Crop Abst., 40(7): 1987).
- Farley, R.F.; and A.P. Draycott (1973). Manganese deficiency of sugar beet in organic soil. Plant and Soil, 38 (2): 235- 244.
- Farley, R.F.; and A.P. Draycott (1976). Diagnoses of manganese deficiency in sugar beet and response to manganese applications. J. Sci. Food and Agric. 27(11): 991- 998.

Fecenko, J. and I. Tichy (1976). Effect of trace elements on yield and technological value of sugar beet. *Micro Elementov.*, 22(2): 105-113. (c.f. *Field Crop Abst.*, 32(1): 337, 1979).

Fuhering, H.D.; M.A. Hashimi; K.S. Haddad; K.K. Hussieni and M.U. Makhdoom (1969). Nutrient interaction effect on sucrose yield of sugar beet. *Soil Sci. Amer. Proc.*, 33: 718- 721.

----- and R.E. Finker (1973). Interrelationships of applied nitrogen, applied zinc, plant population, and frequency of irrigation on yield and quality of sugar beets. *J. Amer. Soc. sugar beet. Tech.* 17(4): 358.

Genaidy, S.A. (1988). Role of potassium, boron and zinc fertilization on yield and quality of sugar beet grown on Northern Delta Soils. *Alex. Sci. Exch.*, 9 (1): 25- 34.

Gillis, M.B. and N. Radchenko (1975). Effect of trace elements on growth, yield and quality of crops in Western regions of the Ukraninon SSR, Noukora Dumka, 125- 133. (c.f. *Field Crop Abst.*, 31(12): 1978).

Gritsenko, V.V.; B.P. Shaldaev; L.N. Zaharov and M.I. Pavlov (1985). A method of increasing quality of sugar beet seeds. *Sakarnaya Svekla* No. 4, 26- 27. (c.f. *Field Crop Abst.*, 40 (5): 1987).

Hanousek, J. (1973). The results of experiments with the application of trace elements to sugar beet in 1970- 72. *Agrochemia* 13 (5): 1142- 1145. (c.f. *Field Crop Abst.*, 27 (1): 1974).

John, M.K.; H.H. Chuah and J.H. Neufeld (1975). Application of improved Azomenthine- H method to the determination of boron in soils and plants. Analytical Mletters, 8: 559- 568.(c.a. Saif, M.L. Ph.D. Thesis, Fac. of Agric. Ain Shams Univ. 1991).

Kalimeri, and X. Pellumbi (1982). The effect of zinc, boron and copper trace elements on yield and quality of sugar beet. Buletin Shkencove Bujgesore 20 (3): 53- 62. (C.F. Field Crop Abst., 36 (11): 690, 1983).

Khomchak, M. E. and A. V. Maidanyuk (1978). Effect of trace elements on the composition of nitroammophoska and the productivity of sugar beets and on their nitrogen, phosphorus and potassium content. Nauch. Tr. Ukr. Akad., 211: 66- 70. (c.f. Chem. Abst. 92 (23): 197055, 1980).

Kibalenko, A. P.; T. N. Sidorshina, N. T. Poyedinok; M. O. Kharchenko and T.I. Demchenko (1977). Role of boron in increasing sugar content and technological quality of sugar beet roots. Depovid, Akademii Nauk Kukrainskoi RSR (1977), No. 3: 249- 253. (c.f. Soils and Fert., 41 (6): 366, 1978).

Krauze, A.; Z. Benedycka, D. Bobrzecka and B. Bardzicka (1986). Response of sugar beet to boron fertilization. Agric. (43): 43- 50. (c. f. Field Crop Abst., 41 (1): 1988).

Krunic. D.; M. Pantovic and Z. Popovic (1980). The effect of trace-elements on the yield and quality of sugar beet on chernozem,

- brown forest, black swamp and alluvium soils. *Agrochemija* (9/10): 345- 383.. (c.f. *Soils and Fert. Abst.*, 44(7): 1981).
- Kudryashov, V. S. (1985). Application of boron to sugar beet. *Sakharnaya Svekla* (7): 38- 39. (c.f. *Field Crop Abst.*, 40(5): 1987).
- Kurakov, V.I. and N. A. Protasova (1985). Trace elements in soil and sugar beet. *Sakharnaya Svekla* (12): 21- 22. (c.f. *Field Crop Abst.*, 40 (5): 1987).
- Lachowski, G. (1961). The effect of boron manganese and copper on the productivity of sugar beet. *Roczn. Naukrol.*, 8: 64- 70. (c.f. *Soils and Fert.*, 25 (2). 1962).
- Lashkevich, G.I. (1980). Effect of fertilizer and trace elements fertilizer treatments on wheat, barley, sugar beet and potato production quality. *Biyal. Navuk*, (3): 59- 60. (c.f. *Chem. Abst.* 93 (8): 148895).
- Last, P. and K. Bean (1990). Manganese deficiency and the adjacent connection. *British Sugar Beet Review* 58 (3): 15- 16. (c. f. *Field Crop Abst.*, 43 (12): 1990).
- Le Docte, A. (1927). Commercial determination of sugar beet root using the sacks Le- Docte Process. *Sugar J.* 29, 488- 492. (c.f. *Sugar beet Nutrition*. April, 1972. Applied Science Publishers LTD (London A. P. Draycott).

