

LITERATURE CITED

Abdel Ghaffar, F.M.; M.A. EL-Monhaley; A.A. Gaber and A.H.

Abdel Hady (1981): Effect of nitrogen fertilization and organic manure on sugar beet. Agric. Res. Rev. Min. of Agric., 50 (8): 27-36.

Abdel Rahman, M.M.M. (1996): The effect of N, P and K fertilizers on growth, yield and some physiological characters of sugar beet (*Beta vulgaris* L.). M Sc. Thesis. Fac. Agric. Moshtohor, Zagazig Univ.

Achary, C.N.; S.P. Jain and J. Jha (1952): Influence of legumes in crop rotation on the soil. Sci. Cult. [C. F. Soil and Fert. Abst. 1953,16 .2380,].

Adamiak, J.; W. Niewiadomski and E. Adomiak (1991): Tolerance of sugar beet to cultivation in three rotations or in monoculture on heavy soil. Biuletyn Instytutu Hodowli, I, A klimatyzacji-Roslin. 178: 121-127. [C. F. Soils and Ferti., 1993, 036-07479].

Adams, I. (1974): Residual effect of crop rotation on water intake, soil loss and sorghum yield. Agron. J. 66: 299-304.

Ali, J.J.M. (1978): Effects of nitrogen fertilization and harvesting date on yield and quality of sugar beet (*Beet vulgaris* L.) M.Sc. Thesis, Fac. Agric. Sulaymaniah Univ., Iraq.

Allam, S.A.H. (1988): Position of Egyptian clover in the crop rotation. PH. D. Thesis Moshtohor, Fac. Agric. Zagazig Univ. Egypt.

- Anderson, F.N. and G.A. Peterson (1988):** Effect of incrementing of nitrogen application on sugar beet. *Agron. J.*, 8 (5): 709-712.
- Ansorge, H. (1960):** Comparative effects of preceding crops and fertilizers on yield. *Z. Landw. Vers-Untersuch Wes.* 6: 295-321. [C. F. ,Soil and Fert. Abst.1962, 25:1741].
- Asmus, F. and H. Gorlitz (1986):** Studies on the effect and utilization of N from farmyard manure and mineral fertilizer. *Archiv für Acker und-Pflanzenbau und Bodenkunde*, 30 (2): 115-121. [C.F. Field Crop Abst., 1986, 39: 8920].
- Assey, A.A., M.A. Mohamed; L.E. Ramadan and H.A. Basha (1985):** Effect of sowing method, plant population, nitrogen and potassium fertilization on quality of sugar beet. *Zagazig J. Agric. Res.* 12 (1); 185-213.
- Assey, A.A; M.A. Mohamed; M.E. Saleh and H.A. Basha (1992):** Effect of plant population and nitrogen fertilization on: 1 Growth and growth analysis of sugar beet. *Proc 5th Conf Agron., Zagazig, Egypt*, (2): 980-996.
- Augustinussen, E.and E. Smed (1982):** The influence of nitrogen fertilization on juice quality of sugar beet and loss of sugar during storage. *Tidsskrift fur plant larl.* , 86 (2): 97-106 [C.F. Soil and Ferti., 1982, 45 (3): 2075].
- Aziz, H. M.; Oraby F.Y.; A.M. Abd El-Wahab and R.K. Mahmoud (1978):** Sugar beet yield and quality as affected by different rates and combinations of nitrogen,

phosphorus and potassium. Zanko, The Scientific J. of Sulaymaniah Univ., Iraq, 4: 105-124.

Badr, A.M. (1971): Peanut rotation in U.A.R. Ph.D. Thesis, Fac. Agric. Ain Shams Univ. Egypt.

Bajci, P. (1990): Relationship between mineral nitrogen content in soil, yield and sugar content in sugar beet. [vztahy medzi obsahom mineralneho dusika v pode, uroduoa cukornatost'au cukrovej repy. Rostlinna vyroba 36 (10), 1041-1052, [C.F. Field Crop Abst., 1992, 45 (11): 1009, 1992].

Bajci, P and E. Tomankova (1991): The effect of gradual nitrogen fertilizer application on biomass production and the quality of monogerm sugar beet. Rostlinna vyroba, 37 (1); 81-90 [C.F. Field Crop Abst., 1992, 45 (7): 4720].

Basha, H.A. (1984): Effect of sowing method, plant population and fertilization on growth and yield of sugar beet. M. Sc. Thesis, Fac. Agric., Zagazig Univ., Egypt.

Basha, H.A.; A.A. Assey; L.E Ramadan and M.A. Mohamed (1985): Effect of sowing method, plant population, nitrogen and potassium fertilization Agric. Res. Rev., 63 (1); 185-188.

Bashir, M.I. (1980): Effect of the preceding winter crops and nitrogen fertilizer on growth and yields of grain sorghum. M.Sc. Thesis, Fac. Agric Moshtohor, Zagazig Univ. Egypt.

Boldwin, C.S. and J. F. Davis, (1966): Effect of time and rate of application of nitrogen and date of harvest on the yield

and sucrose content of sugar beet. *Agronomy J. Rual.* 58: 4.

Boronin, N.K; L.A. GDrelik and F.B. Yanishevskii (1985): The effectiveness of different forms of nitrogenous fertilizers in long- term field trails on typical chernozem. *Soil. Agrokhimiya*, 12: 11-17 [C.F. Field Crop Abst., 1986, 39: (7), 4780].

Brozhenko I.P; A P. Raiko; E.A. Udovenko and T.V. Kromarenko (1991): Saturation of rotations with sugar beet. *Sakharnaya svekla -Broizvodstvo-I, Dererabotka* 6: 18-20 [C. F. Field Crop Abst. 1993, 046-00383].

