

BIBLIOGRAPHY

REFERENCES

- 1) Adamski, R and Bieganska J. (1980) : Studies of chemical substances present in Urtica dioica L. leaves part-I. Trace elements. Herba Pol. 26 (3) : 177 - 80 (Pol.).
- 2) Addicott. F.T. and Lynch R.S. (1955); physiology of abscission. Ann Rev. Plant physiol. 6 : 211-239.
- 3) Aharoni, N and Richmond, A.E. (1978) : Endogenous gibberellin and abscissic acid content as related to senescence of detached lettuce leaves Plant physiol. 62 : 224-228.
- 4) Amonkar, D.V. and Karmarkar S.M.(1978) : Ion regulation in Salvadora persica Linn. J. Biol. sci. 21 (1) : 13 - 18.
- 5) Ashrif M.Y., Azmi A.R., Khan, A.H. and Ala, S.A. (1994) : Effect of water stress on total phenols peroxidase activity and chlorophyll contents in wheat. Acta physiol Plant 16 : 185-191.
- 6) Austin, D.F. and Human. Z. (1996) : A synopsis of Ipomoea (Convolvulaceae) in the Americas. Taxon - 45 (1) : 3-38.
- 7) Baker, J.E. and Takeo, T. (1973) : Acid phosphatase in plant tissues. I changes in activity and multiple forms in tea leaves and tomato fruit during maturation and senescence. Plant and cell physiol 14 : 459-471.
- 8) Bar-Akira, A. and Lavon, R. (1967) : Visible symptoms and metabolic patterns in micronutrient deficient Eureka lemon leaves. Isr. J. Agric. Res. 17 : 7 - 16.

- 9) Bartakke S.P. (1977); Physiological studies in plants (Physiological studies in the Aloe barbadensis Mill). Ph. D. Thesis submitted to Shivaji University, Kolhapur (India).
- 10) Barton, R. (1966) : Fine structure of mesophyll cells in senescing leaves of Phaseolus. Planta, 71 : 314-325.
- 11) Basha, K.S.M. and Rao, G.R. (1981) : The effect of phosphorous and potassium deficiency on C_2 fixation and translocation in groundnut, (Arachis hypogaea L.) J. Nuclear Agric and Biol. 10 (4) : 117 - 120.
- 12) Beevers, L (1976) : Senescence, In "Plant Biochemistry" (Eds. Bonner, J. and Verner, J.) pp 771 - 794, Academic press New York.
- 13) Begam Hasena Hena and Chaudhuri (1993) : Studies on senescence of two submerged aquatic angiosperms Hydrilla verticillata (L.F.), Royle ottelia-alismides (L) pers and a terrestrial angiosperm Commeliana bengnalensis L in light and darkness. Indian J. Plant physiol. 36 (4) : 207-211.
- 14) Bengtsson, B. and Jensen, P.(1983) : Uptake and distribution of calcium, magnesium and potassium in cucumber (Cucumis sativus cultiucila) of different age. plant physiol. , 57 (4) : 428 - 434.
- 15) Besford, R.T. (1979) : Quantitative aspects of leaf acid phosphatase activity and the phosphorus status of tomato plant. Ann. Bot. 44 : 153-161.

