

## References

- ABDELLA, G., GUINAZU, M., TIZIO, R., PEARCE, D.W. & PHARIS, R.P., 1995. Effect of 2-chloroethyl trimethyl ammonium chlorides on tuberization and endogenous GA<sub>3</sub> in roots of potato cuttings. *Plant Growth Regul.* 17, 95-100.
- ABDEL-WAHAR, A. & MILLER, J.C., 1963. Re-evaluation of some techniques and their effect on stimulating flowering in four Irish potato varieties in Louisiana. *Am. Potato J.* 40, 216-234.
- AGUIRRE, R. & BLANCO A., 1992. Pattern of histological differentiation induced by paclobutrazol and GA<sub>3</sub> in peach shoots. *Acta Hort.* 315, 7-12.
- ALLEN, A.J. & SCOTT, R.K., 1980. An analysis of growth of the potato crop. *J. Agr. Sci.* 94, 583 606.
- ALMEKINDERS, C.J.M., 1991. Flowering and true seed production in potato (*Solanum tuberosum* L.). 2. Effects of stem density and pruning of lateral stems. *Potato Res.* 34, 379-388.
- ALMEKINDERS, C.J.M., 1992. The effect of photoperiod on flowering and TPS production in the warm tropics. *Potato Res.* 35, 433-442.
- ALMEKINDERS, C.J.M. & STRUIK, P.C., 1994. Photothermal response of sympodial development and flowering in potato (*Solanum tuberosum* L.) under controlled conditions. *Neth. J. Agric. Sci.* 42, 311-329.
- ALMEKINDERS, C.J.M. & STRUIK, P.C., 1996. Shoot development and flowering in potato (*Solanum tuberosum* L.). *Potato Res.* 39, 581-607.
- ALMEKINDERS, C.J.M. & WIERSEMA, S.G., 1991. Flowering and true seed production in potato (*Solanum tuberosum* L.). 1. Effects of inflorescence position, nitrogen treatment, and harvest date of berries. *Potato Res.* 34, 365-377.

- ALMEKINDERS, C.J.M., NEUTEBOOM, J.H. & STRUIK, P.C., 1995. Relation between berry weight, number of seeds per berry and 100-seed weight in potato inflorescences. *Sci. Hort.* 61, 177-184.
- AMADOR, V., BOU, J., MARTINEZ-GARCIA, J., MONTE, E., RODRIGUEZ-FALCON, M., RUSSO, E. & PRAT, S., 2001. Regulation of potato tuberization by day length and gibberellins. *Int. J. Dev. Biol.* 45(S1), S37-S38.
- AOAC (ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTRY), 1984. Official methods of analysis of the Association of Official Analytical Chemists. 14<sup>th</sup> Edition, Washington DC, pp. 1141.
- APPELDOORN, N.J.G., DE BRUIJN, S.M., KOOT-GRONSVELD, E.A.M., VISSER, R.G.F., VREUGDENHIL, D. & VAN DER PLAS, L.H.W., 1997. Developmental changes of enzymes involved in sucrose to hexose-phosphate conversion during early tuberization of potato. *Planta* 202, 220-226.
- ARCBOLD, D.D. & HOUTZ, R.L., 1988. Photosynthetic characteristics of strawberry plants treated with paclobutrazol or flurprimidol. *HortScience* 23(1), 200-202.
- ASARE-BOAMAH, N.K., HOFSTRA, G., FLETCHER, R.A. & DUMBROFF, E.B., 1986. Triadimefon protects bean plants from water stress through its effects on abscisic acid. *Plant Cell Physiol.* 27, 383-390.
- ASHTON, F.M. & CRAFTS, A.S., 1981. Mode of action of herbicides. Wiley Interscience, New York. pp. 525.
- AZCON-BIETO, J., 1983. Inhibition of photosynthesis by carbohydrates in wheat leaves. *Plant Physiol.* 73, 681-686.
- BAGNALL, D.J., KING, R.W. & FARQUHAR, G.D., 1988. Temperature-dependent feedback inhibition of photosynthesis in peanut. *Planta* 175, 348-354.

- BALAMANI, V. & POOVAIAH, B.W., 1985. Retardation of shoot growth and promotion of tuber growth of potato plants by paclobutrazol. *Am. Potato. J.* 62, 363-369.
- BALUSKA, F., PARKER, J.S. & BARLOW, P.W., 1993. A role of gibberellic acid in orienting microtubules and regulating cell polarity in the maize cortex. *Planta* 191, 149-157.
- BAMBERG, J.B. & HANNEMAN, R.E.Jr., 1988. Enhanced production of botanical seed of tuber-bearing *Solanum* species via supplemental fertilizer applications. *Am. Potato J.* 65, 47.
- BAMBERG, J.B. & HANNEMAN, R.E.Jr., 1991. Characterization of new gibberellins related dwarfing locus in potato (*Solanum tuberosum* L.). *Am. Potato. J.* 68, 45-52.
- BANDARA, P.M.S. & TANINO, K.K., 1995. Paclobutrazol enhanced minituber production in Norland potatoes. *J. Plant Growth Regul.* 14, 151-155.
- BARLOW, P.W., BRAIN, P. & PARKER, J.S., 1991. Cellular growth in roots of gibberellin deficient mutant of tomato (*Lycopersicon esculentum* Mill.) and its wild type. *J. Exp. Bot.* 42, 339-351.
- BARNES, A.M., WALSER, R.H. & DAVIS, T.D., 1989. Anatomy of *Zea mays* and *Glycine max* seedlings treated with triazole plant growth regulators. *Biol. Plant.* 31, 370-375.
- BARRETT, J.E., BARTUSKA, C.A. & NELL, T.A., 1994. Comparison of paclobutrazol drench and spike application for height control of potted floriculture crops. *HortScience* 29, 180-182.
- BARTHOLDI, W.L., 1940. Influence of flowering and fruiting upon the vegetative growth and tuber yield in the potato. *Minn. Tech. Bull.* 150.
- BASIOUNY, F.M. & SASS, P., 1993. Shelf life and quality of rabbit eye blueberry fruit in response to preharvest application of CaEDTA, nutrical and paclobutrazol. *Acta Hort.* 368, 893-900.