Buercky, K. (1991): Influence of nitrogen supply on dry matter production, yield and quality of sugar beet with special reference to temperature and irradiance in pot experiments *J. Agron. and Crop Sci.*, 167 (5): 341-349.

Butorac, A.; F. Basic; A. Vajnbreger and V. Mihalic (1989): Investigation into the efficiency of long-term fertilizer application for sugar beet on hypogley in a winter wheat-sugar beet maize rotation. *Poljoprivredna-znanstvena-smotra* 54. (3-4): 149-165. [C. F. Soils and Fertili., 1990, 053-09306].

Buzas, I and I. Kuder (1983): Effect of fertilization on the quality of sugar beet. *Az agrokemiai kutatasok ujabn eredmeyci*, pp. 194-201 [C.F. Field Crop Abst., 1986, 39 (12): 9750].

Carter, J.N. and D.J. Traveller (1981). Effect of time and amount of nitrogen uptake on sugar beet growth and yield. *Agron. J.* 73(4): 665- 671.

Castilhos, E.C.; E.E. Scherer; I. Jucksck and A.C. Pacheco (1984): Application of nitrogen fertilizer to sugar beet [*Beta vulgaris L.*] Crop Pelotes, Brazil, UEPAE act de pelotas, pp. 99-104. [*C.F. Soils and Ferti.*, 5015: 4474].

Chabannes., J.; J. Christmann and J. Driad (1978): Ten years of nitrogen fertilizer application in Beauce: Effect on yield and technical quality of irrigated sugar beet. [*C.F. Field Crop. Abst.*, 33 (1): 38, 1980].

Chenkual. V; and CL. Acharya (1990): Effect of rice-wheat and maize-wheat rotations on soil physical properties including soil water behaviour in an acidic Alfisol. [*C. F. Soil and Ferti. Abst.* 1991, 54-11220].

Chochola, J. (1981): Nitrogen uptake and sugar yield development in sugar beet receiving fertilizer. *Rostlinna Vyroba*, 27 (10): 1041-1050. [*C.F. Field Crop Abst.*, 1984, 37: 9035].

Chochola, J. (1987): Effect on nitrogen fertilizer on refined sugar yield of sugar beet. *Rostlinna Vyroba*, Czechoslovakia, 33 (8): 865-874.

Chochola, J. (1990): Effect of date and method of nitrogen application on the yield and quality of sugar beet. *Reostlinna Vyroba*, 33 (8): 865-874. [*C.F. Field Crop Abst.*, 1992, 45 (11): 1006].

- Coota, E and M. Donattell (1990):** Yield response of grain maize grown after fourteen years of four continuous crop ping regimes and six two-year rotations. *Annali dell' Istituto sperimental. Agronomico*. 21: supplemento 2, 163-171. [C. F. Field Crop Abst. 1991, 044-07072].
- Crib, N.I.; A.I. Naidenko and E.V. Postoeva (1973):** Effect of winter rye grown in monoculture on its yield and fertility of dark-grey podzolic soil. *Agrokhimiya* 2: 57-62.
- D'amato, A. and I. Giordano (1985):** The response of autumn sown sugar beet (*Beta vulgaris* L.) to different irrigation regimes according to the rate of nitrogen fertilizer and to planting density. *Revista di Agronomic*, 19 (4): 258-264 [C.F. Field Crop Abst., 1986, 39 (5): 991].
- Delphin, J.E. and A.P. Conesa (1979):** Soil organic matter changes in a rotation, irrigation and plant residues trial in the Hardt plain. I- Organic matter content, *Annals Agronomiques* 30 (2): 167:178) [C. F. Soil and Fert. Abst. 1980, 43;7193 1980].
- Dewis, J. and F. Ferites (1970):** Physical and chemical methods of soil and water analysis. *Soil Bulletin* 10, FAO, Roma 275 p.
- Dobrenov, V. and R.Milosevic (1988):** Changes in the physical properties of soil on different systems of sugar beet cultivation. *Zemljiste- I- biljka*; 1988, 37: 1, 1-9 [C. F. Soils and Ferti., 1990, 053-12711].
- Dochler, M. (1993):** The effect of dielyandiamide. containing fertilizers on root crops L. communication : the effect on

sugar beet) Die Wirkung dicyandiamdhaltiger stickstoffsdünger Zu Hackfrüchten 1. Mitteilung: Die Wirkung bei Zuckerrübe Bodenkultur. (1993) 43 (3): 257-264. Landwirtschaftlich-Chemische Bundesanstalt, 1020 Wien, Austria.

Draycott, A.P. and G.E. Russell (1974): Varietal response by sugar beet to nitrogen sodium and potassium fertilizers. J. Agric. Sci., 83 (1); 181-184.

El-Badry, Ola Z. (1989): Effect of applied nutrients on production of sugar beet Annals of Agric. Sc., Moshtohor, 27 (4) 1969-1976.

EL-Bashbishy, A.Y.M. (1982): Studies on intercropping and nitrogen in sugar beet. Ph. D. Thesis, Fac. Agric., Cairo Univ., Egypt.

EL-Debaby, A.S. (1971): Onion position in the rotation. Ph.D. Thesis, Fac. Agric. Ain Shams Univ. Egypt.

EL-Debaby, A.S.; S.E Shafshak; M.A Salem; A. Roshdy and M.R. Gomaa (1984): Studies on the succession of some legumes in the crop rotation. I-Effect of growing some legumes in succession on nutrient content of the soil. Annals Agric. Sci., Moshtohor 21: 165-172.

EL-Geddawy, I.H.M. (1978): Effect of nitrogen and potassium fertilization on morphology, chemical constituents and yield of sugar beet. M.Sc. Thesis, Fac Agric., Ain Shams Univ., Egypt.

El-Geddawy, I.H.M.; Nemat A. Nour El-Din; A.S.A. Edris and A.M.A. El-Shafel (1992). Sugar beet quality as affected

by plant density, nitrogen and potassium fertilizers. Pak. Sugar J., Apr.-Jun., 26-30.