- 16) Bhivare Y.N., Nimbalkar, J.D. (1984) : Biochemical changes leading to senescence in bean leaf. Biovigyanam, (10) : 31 - 34.
- 17) Bhivare Y.N. (1984) : Physiological studies in pulses. Ph.D. Thesis submitted to the shivaji University, Kolhapur (India).
- 18) Bishop. N.J. (1966) : Partical reactions of photosynthesis and photoreduction. Ann. Rev. plant physiol, 17 : 185 - 208.
- 19) Biswal U.C. and Mohanty P. (1976) : Aging induced changes in photosynthetic electron transport of detached barley leaves. Plant and cell physiol. 17 : 323-331.
- 20) Bole P.V. and Bharucha. F.R. (1954) Osmotic relation of the leaves of Avicemia albo. Bl. Univ. Bombay. 22 : 50-54.
- 21) Brownwell P.F. and C.J. Crossland (1972) : The requirement for sodium as a micronutrient by species having the C₄ dicarboxylic photosythetic pathway. Plant Physiol. 49 : 794-797.
- 22) Burke, G.D., Watkins, K. and Scott B J. (1990) : Manganese toxicity effects on visible symptoms, yield, manganese levels and organic acid level in tolerant and sensitive wheat cultivars. Crop. sci 30 (2) : 275-280.
- 23) Butler, R.D. and Simon, E.W. (1970) : Ultrastructural aspects of senescence in plants. Adv. Gerontol Res. 3 : 73 - 129
- 24) Chavan P.D. and Karadge B.A. (1981) Plant and Soil. 56 :

- 201-207.
- 25) Chavan. S.D. and Patil, V.K. (1980) : Chemical composition of the leaves of chiku (Achras sapota, syn) during different stages of the crop. Gujarat Agric Univ. Res. J.S (2) : 5-9 (Eng.)
- 26) Chereskin, B.M. and Castelfranco, P.A. (1982): Effect of iron and oxygen on chlorophyll biosynthesis. II. Observations on the biosynthetic pathway in isolated etio-chloroplast, Plant physiol. 68 : 112 - 116.
- 27) Choe. N.T. and Thimann K.V. (1975) : The metabolism of oat leaves during senescence III. The senescence of isolated chloroplasts. Plant physiol. 55 : 828-834.
- 28) Clarkson D.T. and Hanson J.B.(1980) : The mineral nutrition of higher plants. Ann. Rev. plant physiol. 31 : 239 - 298.
- 29) Constantopoulus, G.(1990) : Lipid metabolism of manganese deficient algae. I. Effect of manganese deficiency on the greening and the lipid composition of Euglena gracilis. Z. Plant physiol, 45 : 76-80.
- 30) Dale R.F. Coelmo D.T. and K.P. Gallo (1980) : Aoron J. 72 (6) : 999-1005.
- 31) Dave, I.C. (1987) : Function and metabolism of trace elements in higher plants. Proc. Nat. Symp. on "Physiological and genetical approaches to control them. MPAU Rahruri, pp : 246-253.
- 32) De. Leo P. and Sacher J. A. (1970) : Control of ribonuclease and acid phosphatase by auxin and abscisic acid

- during senescence of Rhoeo leaf sections. Plant physiol, 46 : 806-811.
- 33) Deshpande R.G. and Nimbalkar J.D. (1981) : Photosynthesis and nutrient levels in senescent leaves of pigeon - pea (Cajanus cajan) Indian J. Plant Physiol, 24 (4) : 345 - 351.
- 34) Dewnton W.J.S. (1977) : Photosynthesis in salt stressed grapevines. Aus. J. Plant Physiol - 4 : 183 - 192.
- 35) Dezsi, L. (1975) : Changes of glycolic acid oxidase and peroxidase activity in maize leaves during the vegetation period. Acta Agron Acad Sci Hung 24 : 305-313.
- 36) Dhindsa R.S., Plumb-Dhindsa, P.L. and Ried D.M. (1982) : Leaf senescence and lipid peroxidation : Effects of some phytohormones and scavengers of free radicals and singlet oxygen. Plant physiol 56 : 453-457.
- 37) Dongré, M. (1982): Effect of salt stress on plant metabolism. Ph. D. Thesis submitted to Shivaji University Kolhapur (India).
- 38) Dyer T.A. and Osborne D.J. (1971): Leaf nucleic acid II. Metabolism during senescence and the effect of kinetin. J.Exp. Bot. 22 : 552-560.
- 39) Elkinawy, M. (1984) : Harmonal changes associated with leaf senescence in cotton (G. barbadense). Plant Physiol. 62 (4) : 593-598.
- 40) Endelman J. and Schoolar J.A. (1969) : Light on a major factor in chlorophyll destruction in sugar cane leaf tissue. Z. Pflanzen physiol. Bd. 60 : 470-471.