- Ljubic, J. (1980). Effect of some trace elements on the growth and yield of sugar beet and maize. *Agrochemija* (1/2): 1- 5. (c.f. Field Crop Abst., 34 (2): 1981).
- Mazurenko, I.; P.I. Kaban and Pogrebnyak (1980). Dynamics of nitrogen , phosphorus and potassium accumulation in sugar beet leaves in the application of trace element enriched Carboammophoskas. *Mikroelem, Okruz.* 219- 222. (c.f.Chem. Abst. 94 (3): 29331. 1981).
- Mohamed, K. E. (1993). Physiological studies on sugar beet (*Beta vulgaris* L.). M.Sc. Thesis, Fac. of Agric., Al- Azhar Univ.
- Monakhova, G.P. (1976). Effect of trace elements (zinc and cobalt) on growth processes and sugar content dynamics of sugar beets. *Vestn. S- Kh Nauki Kazl* 19(3): 21- 24. (c.f.Chem.Abst. 85(3): 19803).
- Morsy, M.A. and E.M. Taha (1986). Effect of boron, manganese and their combination on sugar beet under El- Minia conditions. 2- Concentration and uptake of N, P, K, B, and Mn. *Ann. Agric. Sci. Ain Shams Univ.* 31 (2): 1241- 1259.
- Narayan, D.; and A.S. Chandel (1994). Yield and quality of sugar beet in relation to different rates and methods of B application. *India J. of Agric. Res.* 28 (4): 257- 262. Dept., of Agron. G.B. Pant Univ., of Agric. and Tech. Pantagar 263145, Uttar Pradesh, India. (c.f. Field Crop Abst., 48(9): 4847, 1995).

- Narayan, D., A.S. Chandel and G.R. Singh (1991). Effect of boron fertilization on yield and quality of sugar beet (*Beta vulgaris* L.). Indian. J. of Plant Physiol., 32 (2): 164- 168.
- Nelyubova, G.L. and L.A. Darazh Kina (1970). Effect of boron on the accumulation of sugar in sugar beets and carrots. Sel Skokhoz, Akd. 1: 118- 26. (c.f. Field Crop Abst., 24(1): 1971).
- , and V.P. Starovoitova (1980). Boron mobility in the soil in relation to doses and forms of nitrogen fertilizers and the effect of boron on plant productivity. S-Kh. Akad. 6:76- 83. (c.f.Chem. Abst. 94(4): 46087, 1981).
- Omelchenko, L.A. (1970). Action of micronutrient fertilizers on the yield and sugar content of sugar beets. Nauch, Tr. Kursk. Sel Skokhoz. Inst. (6/ 3) 9- 16. (c.f.Chem. Abst. 77 (9): 60752, 1972).
- and A.I. Shadrina (1974). Effect of trace elements on activity of enzymes in plants of sugar beets. Nauchmye, Noro, Seleshok, Inst. 8 (5): 89- 93. (c.f. Field Crop Abst., 28(8): 4744, 1975).
- Omelchenko, L.A. and G. A. Rusakov (1973). Effect of trace elements on some biochemical processes of sugar beet. Nauchnye Trudy Voro. Inst. 8 (5): 94- 100. (c.f. Field Crop Abst., 28(8): 4746, 1975).
- Pergl, F. (1945). Quantitative organic micro analysis 4th Ed. J. and Churchill LTD., London.