- BASU, S., SHARMA, A., GARG, I.D. & N.P. SUKUMARAN, N.P. 1999. Tuber sink modifies photosynthetic response in potato under water stress, *Enviro.Exp.Bot.* 42, 25-39.
- BATUTIS, E.J. & EWING, E.E., 1982. Far-red reversal of red light effect during long night induction of potato (*Solanum tuberosum* L.). *Plant Physiol.* 69, 672-674.
- BEN KHEDHER, M. & EWING, E.E., 1985. Growth analysis of eleven-potato cultivars grown in the greenhouse under long photoperiods with and without heat stress. *Am. Potato J.* 62, 537-554.
- BEROVA, M. & ZLATEV, Z., 2000. Physiological response and yield of paclobutrazol treated tomato plants (*Lycopersicon esculentum* Mill). *Plant Growth Regul.* 30(2), 117-123.
- BIEMOND, H. & VOS, J., 1992. Effects of nitrogen on the development and growth of potato plant. 2. The partitioning of dry matter, nitrogen and nitrate. *Ann. Bot.* 70, 37-45.
- BINNS, A.N., 1994. Cytokinin accumulation and action: Biochemical, genetic, and molecular approaches. *Annu. Rev. Plant Physiol.* 45, 173-196.
- BODLAENDER, K.B.A., 1963. Influence of temperature, radiation, and photoperiod in the development and yield. In: Ivins, J.D. & Milthorpe, E.L. (eds.), *Growth of the potato*. London, Butterworths, pp. 199-210.
- BODLAENDER, K.B.A. & ALGRA, S., 1966. Influence of growth retardant B995 on growth and yield of potatoes. *Eur. Potato J.* 9, 242-258.
- BOLLE-JONES, E.W., 1954. Nutrient levels and flower production in the potato. *Physiol. Plant.* 7, 698-703.
- BOOTH, A., 1963. The growth substances in the development of stolons. In: Ivins J.D. & Milthorpe F.L. (eds.), *The growth of the potato*. London, Butter worth, pp. 99-113.

- BOOTH, A. & LOVELL, P.H., 1972. The effect of pre-treatment with gibberellic acid on the distribution of photosynthates in intact and disbudded plants of *Solanum tuberosum*. *New Phytol.* 71, 795-804.
- BRENNER, M.L., 1987. The role of hormones in photosynthate partitioning and seed filling. In: Davies, P.J. (ed.), Plant hormones and their role in plant growth and development, Martinus Nijhoff, Dordrecht, Boston, Lancaster, pp. 474-493.
- BROOKING, I.R. & COHEN, D., 2002. Gibberellin-induced flowering in small tubers of *Zantedeschia* ‘Black Magic’. *Sci. Hort.* 95, 63-73.
- BROWNING, G., KUDEN, A. & BLAKE, P., 1992. Site of (2RS, 3RS)-paclobutrazol promotion of axillary flower initiation in pear cv. Doyenne du Comice. *J. Hort. Sci.* 67, 121-128.
- BURROWS, G.E., BOAG, T.S. & STEWART, W.P., 1992. Changes in leaf, stem, and root anatomy of chrysanthemum cv. Lillian Hoek following paclobutrazol application. *J. Plant Growth Regul.* 11, 189-194.
- BURTON, W.G., 1972. The response of the potato plant to temperature. In: Rees A.R., Cockshull K.E., Hand D.W. & Hurd G.R. (eds.). The crop processes in controlled environments. Academic press, Inc., London, pp. 217-233.
- BUTA, J.G. & SPAULDING, D.W., 1991. Effect of paclobutrazol on abscisic acid levels in wheat seedlings. *J. Plant Growth Regul.* 10, 59-61.
- CALVERT, A., 1969. Studies on the post-intiation development of flower buds in tomato (*Lycopersicon esculentum*) *J. Hort. Sci.* 44, 117-126.
- CHATFIELD, S.P., STIRNBERG, P., FORDE, B.G. & LEYSER, O., 2000. The hormonal regulation of axillary bud growth in *Arabidopsis*. *Plant J.* 24, 159-169.
- CIP (INTERNATIONAL POTATO CENTRE), 1983. Potato for the Developing World. Lima, Peru, pp. 150.

- CLOWES, F.A.L. & MACDONALD, M.M., 1987. Cell cycling and the fate of potato buds.  
*Ann. Bot.* 59, 141-148.
- COCKSHULL, K.E., 1982. Disbudding and its effect on dry matter distribution in  
*Chrysanthemum morifolium*. *J. Hort. Sci.* 57(2), 205-207.
- COCKSHULL, K.E, GRAVES, C.J. & CAVE, C.R.J., 1992. The influence of shading on yield  
of glasshouse tomatoes. *J. Hort. Sci.* 67, 11-24.
- CORRELL, D.S. 1962. The Potato and its Wild Relatives: Section Tuberarium of the Genus  
*Solanum*. Texas Research Foundation. Renner, Texas. pp 606.
- COX, D.A., 1991. Gibberellic acid reverses effects of excess paclobutrazol on geranium.  
*HortScience* 26(1), 39-40.
- CRAMER, C.S. & BRIDGEN, M.P., 1998. Growth regulator effects on plant height of potted  
*Mussaenda* ‘Queen Sirikit’. *HortScience* 33(1), 78-81.
- CRUZ-AGUADO, J.A., RODES, R., ORTEGA, E., PEREZ, I.P. & DORADO, M., 2001.  
Partitioning and conversion of  $^{14}\text{C}$ -photoassimilates in developing grains of wheat  
plants grown under field conditions in Cuba. *Field Crops Res.* 69, 191-199.
- CUTTER, E.G., 1978. Structure and development of the potato plant. In: P.M., Harris (ed.),  
The potato crop: the scientific basis for its improvement. Chapman & Hall, London,  
pp. 70-152.
- DALZIEL, J. & LAWRENCE, D.K., 1984. Biochemical and biological effects of kaurene  
oxidase inhibitors, such as paclobutrazol. *Britain Plant Growth Regul. Group,*  
*Monograph* 11, 43-57.
- DAVIES, H.V., 1984. Sugar metabolism in stolon tips of potato during early tuberization.  
*Zeitschrift für Pflanzenphysiologie* 113, 377–381.