- 41) Epstein E. and Hegan C.E. (1952) : A kinetic study of the absorption of alkali cations by barley roots. Plant Physiol 27 : 457 - 474.
- 42) Finkle B.J. (1967) : Patterns of phenolic mediation in plants and animals. In "Phenolic compounds and metabolic regulation" (Eds. B. J. Finkle and V.C. Runedes). Appletoncenturycrofts.
- 43) Fletcher R.A. and Osborne D.J. (1965) : Regulation of protein and nucleic acid synthesis by gibberellin during leaf senescence. Nature (London) 207 : 1176-1177.
- 44) Garg, O.K. (1987) : Physiological significance of zinc and iron in plants Retrospect and Prospect. National Seminar on Pl. physiology, Dharwad, Dec. 30 to Jan.1.
- 45) Ghildiyal M.C., Pandey M. and Sirohi G.S. (1986) : Proline content in linseed varieties as influenced by zinc nutrition. Indian J. Plant Physiol 24 (4) : 368-374.
- 46) Gokhale, Sandhya P., Kardage B.A. and Rajmane N.A. (1984) Biochemical changes during leaf development of Catharanthus roseus G. Bioviqyanum. 10 : 25-30.
- 47) Goldthwaite, J.J. and Laetsch, W.M. (1967) : Regulation of senescence in bean leaf discs by light and chemical growth regulators. Plant physiol. 42 : 1757-1762.
- 48) Greenway H. Gunn. A. and Thomas. D.A. (1966) : Plant response to saline substrates VIII. Regulation of ion concentration in salt sensitive and halophytic species.

- Aust J. Biol Sci 19 : 741-756.
- 49) Hallock, D.L. (1964) : Comparative rate of growth and absorption of certain nutrients by corn and virginia type peanuts on Norfolk and Woodston loamy fine sand. Third National Peanut Reasearch Conf. Proc. Auburn Univ. Auburn, Ala, pp. 103 -110.
- 50) Hocking P.G., Kao J, and J.S. Pate (1980) : Aus. J. Bot. 28 : 1-18.
- 51) Horovitz, C.T., Brad I., Enscu I, Niculesca-s and Joki-E. (1968) : Biochemical differences in maize on related to mineral differences. I changes in activity of some enzyme. Plant physiol 22 : 1332-1340.
- 52) Hyder S.Z. (1971) : Seasonal changes in the salt content of developing leaves on citrus seedling Nucleus (Karadi) 8. (3) : 113 - 116.
- 53) Jamale. B.B. (1975); Physiological studies in saline plants, Ph. D. Thesis submitted to Shivaji University Kolhapur (India).
- 54) Janardhan, K.V., Parashivamurthy S., Rao. K.B. and Patil B N (1979) : Effect of varying K : Na ratios in saline irrigation waters on grain yield and ionic composition of wheat. Curr.sci. 48 : 739-741.
- 55) Joshi. G.V. and Mishra S.D. (1970) : Photosynthesis and mineral metabolism in senescent leaves of Clerodendron inerme Gaertn Indian J. expt. Biol. 8 : 41-43.
- 56) Kannan, S. (1977): An in vivo determination of the transport of ^{59}Fe & ^{54}Mn to different leaves of young corn