- Rab, F. (1970). Boron uptake by sugar beet. Rost l.11, Scs, Eru, Agric. Univ., Brno, Czechoslovakia. (c.f. Field Crop Abst., 24 (2): 306, 1971).
- Radchenko, N.P. (1970). Effect of molybdenum and boron on corn and sugar beet in the Western Ukraine. Nauk, Pr. Lviv., Sils Kogospod Inst. 27: 45- 53. (c.f. Chem. Abst. 77 (13): 86995, 1972).
- Rao, G.S. and A.P. Gupta (1979). Influence of manganese on the accumulation of free amino acids in cane leaves. Intern. Sugar J. 96 (3): 99- 102. (c.f. Soils and Fert., 33(2): 1980).
- Rosell, R.A. and A. Ulrich (1964). Critical Zn concentration and leaf minerals of sugar beet plants. Soil Sci., 97: 152- 167.
- Roshina, G. (1976). Application of boron fertilizers to sugar beet grey forest soils in Ryazon Province Sbornik Nouchnykh Trudov, Ryazankil Sel Skhshozy Aistvenny Y. Institute 36 (12): 107- 111. (c.f. Field Crop Abst., 29(12): 9842, 1976).
- Rudin, V.D. and M.I. Churilova (1972). Effect of boron fertilization on yield and quality of sugar beets. Tr. Stavropol. Sel Shokhoz, Inst. 2(34): 74- 78. (c.f. Chem. Abst. 78 (18): 109790, 1973).
- Rudolf, M. (1992). Influence of B on sugar beet yields and quality. Vily. Boru, Na Vynosya Jakost Cukrovky. Listy Cukro- Varnicka a Reparske 108 (9): 194- 196. VSUR, Semcice Czech Republic. (c.f. Field Crop Abst., 48(1): 391, 1995).

- Rutskaya, S.I.; L.I. Ksenz and A. A. Sidorov (1981). Effect of boron and zinc on uptake of nutrients by sugar beet plants and their productivity against a back ground of different fertilizer rates. *Fiziologiya i Biokhimiya Kulturnykh Rasteniy* 13 (6): 631- 636. (c.f. Field Crop Abst., 36 (1), 1983).
- Saif, M.L. (1991). Yield and quality of sugar beet as affected by nitrogen sources and rate of some microelements in Kafer El-Sheikh. Ph. D. Thesis, Fac. of Agric. Ain Shams Univ.
- Sapatyi, S.E. (1978). Effectiveness of trace elements application on individually growing sugar beets. *Nauch. Tr. Ukr. S- Kh. Akad.* 211- 271. (c.f. Chem. Abst. 92 (12): 19705, 1980).
- Schmidt, L.; V. Stehil and J. Zahradnicak (1973). Sugar beet fertilization. *Listy Cukr.*, 89, 217- 227. *The Intern. Sugar J.* pp 244 Vol. LXXVI no. 908, 1974.
- Shalavitskaya, Z. (1979). The effectiveness of zinc fertilizers on irrigated soils of south and south-east. Kazakhstan, *Refertivnyi Zhurnal*, Seriya 4: 153. (c.f. Field Crop Abst., 33 (1): 1980).
- Shchetinina, L.L. and N.G. Alshevskii (1970). Effectiveness of various methods of using boron fertilizers for sugar beets. *Sol Khaz*, 8 (9): 658- 660. (c.f. Chem. Abst. 74 (7): 12229, 1971).
- Shimilliar, M. (1967). Use of fertilizers enriched with trace elements. (c.f. Chem. Abst. 73 (20): 3078, 1970).

- Singh, R.R. and M.S. Gangwar (1973). Zinc requirement of some important varieties of sugar beet. *Indian J. of Agric. Sci.* 43(6): 1973. (c.f. *Field Crop Abst.*, 29 (1): 1976).
- Singh, R.R. and U.S. Gangwar (1974). Critical boron concentration and calcium boron balance as related to the boron need of sugar beet. *Acta. Agric. Acad. Sci. Ung.* 23 (112): 108- 113. (c.f. *Field Crop Abst.*, 28 (3): 1975).
- Snedecor, G.V. and W.G. Cochran (1967). *Statistical methods* 6th Ed. Iowa State Univ. Press, Amess., Iowa, USA.
- Spiller, S. and N. Terry (1974). Effect of zinc deficiency on the multiplication and expansion of sugar beet leaf cells. *Crop Sci.*, 14 (2): 293- 295.
- Sroller, J. (1978). The effect of trace elements fertilization on the chemical composition of beet seedling. *Agronomicka, A.* (2): 255- 264. (c.f. *Field Crop Abst.*, 34 (1): 403, 1981).
- Stiles, W. (1961). *The trace elements in plant.* 3rd Univ. Press. Cambrige.
- Stoyanov, D. (1971). Boron status in chernozems in connection with prospects for the introduction of boron fertilization practices in Bulgaria. *Mikroelem. Ikrotorvete*, 1: 219- 230. (c.f. *Chem. Abst.* 81(15): 90465, 1974).