- DAVIES, H.V. & OPARKA, K.J., 1985. Hexose metabolism in developing tubers of potato (*Solanum tuberosum* L) cv. Maris Piper. *J. Plant Physiol.* 119, 311–316.
- DAVIS, T.D. & CURRY, E.A., 1991. Chemical regulation of vegetative growth. *Crit. Rev. Plant Sci.* 10, 151-188.
- DAVIS, T.D., STEFFENS, G.L. & SANKHLA, N., 1988. Triazole plant growth regulators. *Hort. Rev.* 10, 63-105.
- DEAN, B.B. 1994. Managing the potato production system. Food Products Press, USA, pp. 59-61.
- DE GREEF, J., VERBELEN, J.P., CAUBERGS, R., MOEREELS, E. & SPRUYT, E., 1979. Comparative study of photosynthetic efficiency and leaf architecture during leaf development. In: Marcelle, R., Clijsters, H. & Van Poucke, M. (eds.) *Photosynthesis and plant development*. Dr. W. Junk bv-Publishers, The Hague, Boston, London, pp. 49-56.
- DE KONING, A.N.M., 1994. Development and dry matter distribution in glasshouse tomato: a quantitative approach. Dissertation. Wageningen Agricultural University. The Netherlands, pp. 24.
- DEMAGANTE, A.L. & VANDER ZAAG, P., 1988. The response of potato (*Solanum* spp.) to photoperiod and light intensity under high temperatures. *Potato Res.* 31, 73-83.
- DE RESENDE, G.M. & DE SOUZA, R.J., 2002. Effects of paclobutrazol doses on garlic crop. *Pesquisa Agropecuária Brasileira*, 37 (5), 637-641.
- DIMALLA, G.G. & VAN STADEN, J., 1977. Effects of ethylene on the endogenous cytokinin and gibberellins levels in tuberizing potatoes. *Plant Physiol.* 60, 218-221.
- DOGONADZE, M.Z., KORABLEVA, N.P., LATONOVA, T.A. & SHAPOSHNIKOV, G.L., 2000. Effects of gibberellin and auxin on the synthesis of abscisic acid and ethylene in

buds of dormant and sprouting potato tuber. *Prikladnaia Biokhimiia i Mikrobiologiiia* 36(5), 588-591.

DUNCAN, W.G., MCLOUD, D.E., MACGRAW, R.L. & BOOTE, K.J., 1978.

Physiological aspects of peanut yield improvement. *Crop Sci.* 18, 1015-1020.

DWELLE, R.B 1985. Photosynthesis and photosynthate partitioning. In: Li, P.H. (ed.), Potato Physiology. Orlando, Academic Press Inc., pp. 35-58.

DWELLE, R.B., KLEINKOPF, G.E. & PAVEK, J.J., 1981a. Stomatal conductance and gross photosynthesis of potato (*Solanum tuberosum* L.) as influence by irradiance, temperature and growth stage. *Potato Res.* 24, 49-59.

DWELLE, R.B., KLEINKOPF, G.E., STEINHORST, R.K., PAVEK, J.J. & HURLEY, P.J. 1981b. The influences of physiological processes on tuber yield of potato clones (*Solanum tuberosum* L.): Stomatal diffusive resistance, stomatal conductance, gross photosynthetic rate, canopy, tissue nutrient levels, and tuber enzyme activities. *Potato Res.* 24, 33-47.

EARLY, J.D. & MARTIN, G.C., 1988. Translocation and breakdown of <sup>14</sup>C-labeled paclobutrazol in ‘Nemaguard’ peach seedling. *HortScience* 23(1), 197-199.

EARO/ARTP (ETHIOPIAN AGRICULTURAL RESEARCH ORGANIZATION / AGRICULTURAL RESEARCH AND TRAINING PROJECT), 1999. Research-Extension-Farmer linkage, Project implementation manual Vol. 2, EARO, Addis Ababa, Ethiopia.

ECKSTEIN, K., ROBINSON, J.C. & DAVIS, S.J., 1995. Physiological response of banana (*Muss AAA*; Cavendish sub-group) in the subtropics. III. Gas exchange, growth analysis and source-sink interaction over a complete crop cycle. *J. Hort. Sci.* 70(1), 169-180.

- EISINGER, W., 1983. Regulation of pea internode expansion by ethylene. *Ann. Rev. Plant Physiol.* 34, 225-240.
- EL-ANTABLY, H.M.M., WAERING, P.F. & HILLMAN, P.F., 1967. Some physiological responses to *d,l*-abscisic acid (dormin). *Planta* 73, 74-90.
- ELIASSON, M.K., BEYL, C.A. & BARKER, P.A., 1994. *In vitro* responses and acclimatization of *Prunus serotina* with paclobutrazol. *J. Plant Growth Regul.* 13, 137-142.
- EWING, E.E., 1981. Heat stress and tuberization stimulus. *Am. Potato J.* 58, 31-49.
- EWING, E.E., 1985. Cuttings as simplified model of the potato plants. In: Li, P.H. (ed.), *Potato Physiology*. Orlando, Academic Press Inc., pp. 153-207.
- EWING, E.E., 1990. Induction of tuberization in potato. In: Vayda, M.E. & Park, W.D. (eds.) *The molecular and cellular biology of the potato*. CAB International, Cambridge, UK, pp 25–41
- EWING, E.E., 1995. The roles of hormones in potato (*Solanum tuberosum* L.) tuberization. In: Davies, P.J (ed.) *Plant hormones: Physiology, Biochemistry and Molecular Biology*. The Netherlands, Kluwer Academic Publisher, Dordrecht, pp. 698-724.
- EWING, E.E., 1997. Potato. In: Wien, H.C. (ed.), *The physiology of vegetable crops*. UK, Cambridge, pp. 295-344.
- EWING, E.E., & KELLER, E.R. 1983. Limiting factors to the extension of the potato into non-traditional climates. In: Hook, W.J. (ed.), *Proceedings International Congress "Research for Potato in the Year 2000"*, CIP, Lima, Peru, pp.37-40.
- EWING, E.E. & STRUIK, P.C., 1992. Tuber formation in potato: Induction, initiation, and growth. *Hort. Revi.* 14, 89-198.
- FAMIANI, F., PROIETTI, P., PALLIOTTI, A., FERRANTI, F. & ANTOGNOLI, E., 2000. Effects of leaf to fruit ratios on fruit growth in chestnut. *Sci. Hort.* 85, 145-152.