El-Khatib, H.S.Y. (1991). Effect of plant population and distributions and N,P fertilization on growth, yield and quality of sugar beet (*Beta vulgaris* L.) M.Sc. Thesis, Fac. of Agric., Ain Shamis Univ., Egypt.

El-Shafei, A.M.A (1991). Effect of some agronomic treatments on yield and quality of sugar beet under Kafr EL-Kheikh region. M.Sc. Thesis, Fac. of Agric. Ain Shamis Univ., Egypt.

EL-Tabbakh, A.E. and A.M. Salem (1974): Effect of preceding winter crops. Level of nitrogen fertilizer, distance between hills and method of harvesting on yield of maize plants. Annals of Agric. Sci., Moshtohor 1: 25.

EL-Wehishy, M.M. (1998): Effect of legume and non-legume preceding crops of nitrogen requirements and productivity of rice. J. Agric. Res. Tanta Univ., 24 (1): 45- 59.

Elverenli, A. (1986): Effect of irrigation at various nitrogen fertilizer rates on sugar beet yield and quality. Seker, Turkey, 19 (118): 13-24.

Emara, T.K.S.E. (1990). Effect of irrigation interval, growth regulators and NK fertilizers on yield and quality of sugar beet M.Sc. Thesis, Mansoura Univ., Egypt.

Faber, A. and T. Kryszkowska (1990): Assessment of sugar beet nitrogen nutritional stratum on the basis of chemical

analysis of plants Ocena Stunu adz Wienia Analizy Chemicznej Roslin Pamietnik-Putawski, 994-29-40 [C.F. Field Crop Abst., 1992, 45 (11): 1007].

Feyerabend, I. (1985): Sugar production and nitrogen fertilization, environmental conservation as a side effect. IIUG Reports, inter. Inst. für Umwelt and Gesellschaft, German Federal Republic, 85 (3): 87. [C.F. Soils and Fert., 1986, 49 (7): 7530].

Floot, H.W.G; J.G. Lamers and W. Van-den-Berg (1992): The influence of cropping frequency of seed potatoes, sugar beet, and winter wheat on soil fertility and crop productivity (Crop Rotation Experiment F H 82). Verslag- Proefstation- voor-de- Akkerbouw-en-de Groenteteelt- in-de -volleground, No 139, 135 p [C. F. Field Crop Abst. 1994, 047-02592].

Follett, R.F. (1992): Seasonal sucrose, dry matter and cation concentrations of sugar beet as influenced by variety and N fertilization. Communications in Soil Science and Plant Analysis. 1992, 22 (9-10): 893-906. (USDA-ARSS Soil- Plant).

Follett, R.H; W.R. Schmehl and F.G. Vietisjr (1970): Seasonal leaf area dry weight and sucrose accumulation by sugar beet .J. Am. Soc. Sugar beet Technol., 16 : 235-252.

Fujita, I.; M. Lkeda; J. Watanabe and I. Katagi (1987): Effect of environment and cultivation conditions on growth of sugar beet influence of nitrogen fertilizer on root yield

and sugar content. Proc. of the Sugar Beet Res. Assoc., Jpn, 29: 100-106. [C.F. Field Crop Abst., 1989, 42 (12): 8987].

Gaber, A.A. (1970): Culture methods of sugar beet. M.Sc. Thesis Alex. Univ., Alexandria, Egypt.

Gaber, A.A.; M.N. El-Banna and A.H. Nour (1986): Effect of irrigation intervals and nitrogen levels on yield of sugar beet Alex. Sci. Exch., 7 (4): 151-464.

Ganal, B.A. and C.M.Singh (1988): Effect of farm yard manure applied in rice-wheat rotation on physico-chemical properties of soil. (BiBLioGRAPHic CiTATion): Indian J. Agron. 33(3):327-329. [C.F. Soils and Ferti., 1990, 53: 12362].

Gezgin, S; F. Bayrakli; H. Polate; H. Zaytekin; S. Uyan Z and M. Zengin (1996): Effect of various nitrogenous fertilizers on yield quality and leaf nutrient contents of sugar beet (*Beta vulgaris* L. cv. Kawemaja). Turkish J. Agric. And Forst., 20 (3): 213-217. [C.F. Field Crop Abst., 1996, 49 (11): 8195].

Giardini, L; M. Borin and C. Giupponi (1991): Comparison of crop rotations with or without alfalfa (*Medicago sativa* L.) Rivista. Di. Agronomia, 25 (2): 307-315 [C. F. Field Crop Abst., 1992, 045-01173].

Glamoclija, D. (1987): Effect of nitrogen fertilizer application on yield of sugar beet. *Nauke u praksi*, Yugoslavia, 17 (3): 253-262.

- Gobarh, Mirvat E.M. (1993).** Effect of nitrogen fertilization and plant density on yield and quality of some sugar beet varieties. Ph.D. Thesis, Fac. of Agric., Cairo Univ., Egypt.
- Günther, E. (1951):** Einfluss der Fruchtfolge auf die Bodenfruchtbarkeit. Kühn. Archiv, 64: 34-98. [C. F. Allam, S.A.H., 1988. Ph.D. Thesis, Fac. Agric. Moshtohor, Zag. Univ. Egypt].
- Gutmanski, I. and M. Nowakowski (1994):** The effect of the rate and form of nitrogen on emergence, yield and processing quality of sugar beet at two harvest dates. Biuletyn instytutu Hodwli Akimatyazcji Roslin, 189: 41-49 [C.F. Field Crop Abst., 1995, 48 (10): 939].
- Gutmaski, I. and W. Wisniewski (1995):** Suitability of Chilean nitrate as a fertilizer for sugar beet. Gazeta cukronicza, 103 (2): 27-29. [C.F. Field Crops Abst., 1996, 49(11): 8196].
- Halvorson, A.D. and G.P. Hartman (1975):** Long-term nitrogen rates and sucrose influence sugar beet yield and quality. Agron. J., 67 (3): 389-393.
- Halvorson, A.D. and G.P. Hartman (1980):** Response of several sugar beet cultivars to N fertilization, yield and grown tissue production. Agron. J., 72 (4): 665-669.
- Hanna, A.S.; A.T. El-Kassaby; A.N. Attia and M.A. Badawi (1988).** Studies on the interrelationships among planting dates, hill spacing, varieties and fertilization in sugar beet (*Beta vulgaris* L.). J. Agric. Sci., Mansoura Univ., 13(2): 598- 605.