- seedings Z. Pflanzenphysiol, 33 : 375 - 378.
- 57) Kar, M. and Feierabend J. (1984) : Changes in activities of enzymes involved in amino acid metabolism during the senescence of detached wheat leaves. Plant physiol. 62 : 39-44.
- 58) Kar. M. and Mishra D. (1976) : Catalase, peroxidase and polyphenols oxidase activities during rise leaf senescence. Plant physiol, 62 : 39-44.
- 59) Karadge B.A., Dhanawade L.N. and Chavan P.D. (1983) : Physiological studies and organic constituents. Biovigyanum. 9: 47 - 58.
- 60) Karadge B.A. (1981) : Physiological studies in succulents Ph. D. Thesis, Shivaji University, Kolhapur (India).
- 61) Kefeli V.I. (1978) : Natural plant growth inhibitors and phytohormones (Eds. V.I. Kefeli). Academy of sciences, USSR. The Hague/Boston.
- 62) Kessler, E. (1955) : On the role of managanese in the oxygen evolving system of photosynthesis, Arch. Biochem. Biophys. 59 : 527 - 529.
- 63) Kirkby E.A. and Mengel, K, (1976) : The role of magnesium in plant nutrition. Z. Pflanzenernaehr. Bodenkol. 139 : 209 - 222.
- 64) Kramer D. Romheld V. Landsberg E. and Marschner H. (1980) : Induction of transfer cell formation by iron deficiency in the root epidemis of Helianthus annus L. Planta 147 (4) : 335 - 339.
- 65) Kusumalatha (1990) : Role of micronutrients and poly-

- mines on senescence in Cajanus cajan (L.) Thesis submitted for Ph. D. degree to Osmania University.
- 66) Lamattina, L. Anchovem, V., Conde, R.D., and Lazica, R.P. (1987) : Anatification of the Kinetic effects on protein synthesis and degradation in wheat leaves. Plant physiol. 83 : 487-499.
- 67) Larkum, A.W.D. (1968) : Ionic relations of chloroplasts in vivo. Nature (London), 28 : 447 - 449.
- 68) Larry D. Noden, Santokh Singh and Stuart Letham (1990) : Cooreation of Xylem sap cytokinin levels with monocrapic senescence in soyabean. Plant physiol. 93 : 33-39.
- 69) Lebreton P. and Meneret, G. (1964) : Bull. Soc. Bot. Fr. 111 : 69.
- 70) Leopold, A.C. (1961) : Senescence in plant development, Science, 134 : 1727-1732.
- 71) Levitt. J. (1972) Responses of plant to environmental stresses. Academic Press. New York and London.
- 72) Loneragan J.F. and Snowball K (1969) : Calcium requirements of plants. Aust. J. Agric - Res. 20 (3) : 465 - 478.
- 73) Lorenzo, L., Lezica, R.P. and Conde, R.D. (1985) : Protein metabolism in senescing wheat leaves. Determination of synthesis of degradation rates and their effects on protein loss. Plant physiol. 77 : 587-590
- 74) Lyons, J.M. (1973) : Chilling injury in plants. Ann. Rev. Plant Physiol, 24 : 445-466.
- 75) Mae, T., Kai, N., Makino, N. and Obira, K. (1984) :

- Relation between ribulose bisphosphate carboxylase contents and chloroplast number in naturally senescing primary leaves of wheat. Plant and Cell physiol, 25 : 333-336.
- 76) Magdum A.K. (1984) : Physiological studies in Sunflower. (Helianthus annus) Ph. D. Thesis submitted to the Shivaji University Kolhapur (India).
- 77) Mendoza M.M. (1971) : The effect of NaCl on Atomical and physiological process in Atriplex hastata L. M. S. Thesis, Univ, Utah. Salt Lake city.
- 78) Mishra, S.D., Gaur, B.K., Bedekar V.W., and Singh B.B. (1976): Paramagnetic changes in metallic ions during leaf senescence. Acta bot. Indica. 4 : 1 - 5.
- 79) Mishra G. and Biswal U.G. (1973) : Factors concerned in leaf senescence I. Effect of age, chemicals and photo-periods on senescence in detached leaves of Hibiscus rosa-sinensis L. Bot Goz, 134 : 5-11.
- 80) Mukherjee K.L. (1969): Microelement composition of suger cane leaves during their growth and senescece. J. Indian Bot. Soc, 48 (172) : 180 -184.
- 81) Mukherjee. D. and Rao. K.V.M. (1993) : Alternaion paterns of hill activity, Peroxidase activity and sugars of pigeon pea during maturation and senescence. Indian J. Plant physiol 36 (1) : 13-16.
- 82) Murumkar, C.V. and Chavan, P.D. (1987) : Changes in photosynthetic carbon metabolism in senescent leaves of chickpea, Cicer arietinum L. Acta Societatis Botani