- FAOSTAT DATA. 2004. Agricultural data. Provisional 2003 Production and Production Indices Data. Crop primary. (<http://apps.fao.org/default.jsp>)
- FERNIE, A.R. & WILLMITZER, L., 2001. Molecular and biochemical triggers of potato tuber development. *Plant Physiol.* 127, 1459–1465.
- FITZPATRICK, J.J., PORTER, W.L. & HOUGHLAND, V.C., 1964. Continued studies of the relationship of specific gravity to total solids of potato. *Am. Potato J.* 46, 120-127.
- FLETCHER, R.A. & HOFSTRA, G., 1988. Triazoles as potential plant protectant. In: Berg, D. & Plempel, M. (eds.), sterol synthesis inhibitors in plant protection. Ellis Horwood Ltd., Cambridge, UK., pp. 31-331.
- FLETCHER, R.A., HOFSTRA, G. & GAO, J., 1986. Comparative fungi toxic and plant growth regulating properties of triazole derivatives. *Plant Cell Physiol.* 27, 367-371.
- FLETCHER, R.A., KALLIDUMBIL, V. & STEELE, P., 1982. An improved bioassay for cytokinin using cucumber cotyledons. *Plant Physiol.* 69, 675-677.
- FLETCHER, R.A., GILLEY, A., SANKHLA, N. & DAVIS, T., 2000. Triazoles as plant growth regulators and stress protectants. *Hort. Review* 24, 55-138.
- FROMMER, W.B. & SONNEWALD, U., 1995. Molecular analysis of carbon partitioning in solanaceous species. *J. Exp. Bot.* 46 (287), 587-607.
- GÁLIS, I., MACAS, J., VLASÁK, J., ONDREJ, M. & VAN ONCKELEN, H., 1995. The effects of an elevated cytokinin level using the *ipt* gene and N<sup>6</sup>-benzyladenine on single node and intact potato plant tuberization *in vitro*. *J. Plant Growth Regul.* 14, 143–150.
- GAO, J., HOFSTRA, G. & FLETCHER, R.A., 1987. Anatomical changes induced by triazoles in wheat seedlings. *Can. J. Bot.* 66, 1178-1185.

- GARCIA-TORRES, L. & GOMEZ-CAMPO, D., 1972. Increased tuberization in potato by ethrel (2-chloro-ethyl-phosphonic acid). *Potato Res.* 15, 76-80.
- GARDNER, A., DAVIES, H.V. & BURCH, L.R., 1992. Purification and properties of fructokinase from developing tubers of potato (*Solanum tuberosum* L.). *Plant Physiol.* 100, 178–183.
- GARDNER, F.P., PEARCE, R.B. & MITCHELL R.L., 1985. Physiology of crop plants. Iowa State University Press, USA, pp. 186-208.
- GAWRONSKA, H., DWELLE. R.B. & PAVEK, J.J., 1990. Partitioning of photo assimilates by potato plants (*Solanum tuberosum* L.) as influenced by irradiance: II. Partitioning patterns by four clones grown under high and low irradiance. *Am. Potato. J.* 67, 163-176.
- GAWRONSKA, H., THORNTON, M.K. & DWELLE, R.B., 1992. Influence of heat stress on dry matter production and photoassimilate partitioning by four potato clones. *Am. Potato J.* 69, 653-665.
- GEIGENBERGER, P. & STITT, M., 1993. Sucrose synthase catalyses a readily reversible reaction in developing potato tubers and other plant tissues. *Planta* 189, 329–339.
- GEIGENBERGER, P., GEIGER, M. & STITT, M., 1998. High-temperature inhibition of starch synthesis is due to inhibition of ADPGlc pyrophosphorylase by decreased levels of 3PGA in growing potato tubers. *Plant Physiol.* 117, 1307–1317.
- GEIGER, D.R., 1976. Effects of translocation and assimilate demand on photosynthesis. *Can. J. Bot.* 54, 2337-2345
- GENEVE, R.L., 1990. Root formation in cuttings of English ivy treated with paclobutrazol or uniconazole. *HortScience* 25, 709.
- GIFFORD, R.M. & EVANS, L.T., 1981. Photosynthesis, carbon partitioning and yield. *Annu. Rev. Plant Physiol.* 32, 485-509.