- Hassanein, M.A. E. (1979):** Response of sugar beet to NPK fertilizer under Egyptian conditions M.Sc. Thesis, Fac. Agric. Cairo Univ., Egypt.
- Hemp, S.; D.S. Cordeiro; E.P. Zonta and F.T De Silva (1985):** Effect of split application of N on yield of roots, areial parts and fermentable sugar in sugar beet peletas, UEPAE de pelatas, Brazil, 105-112.
- Hills. F.J and A. Ulrich, (1971):** Nitrogen Nutrition. (in Johnson, R.T; J.T. Alexander, and G.R. Howkes, Eds. Advances in sugar beet production principles and practices.). p 111-136, Iowa State Univ. Press, Ames, Iowa, USA.
- Hiwatari, M.; T. Tsunoda; Y. Yashima; M. Moekawa; M. Niizeki and F. Kita (1989):** Applied cropping system and yields of five crops grown in the field for farm practice from 1967 to 1988. [C.F. Field Crop Abst. 1991, 044-08579].
- Hoekstra, O and J.G. Lamers (1993):** 28 years at De Schreef. Publikate- proefstation vorr-de-Akkerbouw-en-de-Groentetedt-in-de-vollegrand, Ielysted, 67, 207 pp. [C. F. Field Crop Abst. 1994, 047-02542].
- Holmes, J.J. and J.R. Devine (1976):** Nitrogen requirement of sugar beet .J. Agric. Sci., 86: 549-558.
- Hunisge, G. and B.N. Patil (1972):** Effect of crop rotation on physical and chemical properties of soil and their effect on yield of jowar and cotton. Indian J. Agron 17: 182:187.

- Ibrahim, M.F.M. (1998):** The effect of some fertilization elements on the yield and quality of sugar beet. Ph. D. Thesis. Fac Agric. Moshtohor, Zagazig, Univ.
- Izsaki, Z. (1984):** The effect of N-fertilization on sugar beets I. Dry matter accumulation and NPK uptake. *Agrokemiaes talajtan*, 33 (1-2): 86-104. [C.F. Field Crop Abst., 1986, 39 (2): 412].
- Jackson, M.L. (1967):** "Soil chemical analysis". Prentice-Hall, Inc. Limited, New York.
- Jackson, M.L. (1973):** "Soil chemical analysis". Prentice-Hall of Indian Private Limited, New Delhi.
- James, D.W.; D.L. Doney; J.C. Theurer and R.L. Harst (1978):** Sugar beet genotype, nitrogen and soil moisture availability interaction in components of beet yield and quality. *Agron. J.* 70: 525-531.
- Jaszczolt, E. (1992):** Suitability of the preparation Komplet S, as a fertilizer of sugar beet. *Biuletyn instytutu Hodowli A klimatyzacji Roslin, Poland.* 181.182: pp. 213-224. [C.F. Field Crop Abst., 1994, 47 (4): 2394].
- Johnson, G.U.; J.L. Stroehlien and J.L. Abbott (1978):** Critical tissue levels for predicting nitrogen needs of sugar beet at Mesa, Arizona. *J. Amr. Soc. Sugar Beet Technol.*, 20: 65-72.
- Kadry, A.; S.A.Z. Mahmoud and S. Salama (1961).** Factors influencing the germination of orbanche seeds. Rhizospheric microflora of some orbanche host plants. *Annals of Agric. Sci., Ain Shams Univ.*, 6:146- 168.

- Kalio, H.; M.Kyyro; A.M. Evers and J Korkman, (1982).**
Didtrileution of nitrate in red beet roots on leaves fertilized with urea or ammonium nitrate. *Annals Agric. Fenniae*, 21 (3): 131-136.
- Kamel, M.S.; A.A. Abd El-Haffeez; E.O. Abustait and B.S. Hassanein (1989):** Effect of plant density, thinning time and nitrogen fertilization on growth, yield and quality of sugar beet. *Assiut J. Agric. Sci.*, 20 (2): 225-238.
- Kamel, M.S.; E.A. Mahmoud; A.A. El-Gharabawy and M.A. Hassanein (1979):** Effect of different rates of nitrogen, phosphorus and potassium on yield and quality of sugar beet. *Res. Bull. 1052, Fac. of Agric., Ain Shams Univ., Cairo, Egypt.*
- Kamel, M.S.; E.A. Mahmoud, M.M. Bayoumi and A.Y.M. El-Bashbishy (1984).** Growth, yield and quality of sugar beet as affected by some intercropping patterns with sugar cane under different levels of nitrogen fertilization. *The 2nd General Conf. Agric. Res. Center, Giza, Egypt.*
- Kapur, M. L and R.S. Kanwar (1989):** Effect of preceding crop on nitrogen fertilization of sugar beet (*Beta vulgaris*) in Punjab (India). *Indian J. of Agric. Sci.*, 59 (4): 241-246.
- Kapur, M.L. and R.S. Kanwar (1994):** Sugar beet tops as a source of nitrogen for maize and rice grown in rotation with sugar beet in subtropical north-west India. *Tropical- Agriculture*. 71 (1): 12-16 [C. F. Field Crop Abst. 1994, 047-06054].