- corum poloniae. 57 (1) : 127-135.
- 83) Naidu C.V. and Swamy, P.M. (1996) : Seasonal variation in Ca, Mg, S and Na content of different plant parts in tropical deciduous tree species. Indian J. Plant physiol, New series, 1 (1) : 1-5.
- 84) Nalawade B.B. and Chavan P.D. (1991) : Changes in organic constituents during Growth of Niger (Guizotia abyssinica, Cass). Biovigyanam. 17 (2) : 71-76.
- 85) Newmann, P.M. and Nooden, L.O.(1983) : Interaction of mineral and cytokinin supply in control of leaf senescence and seed growth in soyabean explants J. Plant Nutr, 6 : 735-742.
- 86) Nimbalkar J.D. and Joshi G.V. (1975) : Physiological studies in senescent leaves of sugar cane (CO-740). Indian J. Exp. Biol 13 : 384-386.
- 87) Nooden, L.D. (1980) : Senescence in the whole plant. (Eds, Thimann K.V.) Senescence in plants, CRC press, Florida pp. 219-258.
- 88) Nooden, L.D. (1989) : In Senescence and aging in plant. Cytokinins and senescence (Eds, L.D. Nooden and A.C. Leopold). Academic press Inc. pp. 229 - 367.
- 89) Nooden, L.D. and Mauk S.C. (1986) : Changes in xylem sap minerals during pod development in soybean. Pl. physiol suppl. 80 (4) : 170.
- 90) Nooden, L.D. and Thompson, J.W. (1985) : Aging and senescence in plants. In "Handbook of the Biology of Aging"

- 127, Van Nostrans. Reinhold, New York.
- 91) O'Neal, D. and Joy, K.W. (1974) : Glutamine synthetase of pea leaves. Divalent cation effects, Substrate specificity, and other properties, Plant Physiol, 54 : 775 - 779.
- 92) Panigrahi P.K. and Biswal V.C. (1979) Aging of chloroplast in vitro 1. Quantitative analysis of the degradation of pigments proteins and nucleic acids. Plant and Cell physiol 20 (4) : 775-780.
- 93) Parish, R.W. (1968) : Studies on senescing tobacco leaf disc with special reference to peroxidase. I. The effect of cutting and of inhibition of nucleic acids and protein synthesis. Planta. 82 : 1-13.
- 94) Patra, H.K. and Mishra, D. (1979) : Pyrophosphatase, peroxidase and polyphenol oxidase activities during leaf development and senescence. Plant physiol, 63 (2) : 318-323.
- 95) Pilet, P.E. Laranchy. P and Serhonkian, S (1970) : Interactions between peroxidase, polyphenol oxidase and auxin oxidase. Plant Physiol, 23 : 800-804.
- 96) Poljakoff - Mayber A (1982) Biochemical and physiological response to higher plants to salinity stress (Ed) Sn.Pietro A pp. 245-269.
- 97) Rane, M.R., and Chavan P.D. (1993) : Studies of behaviour of catalase and peroxidase during leaf development and senescence in groundnut (Arachis hypogaea L.) Biovigyanam 19 (192) : 20-26.
- 98) Rane M.R., (1991) : Physiological studies of leaf senes-