- GILLEY, A. & FLETCHER, R.A., 1998. Gibberellin antagonize paclobutrazol-induced stress protection in wheat seedlings. *J. Plant Physiol.* 153, 200-207.
- GRAEBE, J.E., 1987. Gibberellin biosynthesis and control. *Annu. Rev. Plant Physiol.* 38, 419-465.
- GRAY, D. & HOLMES, J.C., 1970. The effect of short periods of shading at different stages of the growth on the development of tuber number and yield. *Potato Res.* 13, 215-219.
- GREGORY, L.E., 1956. Some factors for tuberization in the potato. *Ann. Bot.* 43, 281-288.
- GREGORY, L.E., 1965. Physiology of tuberization in plants. (Tubers and tuberous root). Handbuch *Pflanzenphysiol.* 1328-1354.
- GROSSMAN, K., 1990. Plant growth retardants as tool in physiological research. *Physiol. Plant.* 78, 640-648.
- GROSSMAN, K., 1992. Plant growth retardants: Their mode of action and benefit for physiological research. In: Karssen, C.M., Van Loon, L.C. & Vreugdenhil, D. (eds.), Progress in plant growth regulations. Kluwer Academic Publisher, The Netherlands.
- GUIVARC'H, A., REMBUR, J., GOETZ, M., ROITSCH, T., NOIN, M., SCHMÜLLING, T. & CHRIQUI, D., 2002. Local expression of the *ipt* gene in transgenic tobacco (*Nicotiana tabacum* L. cv. SR1) axillary buds establishes a role for cytokinins in tuberization and sink formation. *J. Exp. Bot.* 53 (369), 621-629.
- GUOPING, Z., 1997. Gibberellic acid modifies some growth and physiological effects of paclobutrazol (PP333) on wheat. *J. Plant Growth Regul.* 16, 21-25.
- HAHN, S.K. 1977. Sweet potato. In: Alvim R.T. & Kozlowski, T.T. (eds.). Encyclopedia of tropical crops. Academic Press, New York. Pp.237-248.
- HAILE-MICHEAL, K., 1973. The effect of direction of hybridization (4x x 2x vs. 2x x 4x) on yield of cultivated potato, Ph.D. thesis, University of Wisconsin, USA.

- HAJIREZAEI, M.R., TAKAHATA, Y., TRETHEWEY, R.N., WILLMITZER, L. & SONNEWALD, U., 2000. Impact of elevated cytosolic and apoplastic invertase activity on carbon metabolism during potato tuber development. *J. Exp. Bot.* 51, 439-445.
- HALL, A.J. & MILTHORPE, F.L., 1978. Assimilate source-sink relationships in *Capsicum annum* L. III. The effects of fruit excision on the photosynthesis, and leaf and stem carbohydrates. *Aust. J. Plant Physiol.* 5, 1-13.
- HAMID, M.M. & WILLIAMS, R.R., 1997. Translocation of paclobutrazol and gibberellic acid in Stuart's desert pea (*Swainsosa formosa*). *Plant Growth Regul.* 23, 167-171.
- HAMMES, P.S. & BEYERS, E.A., 1973. Localization of photoperiodic reception in potato. *Potato Res.* 16, 68-72.
- HAMMES, P.S. & DE JAGER, J.A., 1990. Net photosynthetic rate of potato at high temperature. *Potato Res.* 33, 515-520.
- HAMMES, P.S. & NEL, P.C., 1975. Control mechanisms in the tuberization process. *Potato Res.* 18, 262-272.
- HANNAPEL, D.J., MILLER, J.C. & PARK, W.D., 1985. Regulation of potato tuber protein accumulation by gibberellic acid. *Plant Physiol.* 78, 700-703.
- HARMEY, M.A., CROWLEY, M.P. & CLINCH P.E.M., 1966. The effect of growth regulators on tuberization in cultured stem pieces of *Solanum tuberosum*. *Eur. Potato J.* 9, 146-151.
- HARTUNG, W. & JESCHKE, W.D., 1999. Abscisic acid: A long distance stress signal in salt-stressed plants. In: Lerner, H.R. (ed.), Plant responses to environmental stresses from phytohormones to genomes reorganization. Marcel Dekker, Inc., New York, pp. 333-348.

- HARVEY, B.M.R., ROTHERS, S.H., EVANS, N.E. & SELBY, C., 1991. The use of growth retardants to improve microtuber formation of potato (*Solanum tuberosum* L.). *Plant Cell, Tiss. Org. Cul.* 27, 59-64.
- HAUGHAN, P.A., BURDEN, R.S., LENTON, J.R. & GOAD, L.J., 1989. Inhibition of celery cell growth and sterol biosynthesis by the enantiomers of paclobutrazol. *Phytochem.* 28(3), 781-787.
- HAVERKORT, A.J. 1978. Tuber initiation and bulking in the potato under tropical conditions: Importance of soil and air temperature. *Trop. Agric.* 55, 289-295.
- HAWKINS, A.F., HUGHES H.K. & HART, C.A., 1985. Effects of the growth regulator, paclobutrazol, on structure and photosynthesis of soybean leaves. *Britain Plant Growth Regul. Group, Monograph* 12, 127-142.
- HAY, R.K.M. & WALKER, A.J., 1989. An introduction to physiology of crop yield. Longman Scientific and Technical, Essex.
- HEDDEN, P. & GRAEBE, J.E., 1985. Inhibition of gibberellins biosynthesis by paclobutrazol in cell-free homogenates of *Cucurbita maxima* endosperm and *Malus pumila* embryos. *J. Plant Growth Regul.* 4, 111-112.
- HEDDEN, P. & HOAD, G.V., 1985. Hormonal regulation of fruit growth and development. In: JeffCoat, B., Hawkins, A.F. & Stead, A.D. (eds.), Regulation of sources and sinks in crop plants, British Plant Growth Regulator Group, Bristol, England, pp. 211-224
- HEIN, M.B., BRENNER, M.L. & BRUN, W.A., 1984. Effect of fruit removal on concentration in leaves as measured in petiole exudates of indole-3-acetic acid during reproductive growth in soybean. *Plant Physiol.* 76, 955-958.
- HEMBERG, T., 1970. The action of some cytokinins on the rest period and control of acidic growth inhibiting substances in potato. *Physiol. Plant.* 23, 850-858.