- Kaszanski, Z. (1991):** Effect of sprinkler irrigation and nitrogen application on the yield of plants grown in rotation on good rye and good wheat complex soils. *Rozprawy, Akademia-Rolnicza-w- szczecinie*, No 133, 79 pp. [C. F. Soil and Fert. Abst., 1992, 055-09964].
- Kharabarova, A.I. (1967):** Accumulation of nitrogen by legumes on occupied fallow, and its utilization by subsequent crops. *Agrokhimiya*, 8: 19-28. [C.F. Soil and Ferti. Abst. 31, 644, 1968].
- Khan, M.A.A; R.A. Singhanian and N.P. Mishra (1990):** Effect of nitrogen and phosphorus on yield and quality of sugar beet in saline-sodic soils. (Bibliographic Citation): *Acta-Agronomica- Hungarica*. 39; 3-4, 381-387.
- Khan, S.H. (1966):** Effect of cropping systems on certain physical properties of soil under irrigated condition. *Pakist. J. Soil. Sci.* 2: 23-30.
- Koch, K.; M.G. Lindhauer and W.Von Rheibaden (1986):** Influence of water stress, nitrogen and potassium supply on the betaine content of sugar beet. *Schriftenreihe, Verb and Deutsche Landwirtschaftlicher Untersuchungs und Forschungsanstalten, Reihe Kongressberichte*, 16: 535-542.
- Koppen, D. (1992):** Investigation on the assessment of crop rotations, based on field trials on loess-black earth. *Bayerisches-Landwirtschaftliches-Jahrbuch*. 69 (6): 685-697. [C. F. Field Crop Abst. 1994, 047-06746].

Koppen, D; H. Schulz and D. Eich (1992): Influence of 85 years of differentiated organic manuring and mineral fertilizer application on sugar beet yield and quality characteristics in the long-term experiment at Bod Lauchstadt. *Agribiological-Research*, 45, (1): 55-64. [C. F. Field Crop Abst. 1992, 045-07921].

Kus, J. (1988): Comparison of crop rotations with different percentage of cereals over different tillage and fertilization treatments in along-term field experiment at Grabow. III. Effect on basic chemical properties of the soil. [C. F. Soil and Ferti. Abst. 054-00017].

Kus, J. (1992): Sugar beet yield in relation to preceding crop and rotation Biuletyn-Instytutu-Hodowli-I-Aklimatyza-cji-Roslin., No 181- 182, 235-241[C. F. Field Crop Abst. 1994, 047-02383].

Last, P. J.; A.P. Draycott, A.A Messen and D.J.Webb (1973): Effect of nitrogen fertilizer and irrigation on sugar beet at Broom SRAM 1973. *J. of Agric. Sci.*, 101 (1): 185-205.

Lauer J.G. (1995): Plant density and nitrogen rate effects on sugar beet yield and quality early in harvest. *Agron. J.*, 87 (3): 586-591.

Le-Docte, (1927): Commercial determination of sugar in the beet root using Sackr-Le Docte process. *Internation. Sugar J.* 29: 448-492.

Lesik, B.V. and M. I. Abramk (1985): Nitrogen fertilizers, quality and keeping quality of sugar beet roots. *Skharnaya svekla, USSR*, 10: 32-33.

Lochhead, A.G. (1940): Quantitative studies of soil microorganisms. III- Influence of plant growth on the character of the bacterial flora. *Canadian J. Res.* 18: 42-53.

Maareg, M.F. and A.I. Allam (1999): Effect of preceding crops on productivity of sugar beet in the newly reclaimed sandy soils of Al-Bostan region. Egypt. (under publication, *Agric. Res. Rev.*).

Mahmoud, E.A. (1979). Effect of time and rate of nitrogen application on yield and sugar content of sugar beet (*Beta vulgaris* L.). *Ain Shamis. Fac. of Agric., Egypt., Res. Bull.*, 118.

Mahmoud, E.A.; N.A. Khalil and S.Y. Besheet (1990): Effect of nitrogen fertilization and plant density on sugar beet. 2. Root weight, root, top and sugar yields and sugars quality. *Proc. 4th Egyptian Conf. of Agron., Cairo.* 2: 433- 446.

Mannan, M.A. (1962): Organic matter, nitrogen and carbon nitrogen ratio of soils as affected by crops and cropping systems. *Soil Sci.*, 93: 83-86.

Manzon, V.D. (1936): Influence of higher plants on microflora of the soil. [C.A. Bashhir, M.I. M.Sc. Thesis, Fac. Agric. Moshtohor, Zagazig. Univ. 1980].

- Marlander, B. (1988):** Limits to the intensification of nitrogen fertilization of sugar beet. *Mitteilungen der Gesellschaft Pflanzenbau für pflanzenbau Wissenschaften*, 1: 29-30. [C.F. Field Crop Abst., 1990, 43 (4): 4437].
- Meahasen, S.A.S. (1990):** Effect of preceding winter crops and nitrogen fertilizer on growth and yield of sunflower. M.Sc. Thesis, Fac. Agric. Moshtohor, Zagazig Univ. Egypt.
- Milosevic, R; V. Dobrenov; and N, Milojkovic (1988):** The effect of crop rotation and fertilization on the properties and the productivity of chernojem soil. (BiBlioGRAPHiC CiTA Tion). *Savremena-poljoprivreda, Yugoslavia*, 36 (1-2): 49-58.
- Mohamed, M.A. (1994):** Effect of some preceding crops and nitrogen fertilizer on growth and yield of wheat. M.Sc. Thesis. Fac. Agric. Moshtohor, Zagazig University.
- Moraghan, J.T. (1972):** Water use by sugar beet in a semiarid environment as influenced by population and nitrogen fertilizer. *Agron. J.*, 64 (6): 759-762.
- Moraghan, J.T. (1987):** Nitrogen fertilization effects on uptake and partitioning of chloride in sugar beet plants. *Argon. J.*, 79 (6): 1054-1057.
- Myrphy, J. and J.P. Riley (1962):** A modified single solution method for the determination of phosphate in neutral waters. *Ind. Chem. Acta*, 27: 1-36.
- Neeteson, J.J. (1989 a):** Effect of reduced fertilizer nitrogen application rates on yield and nitrogen recovery of

sugar beet and potatoes. Netherlands J. Agric. Sci., 32 (3): 227-236 [C.F. Field Crop Abst., 1990, 43 (2): 1305].