- cence syndrome in Groundnut (Arachis hypogaea. L.) Ph. D. Thesis submitted to Shivaji University Kolhapur (India).
- 99) Ranganekar P.V. (1975) Effect of calcium deficiency on the carbon metabolism in photosynthesis and respiration of tomato leaf. Plant and soil. 42 : 565-583.
- 100) Repp. G. (1958) : Die salztoleranz der pflanzen. I. salzhalt and salzresistenr von Marchqffflanzen der Nordseckustr Danemark in Bezichung zum standout Oesterr Bot. Z. 104 : 454-490.
- 101) Riceman, D.S. and Jones, G.B. (1958) : Distribution of zinc and copper in subterranean clover (Trifolium subterranum L.) grow in solution cultures supplied with graduated amounts of zinc. Aust. J. Agric Res. 9 : 73-122.
- 102) Sabale A.B. (1983) : Stuides in photosynthesis in plants. Ph. D. thesis submitted to Shivaji University Kolhapur (India).
- 103) Sacher, J.A., Towers, G.H.N and Davies, P.D. (1972) : Effect of light and aging on enzyme particularly phenylalanine ammonialyase, in discs of storage tissue. Phytochemistry, 2 : 2383-2391.
- 104) Sacher, J.A. (1973) : Senescence and postharvast physiology Ann. Rev. Plant physiology. 24 : 197 - 224.
- 105) Salin M.L. and Homann, P.H. (1971) : Changes in Photorepiratory activity with leaf age. Plant physiol, 48 : 193 - 196.
- 106) Sarvesh A. and Reddy, T.P. (1988) : Peroxidase polyphenol oxidase, Acid phosphates and alkaline Inorganic, Py-

- rophosphatase activities during leaf senescence in varieties of castor (Ricinus communis) Indian J Exp Bro, 26 : 133 - 136.
- 107) Sestak, Z. (1985) : Chlorophylls and carotenoids during leaf ontogeny. In photosynthesis during leaf development. (Eds. Z. Sestak) pp 84-85.
- 108) Sestak Z. (1977) : photosyathetice II : 367-448.
- 109) Shaner, D.L. and Boyer, J.S. (1976) : Nitrate reductase activity in maize (Zea mays) leaves II. Regulation by nitrate flux at low leaf water potentail. Plant Physiol, 58 : 505-509.
- 110) Sharma, B.D., Takkar, P.N. and Sadana U.S. (1982) : Evaluation of levels and methods of zinc application to rice in sodic soils. Fert. Res. 3 : 161-167.
- 111) Shibaoka, H. and Thimann, K.V. (1970) : Antagonism between Kinetin and amino acids : experiments on the mode of action of cytokinins. Plant Physiol, 46 : 212-220.
- 112) Soni S.L., Kaufman P.B. and W.C. Bigelow (1970) : Electron Microprobe analysis of the distribution of silicon in leaf epidermal cells of the Oat plant. Phytomorphbogy 20 : 350 - 363.
- 113) Srichandan S.C., Choudhury N.K. and Biswal U.C. (1989) : Carotenoid degradation during in vitro aging of wheat chloroplasts. Photosynthetica 23 (4) : 687-690.
- 114) Stocking CR. and Ongan A. (1962): The intercellular distrubution of some metallic elements in leaves. Am. J. Bot, (49) : 284 - 289.

- 115) Stoddart, M.A. and Thomas, N. (1982) : Leaf senescence.
In Encycl. Plant Physiol. (Ed. D. Boulter and B. Perthier) PP 592-636, Vol. 14A, Springer-Verlag.
- 116) Strogonov B.P. Kahanov .V.V. Shevjakova.N.I. Lapine L.P. Komzerko. B.I. Popor. BA. Dostanova. R. K. and L.S. Prykhod . Ko. (1970) : Structure Funktalya Klotok Ratenii pri Zaaolenii (structure and function of plant cells under salinity). Mascow, Nauka.
- 117) Suelter C.H. (1970) : Enzymes activated by monovalent cation Science, 168 : 789 - 795.
- 118) Sugiyama.J, Nakayama, N. and Akazawa,T. (1968) : Structure and function of chloroplast proteins - V. Homotropic effect of bicarbonate in RuBP carboxylase relation and the mechanism of activation by magnesium ions. Arch. Biochem. Biophys. 126 : 734 - 745.
- 119) Tekey, R.M. and Thimann K.V. (1974). The metabolism of out leaves during senescence 1. Respiration, carbohydrate metabolism and the action of cytokinins. Plant physiol, 54 : 294-303.
- 120) Terry,N. (1980) : Limiting factors in photosynthesis I. Use of iron stress to control photochemical capacity in vivo. Plant physiol, 65 : 114 - 120.
- 121) Thimann, K.V., Tetley, R.M. and Krivak, B.M. (1977) : Metabolism of oat leaves during senescence V. Senescence in light. Plant Physiol, 59 : 448-454.
- 122) Thimann K.V. and Satler S.O. (1979) : Relation between