- Sviridov, A.S. (1975). Dependence of yield and quality of sugar beet on rates of boron and manganese on leached chernozem soil. *Nouchnye Trudy, Vorone Zhshii Sel Slokhozyai Stvennyi Institut* (72): 65- 68. (c.f. *Field Crop Abst.*, 29(4): 59058, 1978).
- Tadorcie, B. and Faller (1977). Boron fertilization of sugar beets. *Zemljiste Biljka*, 26 (1): 55- 70 (c.f. *Chem. Abst.* 89 (6): 59058, 1978).
- Tariq, M.; K.J. Khattak and G.Sarvar (1993). Effect of boron on the yield and quality of sugar beet in Peshawar Valley. *Dept. Soil Sci., NWFP. Agric. Univ., Peshawar, PAK. Scientific Khyber* 6 (2): 97- 106. (c.f. *Biol. Abst.*, 97 (2): 1994).
- Tsolova, V. and N. Peneva (1992). Absorption and extraction of microelements by sugar beet. *Pachvoxnanie, Agrokihimiya i Ekologiya* 27 (2): 35- 39. N. Pushkarov Institute of Soil Science and Agroecology, Sofia, Bulgaria. (c.f. *Field Crop Abst.*, 46 (11): 7702, 1993).
- Tuchashvili, S.M. and A.L. Urtaev (1971). Effectiveness of trace elements on main soils in the N-Osetiya. *Trudy Groskoge SeleskOkozy Aistvennogo Instituta* 31. (c.f. *Field Crop Abst.*, 25 (3): 3863, 1972).
- Vlamiš, J. and A. Ulrich (1973). Boron tolerances of sugar beet in relation to the growth and boron content of tissues. *J. Amer. Soc. Sugar Beet Technol.* 17(3): 280.

Vlasyuk, P.A.; A.L.Rechura and N. G. Zhmurko (1977). Effect of trace elements on yield and technological qualities of sugar beet. Nauki, 12 : 21- 24. (c.f. Field Crop Abst., 32 (5): 3197, 1979).

----- ; D.I. Lavrentovich and L.M. Chernova (1974). Manganese on photosynthesis, carbohydrate metabolism and yield of sugar beet. Referativnyi Zhurnal. (c.f. Field Crop Abst., 28 (9): 1975).

Voinova, T.N. (1965). The effect of boron on yield and quality of sugar beet. IZ. W. Akad. Nauk. Kazkh. SSR. 3. 22- 25. Bibl. 15, Kazakhs. (c.f. Field Crop Abst., 19 (4): 2295, 1966).

Voth, R.D. (1978). Effect of boron, manganese and fertilizers on yield, quality and nutrition of sugar beet (*Beta vulgaris* L.). Dissertation Abst., International, B. 39 (3): 1076. (c.f. Field Crop Abst., 34 (2): 1201, 1981).

Voth, R.D.; J. Reisen and D. R. Christenson (1979). Effect of applied boron on yield of sugar beets. Res. Rep., Agric. Exper. Sta. Michigan State Univ. No. 376, 4 pp. (c.f. Soils and Fert., 43 (10): 837, 1980).

Wang, K.R. (1994). Reasons for low germination rate of monogerm sugar beet seed and preliminary approach on measures for improving seed germination. China Sugar Beet (2): 16- 19. North East Agricultural Univ., Harkin, Heilongziang 150030. China. (c. f. Field Crop Abst., 48 (9): 6852, 1995).

- Watson, D.J. (1958). The dependence of net assimilation rate on leaf area index. *Ann. Bot. N. S.* 22: 37- 54.
- Wisniewski, K.; H. Sadowski (1991). Soil fertility versus yield and quality of sugar beet seeds. *Zasobnosc Gleby a plon i Jakosc Nasion Buraka Cukrowego. Biuletyn Instytutu Hodowli i Akbmalizacji Roslin* (177), 57- 61. IHAR, Bydgoszcz, Poland. (c.f. *Soils and Fert. Abst.*, 56 (7): 7474, 1993).
- Yaremenko, I.K. (1970). Effect of growth substances on physiological processes yield and quality of sugar beets. *Zaap. Voronezh. Selskokhoz. Inst.* 45: 116- 21. (c.f. *Chem. Abst.*, 75 (18): 108781, 1971).
- Zavrel, V. (1978). Effect of zinc on yield and technological value of sugar beet. *Institut International de Researches. Betteravietes* (42): 179- 188. (c.f. *Field Crop Abst.*, 33 (5): 3642, 1980).
- Zolotov, L.N. and K.V. Lavrov (1973). Effectiveness of the different methods of application of trace elements to sugar beet. *Referativnyi Zhurnal* 10: 55- 545. (c.f. *Field Crop Abst.*, 27 (6): 2794, 1974).
- Zuroveska, V. (1968). Manganese importance in agriculture. *Mikroelem. to Lietosana Lauksaimn. Kult.* 109- 124. (c.f. *Chem. Abst.*, 71(13): 60261, 1969).