Neeteson, J.J. (1989 b): Assessment of fertilizer nitrogen requirement of potatoes and sugar beet. Netherlands international Agricultural Centre, pp. 141. [C.F. Soils and Fert., 1990, 53 (1): 1218].

Nishimune, A. (1991): Problems of soil nutrient management in upland crop production. Res. J Food Agric., 14 (19): 37-41 [C.F. Field Crop Abst., 1992, 45 (8): 7249].

Nour, A.H. and T.M. Fayed (1976): Effect of nitrogen, phosphorus and potassium on the yield of roots, tops and sugar content of sugar beet. Bull. Soc., Nat. Afr. Mord. Algier. 67 Fasc. Let 2: 5-12.

Nour El-Din, N.A.; A.S.A. Edris and A.M. El-Shafei (1992): Effect of plant density, nitrogen and potassium fertilizers on growth characters of sugar beet. Pak Sugar J., Jan- March: 7-10.

Nowicki J; G. Buczynski; Z. Szwejkowski, M. Wanic and M. Marks (1989 a): Productivity of simplified fodder rotations on medium soil. Acta- Academiae- Agriculturae -ac-Technicae-Olstenensis, Agricultura. 50: 127-136. [C. F. Soils and Ferti., 1992, 055-06534].

Nowicki, J; Z. Szejkowski; G.Buczynski; A. Nozynski and M. Wanic (1989 b): Comparison of specialized three field fodder rotations on heavy soil. Agricura., 50, 115-125. [C. F. Soils and Ferti., 1992, 055-06533].

- Nuernberg, N.J; JG. Stammel and MSV. Gabeda (1986):** Soil physical properties as affected by different soil amendments and crop rotation system on basaltic slopes of Rio Grade do Sul, Brazi. (Bibliographic Citation): *Revista Brasileira-de-Ciencia-do-Solo* 10:3, 185-190. [C. F. Soil and Fertilizers.1988 .051-08875].
- Obead, A.K. (1988).** Effect of varieties, rate and time of nitrogen application on growth, yield and quality of sugar beet. Ph.D. Thesis, Fac. of Agric., Cairo Univ., Egypt.
- O'connor, L.J. (1983):** Influences of nitrogen fertilizer, plant density, row width and their interactions on sugar beet yield and quality. *Irich J. Agric. Res.*, 22 (2-3): 188-202 [C.F. Field Crop Abst., 1984, 37: 8092].
- O'connor, L.J. (1984):** The influence of level of topping, N fertilization, plant density and row width on sugar beet yield and quality and crown tissue production. *Proc. winter Cong. Intern. Institute for Sugar Beet Res. Brussels*, 47: 383-403 [C.F. Soils and Fert., 47 (1): 125].
- Odland, T.E. and Knoblauch, H.C. (1938):** The value of cover crops in continuous corn culture. *J. of Amer. Sci Agron.* 30: 22-29.
- Odland, T.E. and Smith, J.B. (1948):** Further studies on the effect of certain crops on the succeeding crops. *J. of Amer. Sci. Agron.* 40: 99-107.
- Okumura, M.; Y. Matuszaki; N. Nomura and S. Sauma (1989):** The effect of nitrogen fertilizer and manure application

on the sugar yield of sugar beet. Bull of Hokkaido prefectural Agricultural Experiment Stations, 59: 21-29. [C.F. Field Crop Abst., 1989, 42: (9), 7229].

Ostrowska, D. and K.Kucinska (1995): Effect of mineral nitrogen applied in differentiated organic fertilization on the yield and quality of sugar beet. Annals of Warsaw Agric. Univ., 29: 67-73.

Parashar, K.S.; R.K. Chomdhry and N.G. Dastance (1976). Response of sugar beet to nitrogen fertilization and its economics Indian J. Agron., 220:242-244

Pawlowski, F. and S. Derylo (1991): Effect of stubble catch crops on yield of sugar beet grown in crop rotations with different proportions of cereals. Biuletyn- Instytutu-Hodowli-I- A Klimatyzacji, Roslin, Poland, 178, 113-120 [C. F. Field Crop Abst. 1993, 046-02266].

Pavolic, R. (1992): The effects of different representation of cereals on the biological properties of soil. Vedecke prace Vyskumn ehoustavu Rastlinnej vyroby Piestanoch. 25, 112-118.

Petrenko, S.V.; E.A. Golovko; S.A. Gorobets and L.I. Krapa (1990): Changes in some physiological and biochemical characteristics of sugar beet under monoculture conditions. Allelopatiyai produktivnost rastenil [edited by Grodzinskii, A. M. *et al.*]. 63-68 . [C. F. Field Crop Abst. 1993, 46-01117].

Piper, C.S. (1950): Soil and plant analysis. Interscience publishers, Inc., New York.