- HENDRIKS, T., VREUGDENHIL, D. & STIEKEMA, W., 1991. Patatin and four serine protease inhibitor genes are differentially expressed during potato tuber development. *Plant Mol. Biol.* 17, 385–394.
- HEUVELINK, E., 1997. Effect of fruit load on dry matter partitioning in tomato. *Sci. Hort.* 69, 51-59.
- HEUVELINK, E. & MARCELIS, L.F.M., 1989. Dry matter distribution in tomato and cucumber. *Acta Hort.* 206, 149-157.
- HO, L.C., 1984. Partitioning of assimilates in fruiting tomato plant. *Plant Growth Regul.* 2, 277-285.
- HO, L.C., 1988. Metabolism and compartmentation of imported sugars in sink organs in relation to sink strength. *Annu. Rev. Plant Physiol.* 39, 355-378.
- HO, L.C., 1992. The possible effects of sink demand for assimilates on photosynthesis. In: Murata, N. (ed.), Research in photosynthesis, Vol. IV, Kluwer Academic Publisher, Dordrecht, The Netherlands, pp. 729-736
- HO, L.C., GRANGE, R.I. & SHAW, A.F., 1989. Source/sink regulation. In: Baker, D.A. & Milburn, J. (eds.), Transport of photoassimilate, Longmans, London, pp. 306-343.
- HOAD, G.V., LOVEYES, B.R. & SKENE, K.J.M, 1977. The effect of fruit removal on cytokinin and gibberellin-like substances in grape leaves. *Planta*. 136, 25-30.
- HOLLENBACH, B., SCHREIBER, L., HARTUNG, W. & DIETZ, K.J., 1997. Cadmium leads to stimulated expression of lipid transfer protein (ltp) in barley: implications for the involvement of LTP in wax assembly. *Planta* 203, 9-19.
- HORTON, D., 1980. The potato as a food crop in the developing countries. A Bulletin of the International Potato Centre, Lima, Peru, pp.30.
- HORTON, D., 1987. Potato production, marketing and programs for developing countries. West view Press., London.

HORTON, D. & SAWYER, R.L. 1985. The potato as a world food crop, with special reference to developing areas. In: Li, P.H. (ed.), Potato Physiology. Academic Press Inc., USA, pp. 2-32.

HOWARD, H.W., 1970. Genetics of potato (*Solanum tuberosum* L.) Logos Press, London, pp. 126

<http://www.hclrss.demon.co.uk/paclobutrazol.html>.

<http://www.madeinethiopia.net>

<http://www.nationmaster.com/country/et/economy>, 2003-2004.

HUBER, W. & SANKHLA, N., 1973. Effect of gibberellic acid on the activity of photosynthetic enzymes and  $^{14}\text{CO}_2$ -fixation products in leaves of *Pennisetum typhoides* seedlings. *J. Plant Physiol.* 71, 275-280.

HUNTER, D.M. & PROCTOR, J.T.A., 1992. Pacllobutrazol affects growth and fruit composition of potted grape vines. *HortScience* 27, 319-321.

HUSSEY, G. & STACEY, N.J., 1984. Factors affecting the formation of *in vitro* tubers of potato (*Solanum tuberosum* L.). *Ann. Bot.* 53, 565-578.

IWAMA, K., NAKASEKO, K., GOTH, K. & NISHIBE, Y., 1983. Studies on root system in potato plant. In: Hook, W.J. (ed.), Proceeding International Congress "Research for Potato in the Year 2000", CIP, Lima, Peru, pp.102-104.

IZUMI, K., KAMIYA, Y., SAKURAI, A., OSHIO, H. & TAKAHASHI, N., 1985. Studies the site of action of new plant growth retardant (E)-1-(4-chlorophenyl)-4, 4-dimethyl-2-(1,2,4-triazoles-1-penten-3-o1) (SS-3307) and comparative effects of its stereoisomers in a cell free system from *Cucurbita maxima*. *Plant Cell Physiol.* 26, 821-827.

- IZUMI K., NAKAGAWA, S., KOBAYASHI, M., OSHIO, H., SAKURAI, A. & TAKAHASHI, N., 1988. Levels of IAA, cytokinins, ABA and ethylene in rice plants as affected by GA biosynthesis inhibitor, uniconazole-P. *Plant Cell Physiol.* 29, 97-104.
- JACKSON, S.D., 1999. Multiple signalling pathways control tuber induction in potato. *Plant Physiol.* 119, 1-8.
- JACKSON, S.D. & PRAT, S., 1996. Control of tuberization in potato by gibberellins and phytochrome B. *Physiol. Plant* 98, 407- 412.
- JACKSON, S., HEYER, A., DIETZE, J. & PRAT, S., 1996. Phytochrome B mediates the photoperiodic control of tuber formation in potato. *Plant J.* 9, 159-166.
- JACKSON, S., JAMES, P., PRAT, S. & THOMAS, B. 1998. Phytochrome B affects the levels of a graft-transmissible signal involved in tuberization. *Plant Physiol* 117, 29-32.
- JANSKY, S.H. & THOMPSON, D.M., 1990. The effect of flower removal on potato tuber yield. *Can. J. Plant Sci.* 70, 1223-1225.
- JELITTO, T., SONNEWALD, U., WILLMITZER, L., HAJIREZAEI, M.R. & STITT, M., 1992. Inorganic pyrophosphate content and metabolites in leaves and tubers of potato and tobacco plants expressing *E.coli* pyrophosphatase in their cytosol: biochemical evidence that sucrose metabolism has been manipulated. *Planta* 188, 238–244.
- JENKS, M.A., ANDERSEN, L., TEUSINK, R.S. & WILLIAMS, M.H., 2001. Leaf cuticular waxes of potted rose cultivars as affected by plant development, drought and paclobutrazol treatments. *Physiol. Plant.* 112, 62-70.
- JOSEPH, C.V.V. & YELENOSKY, G., 1992. Growth and photosynthesis of sweet orange plants treated with paclobutrazol. *J. Plant Growth Regul.* 11, 85-89.
- JUNG, J., RENTZEA, C. & RADEMACHER, W., 1986. Plant growth regulation with triazoles of the dioxanyl type. *J. Plant Growth Regul.* 4, 181-188.