- leaf senescence and stomatal closure : Senescence in light. Proc. Nat Akad. Sci U.S.A. 76 : 2295-2298.
- 123) Thomas, N. and Stoddart, J.L. (1980) : Leaf senescence. Ann. Rev. Plant Physiol. 31 : 83-111.
- 124) Thomas T.H. (1983) : Hormonal control of assimilate movement and compartmentation plant Growth substances 1985. (Eds. M. Bopp) pp. 350-359 Springer Verlag, Berlin and Newyork.
- 125) Ting T.P. (1968) Co₂ metabolism in corn roots. III. Inhibition of P. enolphruvate carboxylase by 1 - malate. Plant physiol 43 : 1919-1924.
- 126) Tollenaar, M. and Daynard T.B. (1982) : Effect of Source - Sink ratio on dry matter accumulation and leaf senescence of maize (Zea mays). Can J. Plant Sci. 62 (4) : 855-866.
- 127) Tomaszewska F. (1964) : Phenols and auxins on internal factors controlling leaf abscission. Bull. Acad. Polon. Sci. Cl. II, XII : 541.
- 128) Trought, M.C.J. and Drew, M.C. (1980a) : The development of water logging damage in wheat seedling (Triticum aestivum L.) I. shoot and root growth in relation to changes in the concentration of dissolved gases and solutes in the soil solution. Plant and Soil, 54 : 77-94.
- 129) Upadhey A.B. (1986) : Studies of Physiological changes in leaf development. A Ph. D. Thesis submitted to Shivaji University, Kolhapur (India).
- 130) Vesk, M., Possingham, J. and mercer F. V. (1966) : The

- effect of mineral nutrient deficiencies on the structure of leaf cells of tomato spinach and maize. Aust. J. Bot., 14 : 1-18.
- 131) Wareing, P.F. and Seth, A.K. (1967) : Aging and senescence in the whole plant, Symp. Soc. Exp. Biol., 21 : 543 - 558.
- 132) Waughman G.J. and Bellamy D.L. (1981) : Movement of cations in some plant species prior to leaf senescence. Ann. Bot. 47 : 141 - 145.
- 133) Welch R.M, Weft, M.J. and Loneragan J.F. (1982) : Zinc in membrane function and its role in phosphorus toxicity. In "Proceedings of the Ninth plant Nutrition colloquium, Warwick, England," (Eds. A. Scaife) pp. 710-715. Commonw. Agric Bur. Farnham Royal, Bucks.
- 134) Wignarajah K., Jennings D.H. and Handly J.F. (1975) : Annals Botany. 39 (164) : 1029-1055.
- 135) Wollnska D, (1976) : Acta. Soc Bot Dol. 45 : 341-352.
- 136) Woolhouse, H.W. (1967) : The nature of senescen plants. Aspects of the Biology of Aging (Symp. soc. exp. Biol. Vol. 21) PP. 179 - 213, Univ. Press, Cambridge, 1967.
- 137) Woolhouse, H.W. and Batt, T. (1976) : The nature and regulation of senescence in plastids In : perspectives inexperimental biology, Vol. 2 (Eds. N. Sunderland) pp. 163-175 publ. Pergamen Press Oxford and New York.
- 138) Zajora, A. and Kubjatko F. (Czech) (1979): Study of the mineral content of winter wheat leaves during ontogenesis Acta Fytotech, 35 : 109 - 16.