- Prasad, U.K. and Y. Singh (1983):** Effect of soil moisture regimes and nitrogen levels on the growth, leaf water potential, sucrose content and yield of sugar beet. *Indian J. Agric. Sci.*, 53 (11); 948-958.
- Prasad, U.K.; Y. Singh and K. C. Sharma (1985):** Effects of soil moisture regimes and nitrogen levels on the consumptive use, soil moisture extraction pattern water use efficiency, sucrose content and yield of sugar beet. *Indian. Agron.*, 30 (1): 15-22.
- Puente, L.S. D.; I.M.M. Molino; L. Partperez and T. Crisanto Herrore (1982):** A study of the quality of sugar beet on same forms in Salamanca. *Anuario, Centro de Edopologiay Biologia Aplicads. Salamanco, Barceleona, Spain*, 8: 243-270. [*C.F. Soil and Fert.*, 1984, 47 (5): 4779].
- Radford, P.J. (1967).** Growth analysis formulae. Their Use and Sbuse. *Crop Sci.*, 7: 171- 175.
- Ramadan, B.S.H. (1986).** Effect of plant density, thinning time and nitrogen fertilization on growth, yield and quality of sugar beet. M.Sc. Thesis, Fac. of Agric., Cairo Univ., Egypt.
- Rao, M.M. and Sharma, K.C. (1975):** Effect of upland multiple cropping systems and fertilizer concentrations on some chemical properties of soil. *Indian J. of Agron. Sci.* 46: 285-291.
- Rasmusson, A. (1991):** [Nitrogen fertilizers for sugar beet] *Kvavegod selmedel till sockerbetor Betodlaren.* 54 (1) 40-42. [C.F. *Field Crop Abst.*, 1991, 47 (3): 205, 1994].

- Robinson, R.G. (1966):** Sunflower-soybeans and grain sorghum-corn rotation versus monoculture. *Agron. J.* 58: 475-477.
- Roszak, W; J.Fabijanski; and J. Chmielnicki (1990):** Effect of crop rotation and mineral fertilization on the yield of cereal test plants and on some physical and chemical properties of soil. Part 11. Changes in physical and chemical properties of soil as affected by crop rotation and fertilization. [C. F. Soil and Ferti. Abst. 1991, 54-15436].
- Rozbicki, J. and M. Kalinowska-Zdun (1993):** Investigations on the effect of the morphological structure of the plant stand on the yield and technological values of sugar beet against the background of sowing method and nitrogen fertilizer application. II. Sucrose yield and technological values roots. *Roslinna, Poland*, 110 (1-2): 77-84.
- Rucka, M. (1993):** The importance of inorganic nitrogen in soil in irrigated sugar beet cultivation. *Restlinna Vyroba*, 39 (2): 1111-1121. [C.F. Field Crop Abst., 1995, 48 (8): 747].
- Ryabchuk, D.I. and V.P Lyashinskii (1972).** Application of fertilizers to sugar beet grown in the zone of unreliable rainfall. *Khimiyav sel'skom khozyaisture*, 10 (3): 16-17. [C.F. Field Crop Abst., 25(4): 5776].
- Salontai. A; L.Muntean; G. Morar, S. Cermea; M. Barsan and V. Firu (1990):** Studies on the influence of crop rotation

on some chemical properties of the soil, on weed infestation and on the yield of the main crops [C. F. Field Crop Abst. 1992, 45-01174].

- Sayed, K.M.; E.M. El-Hadidi; H.A. Sonbol and M.Y.S. El-Arquan (1988).** Growth, yield and quality of sugar beet as affected by nitrogen and potassium fertilization. *J. Agric. Sci., Mansoura Univ.*, 13(4): 2213- 2220.
- Shafi, M.; S. Khan and A. Reshid (1992):** Effect of high levels of nitrogen and harvesting dates on the physical characteristics and sucrose accumulation in sugar beet. *Sarhad J. Agric.*, 8 (1): 7-10. [C.F. Field Crop Abst., 1994, 47 (4): 2395].
- Sharif, A.A. and K. Eghbal (1994):** Yield analysis of seven sugar beet varieties under different levels of nitrogen in a dry region of Egypt. *Agribiological Res.*, 47 (3-4): 231-241. [C.F. Field Crop Abst., 1995, 48 (10): 939].
- Siegert, B. and K Rauhe (1987):** Modes of action of nitrogen within soil-plant system after 15 N- application to irrigated and unirrigated sugar beet and residual effect on spring barley. *Archiv für Acker und Pflanzenbau und Bodenkunde*, 31 (11): 703-710.
- Siepicka, J. (1978):** Effect of high nitrogen nutrient doses on crop yields and uptake and leaching of nutrients under various ecological conditions. *Rostlinna Vyrober, Czechoslovakia*, 24 (4): 369-382.
- Singhania, R. A. and R.K. Sharma (1990):** Nitrogen and phosphorus requirement of sugar beet in saline sodic

soils. J. of Indian Soc. of Soil sci., (1990), 38 (2): 330-332. Department of Soil Science G.B. Pant Univ. of Agric. and Technol. Pantnagar 263145, Uttar Pradesh India). [C.F. Field Crop Abst., 44 (1): 62, 1991].

Snedecor, G.V. and W.C. Cochran (1967). Statistical Methods. 6th Ed., Iowa State Univ.

Sorour, S.G. R.; S.H. Abou-Khadrah; M. Zahran and E.A. Neamat-Alla (1992): Effect of different potassium and nitrogen rates on growth and yield of some sugar beet cultivars. Proc. 5th Conf. Agron., Zagazig, 13-15 Sept., 2: 1027-1043.

Sroller, J. and J. Behal (1981): Analysis of sugar beet yield at different stand density and fertilizer rates. Rostlinna Vyroba, 27 (10): 1061-1070. [C.F. Field Crop Abst., 1984, 37: 9024].

Stumpe, H; and Garz. J. (1982): Differences in soil inorganic nitrogen content as influenced by preceding crop and meteorological conditions and their consideration in nitrogen fertilization of winter wheat. Archiv für-Acker- und-Pflanzenbau and Bodenkunde 26 (6). 437-444.