- KAMOUTSIS, A.P., CHRONOPOULOU-SERELI, A.G. & PASPATIS, E.A., 1999. Pacllobutrazol affects growth and flower bud production in *Gardenia* under different light regimes. *HortScience* 34 (4), 674-675.
- KHALIL, I.A., 1995. Chlorophyll and carotenoid contents in cereals as affected by growth retardants of the triazole series. *Cereal Res. Comm.* 23, 183-189.
- KHAN, A.A., & ASIF, M.I. 1981. Studies on the translocation of  $^{14}\text{C}$ -labelled photosynthate in onion. *J. Hort. Sci.* 56(2), 113-116.
- KHURI, S. & MOORBY, J., 1995. Investigations into the role of sucrose in potato cv Estima microtuber production *in vitro*. *Ann. Bot.* 75, 295-203.
- KODA, Y., 1997. Possible involvement of jasmonates in various morphogenic events. *Physiol. Plant* 100, 639-646.
- KODA, Y. & OKAZAWA, Y. 1983. Characteristics changes in the levels of endogenous plant hormones in relation to the onset of potato tuberization. *Japan J. Crop. Sci.* 52, 582-591.
- KODA, Y., OMER, E.A., YOSHIHARA, T., SHIBATA, H., SAKAMURA, S. & OKAZAWA, Y., 1988. Isolation of a specific potato tuber-inducing substance from potato leaves. *Plant Cell Physiol.* 29, 969-974.
- KOLATTUKUDY, P.E., 1987. Lipid-derived defensive polymers and waxes and their role in plant microbe interaction. In: Stumpf, P.K. (ed.), *The Metabolism, Structure and Function of Plant Lipids*. Plenum Press, New York and London, pp. 291-314
- KOLOMIETS, M.V., HANNAPEL, D.J., CHEN, H., TYMESON, M. & GLADON, R.J., 2001. Lipoxygenase is involved in the control of potato tuber development. *The Plant Cell* 13, 613-626.

- KRAUS, T.E. & FLETCHER, R.A., 1994. Paclobutrazol protects wheat seedlings from heat and paraquat injury: Is detoxification of active oxygen involved? *Plant Cell Physiol.* 35, 45-52.
- KRAUSS, A., 1978. Tuberization and abscisic acid content in *Solanum tuberosum* as affected by nitrogen nutrition. *Potato Res.* 21, 183-193.
- KRAUSS, A., 1985. Interaction of nitrogen nutrition, phytohormones, and tuberization. In: Li, P.H. (ed.), Potato Physiology. Orlando, Academic Press Inc., pp. 209-230.
- KRAUSS, A. & MARSCHNER, H., 1982. Influence of nitrogen nutrition, day length and temperature on contents of gibberellic acid and abscisic acid and tuberization in potato plants. *Potato Res.* 25, 13-21.
- KÜHN, C., BARKER, L., BURKLE, L. & FROMMER, W., 1999. Update on sucrose transport in higher plants. *J. Exp. Bot.* 50, 935-953.
- KUIPER, D., 1993. Sink strength: Established and regulated by plant growth regulators. *Plant Cell Environ.* 16, 1025–1026.
- KUMAR, D. & WAREING, P.F., 1972. Factors controlling stolon development in potato plant. *New Phytol.* 71, 639-648.
- KUMAR, D. & WAREING, P.F., 1973. Studies on tuberization in *Solanum andigena*. I. Evidence for the existence and movement of specific tuberization stimulus. *New Phytol.* 72, 283-287.
- KUSHMAN, L.S. & HAYNES, J.F.L., 1971. Influence of intercellular space difference due to variety and storage upon specific gravity-dry matter relationship. *Am. Potato J.* 48, 173-181.
- LANA, E.P., JOHANSEN, R.H. & NELSON, D.C., 1970. Variation in specific gravity of potato tubers. *Am. Potato J.* 47, 9-12.

- LANGILLE, A.R. & FORSLINE, P.L., 1974. Influence of temperature and photoperiod on cytokinin pool in the potato (*Solanum tuberosum* L.). *Plant Sci. Lett.* 2, 189-191.
- LANGILLE, A.R. & HELPER, P.R., 1992. Effects of three anti-gibberellin growth retardants on tuberization of induced and non-induced katahdin potato leaf bud cuttings. *Am. Potato J.* 60, 131-141.
- LARSEN, M.H., DAVIS, T.D. & EVANS, R.P., 1988. Modulation of protein expression in uniconazole treated soybeans in relation to heat stress. *Proc. Plant Growth Regul. Soc. Am.* 15, 177-182.
- LAWSON, H.M., 1983. True potato seeds as arable weeds. *Potato Res.* 26, 237-246.
- LEACH, J.E., PARKINSON K.J. & WOODHEAD, T., 1982. Photosynthesis, respiration and evaporation of a field grown potato crop. *Ann. Appl. Biol.* 101, 377-390.
- LE GUEN-LE SAOS, F., HOURMANT, A., ESNAULT, F. & CHAUVIN, J. E., 2002. *In vitro* bulb development in shallot (*Allium cepa* L. Aggregatum Group): effects of anti-gibberellins, sucrose and light. *Ann. Bot.* 89, 419-425
- LENZ , F., 1979. Fruit effect on photosynthesis: light and dark respiration. In: Marcelle, R., Clijster, H. & Van Poucke, M. (eds.). Photosynthesis and plant development. Dr. W. Junk Publishers, The Hague, pp. 271-281.
- LETCHAMO, W. & GOSSELIN, A., 1995. Root and shoot growth and chlorophyll content of *Taraxacum officinale* provenances as affected by defoliation and debudding under organic and hydroponic cultivation. *J. Hort. Sci.* 79(2), 279-285.
- LETHAM, D.S. & PALNI, L., 1983. The biosynthesis and metabolism of cytokinins. *Annu. Rev. Plant Physiol.* 34, 163-197.
- LEVY, D. 1986. Genotypic variation in the response of potato (*Solanum tuberosum* L.) to high ambient temperature and water deficit. *Field Crops Res.* 15, 85-96.