Suchoparek, K. (1987): Optimum nitrogen application rates for sugar beet. Rostlinna Vyrbe, 33 (8): 875-882. [C.F. Field Crop Abst., 41 (5): 1325].

Taha, E.M. (1985). Effect of different rates of nitrogen and plant spacing on growth, yield and quality of sugar beet. Minia J. Agric. Res. and Dev., 7(3): 1017- 1030.

- Taha, S. El-Din and M. Salim (1953):** Number of bacteria in soil using the planting method. Practical bacteriology (in Arabic).
- Tanaka, A.; J. Yamaguchi; S. Miura and H. Tamaru (1984):** Comparison of fertilizer nitrogen efficiency among field crops. Soil Sci. and Plant Nut., 30 (2): 199-208.
- Tawfik, Sahar F. (1996).** Effect of some fertilization treatments and plant density on yield of sugar beet. M. Sc. Thesis, Fac. of Agric., Moshtohar, Zagazig Univ.
- Toor, S.S. and B.S. Bains (1994):** Optimizing nitrogen fertilization for high yield and quality of sugar beet. Madras Agric. J., 81 (12); 689-691. [C.F. Field Crop Abst., 1996, 49 (5): 3336].
- Trepachev, E.P.; Artachkova, N.A. and Khabarova, A.I. (1967):** Amount of atmospheric nitrogen fixed by legumes and methods for determining these amounts. Agrokhimiya 8: 10-18. [C. F. Soil and Ferti. Abst.31, 340, 1968].
- Tronnberg, F. (1983).** Higher yield with row placement of nitrogen Hogre skord Madradmy av kvave Betodlaren (1983) 46 (1) 24-26 Sweden. [C.F. Field Crop Abst., 1983, 36: (12), 1092].
- Urano, K.; Otagiri, K.; Maruyana, K. and et. al., (1960):** The effect of rotation on crop yields and soil properties. Proc. Crop Sci-Soc. Japan 29: 143-146. [C.A. Badr, A.M. Ph.D. Thesis, Fac. Agric. Ain Shams Univ. 1971].
- Vandergeten, J.P. and M. Vanstallen (1991):** The effect of N fertilizer placement at optimum rates on sugar beet

yield and quality for industrial use Proc of Conf. held in Brussels, Belgium, 20 (2): 297-318.

- Velayudham, K. and Seth, J. (1987):** Effect of plant residue management in Kh'arif on the yield and quality of wheat. Indian J. Agron., 1987, 32 (4): 341-345.
- Vielemeyer, H.P.; H. Luxz and K.H. Weege (1986):** Effect of the timing of the nitrogen supply on the process of yield formation in sugar beet. Arckiv für Acher und Pflanzembau und Bodenkunds, 30 (3): 131-137.
- Vlagoreshchenskaya, Z. K. and L.S. Mogindovid (1986):** Nitrogen fertilizers and sugar beet quality sakharnays svekla, USSR, 10: 46-48.
- Vlassak, K.; J. P. Vandergeten and M. Vanstallen (1991):** Effect of nitrogen fertilizer placement on yield and quality of sugar beets. Proc. of Conf. held in Brussels, Belgium, 20 (2): 455-463.
- Vrkoc, F. and M. Suskevic (1990):** [Contribution of some controllable and uncontrollable factors on sugar beet yields] Podilnekrach Faktora navynosu cukrovky. Rostlinna Vyrobe. 1990, 36 (10) 1019-1024. [C.F. Field Crop Abst., 1992, 45 (1): 65,].
- Wadman, W.P; J.J. Neeteson and H. J.C. Zwetsloot (1990):** Development of nitrogen fertilizer recommendations for potatoes and sugar beet on the basis of soil testing. Kali Briefe, 20 (2): 171-180 [C.F. Field Crop Abst., 1991, 44 (8): 5731].

- Wanic, M (1987):** Sugar beet in specialized crop rotations and monocultur. Acta Universitatis Agricultura- Facultas- Agronomica. 35 (3-4) 97-101. [C. F. Field Crop Abst. 1990, 43-08228].
- Watson, D.J. (1958).** The dependence of net assimilation rate on leaf area index. Ann. Bot. London N.S. 22: 37-54.
- Wisniewski, K. and H. Sadowski (1991):** Soil fertilizer versus yield and quality of sugar beet seeds. Biuletyn instytutu Hodowlil A klinnatyzacil Roslin, 177: 57-61 [C.F. Soil and Fert., 1993, 56 (7): 7474].
- Wojcik, S. (1990):** Variability of biometrics traits, yield and technological quality of sugar beet under conditions of different nitrogen fertilization. Roczniki Nauk Rolniczych seria A Produkeja Roslinna, 107 (4): 79-90 [C.F. Field Crop Abst., 1992, 45 (2): 1067].
- Wojcik, S. (1993):** The influence of urea and keratin-bark urea granulate on the yield and technological quality of sugar beet. [zeszyty problemowe postepow Naukrolmczych (1993) 339. 273-277. [C.F. Field Crop Abst., 48 (6): 547. 1995].
- Yoo. CH; JG. Kim; JG' Kahng; LS. Lee; KH. Shin; JD. So; and KH. Park (1991):** Studies on paddy-upland rotation in fluvio-marine paddy soil. 1. The effect of subsurface drainage and paddy-upland rotations on soil physico-chemical properties and growth and yield of crops. [C. F. Soil and Ferti., 33:1,14-28; 29].

Yoshimura, Y. and N. Nomure (1989): Response of sugar beet varieties to different amount of fertilizers and different plant densities. Proc. of the Japanese Soc. of Sugar Beet Technol., 31: 20-25 [C.F. Field Crop Abst., 1992, 45 (4): 2424].

Zalat, S.S. (1986). Studies on sugar beet. M. Sc. Thesis, Fac. of Agric., Zagazig Univ., Egypt.