- LEVY, D., 1992. Potato in hot climates-could we do more? Proceeding of advanced potato production in the hot climates symposium, 24-28 May 1992, Nahal-OZ, Israel. pp. 3-7.
- LIU, P.B.W. & LOY J.B., 1976. Action of gibberellic acid on cell proliferation in the sub apical shoot meristem of watermelon seedlings. *Am. J. Bot.* 63, 700-704.
- LORENZEN, J.H. & EWING, E.E. 1990. Changes in tuberization and assimilate partitioning in potato (*Solanum tuberosum* L.) during the first 18 days of photoperiod treatment. *Ann. Bot.* 66, 457-464.
- LOVELL, P.H. & BOOTH, A. 1969. Stolon initiation and development in *Solanum tuberosum* L. *New Phytol.* 68, 1175-1185.
- LOVEYS, B.R. & KRIEDEMANN, P.E., 1974. Internal control of stomatal physiology and photosynthesis. I. Stomatal regulation and associated changes in endogenous levels of abscisic and phaseic acid. *Aust. J. Plant Physiol.* 1, 407-415.
- LOZAYA-SALDANA, H., 1992. Photoperiod, gibberellic acid and kinetin in potato flower differentiation *in vitro*. *Am. Potato J.* 69, 275-286.
- LOZAYA-SALDANA, H. & MIRANDA-VERLAZGUEZ, I., 1987. Growth regulators, photoperiod and flowering in potatoes. *Am. Potato J.* 64, 377-382.
- LUCKWILL, L.C., 1975. Plant hormones studies. Long Ashton Research Station Report, pp. 43-46.
- LURIE, S., RONEN, R. & ALONI, B., 1995. Growth-regulators-induced alleviation of chilling injury in green and red bell pepper fruit during storage. *HortScience* 30, 558-559.
- LUTMAN, P.J.W., 1977. Investigations into some aspects of the biology of potato as weeds. *Weed Research* 17, 123-32.
- MACKINNEY, G., 1941. Absorption of light by chlorophyll solutions. *J. Biol. Chem.* 140, 315-322.

- MACRAE, E.A. & REDGWELL, R.J., 1990. Partitioning of  $^{14}\text{C}$ -photosynthates in developing Kiwifruit. *Sci. Hort.* 44, 83-95.
- MAMAT, A. & WAHAB, A.A.B.D., 1992. Gibberellins in the developing flower and fruit of *Durio zibethinus* murr. *Acta Hort.* 292, 101-106.
- MANRIQUE, L.A., 1989. Analysis of growth of the Kennebec potatoes grown under differing environments in the tropics. *Am. Potato J.* 66, 277-291.
- MANSFIELD, T.A., 1987. Hormones as regulators of water balance. In: Davies, P.J. (ed.), plant hormones and their role in plant growth and development. Martinus Nijhoff, Dordrecht, Boston, Lancaster, pp. 474-493
- MARCELIS, L.F.M., 1992. The dynamics of growth and dry matter distribution in cucumber. I. Effect of fruit load and temperature. *Sci. Hort.* 54, 107-121.
- MARCELIS, L.F.M., 1996. Sink strength as a determinant of dry matter partitioning in the whole plants *J. Exp. Bot.* 47, 1281-1291.
- MARES, D.J., MARSCHNER, H. & KRAUSS, A., 1981. Effect of gibberellic acid on growth and carbohydrate metabolism of developing tubers of potato (*Solanum tuberosum* L.). *Physiol. Plant* 52, 267-274.
- MARINUS, J., 1993. Production of aboveground seed tubers on stem cuttings from eight potato cultivars. *Potato Res.* 36, 55-61.
- MARINUS, J. & BODLAENDER, K.B.A., 1975 Response of some potato varieties to temperature. *Potato Res.* 18, 189-204.
- MARSHALL, J.G., SCARRATT, J.B. & DUMBROFF, E.B., 1991. Introduction of drought resistance by abscisic acid and paclobutrazol in Jack pine. *Tree Physiol.* 8, 415-421.
- MARSHALL, J.G., RUTLEDGE, R.G., BLUMWALD, E. & DUMBROFF, E.B., 2000. Reduction in turgid water volume in jack pine, white spruce and black spruce in response to drought and paclobutrazol. *Tree Physiol.* 20, 701-707.

- MASIA, A., PITACCO BRAGGIO, L., GIULIVO, C., 1994. Hormonal responses to partial drying of the root system of *Helianthus annuus*. *J. Exp. Bot.* 45, 69–76.
- MAUK, C.S. & LANGILLE, A.R., 1978. Physiology of tuberization in *Solanum tuberosum* L.: Cis-zeatin riboside in potato plant - its identification and changes in endogenous levels as influenced by temperature and photoperiod. *Plant Physiol.* 62, 438-442.
- MCDANIEL, G.L., GRAHAM, E.T. & MALEUG, K.R., 1990. Alteration of poinsettia stem anatomy by growth-retarding chemicals. *HortScience* 25, 433-435.
- MENZEL, C.M., 1980. Tuberization in potato (*Solanum tuberosum* cultivar Sebago) at high temperature: Response to gibberellin and growth inhibitors. *Ann. Bot.* 46, 259-266.
- MENZEL, C.M. 1981. Tuberization in potato (*Solanum tuberosum* cultivar Sebago) at high temperature: Promotion by disbudding. *Ann. Bot.* 47, 727-734.
- MENZEL, C.M., 1983. Tuberization in potato (*Solanum tuberosum* cultivar Sebago) at high temperature: Gibberellin contents and transport from buds. *Ann. Bot.* 52, 697-702.
- MENZEL, C.M., 1985. Tuberization in potato (*Solanum tuberosum* cultivar Sebago) at high temperature: Interaction between temperature and irradiance. *Ann. Bot.* 55, 35-39.
- MEYLING, H.D.G. & BODLAENDER, K.B.A. 1981. Varietal differences in growth, development and tuber production of potatoes. *Neth. J. Agr. Sci.* 29; 113-127.
- MIDMORE, D.J., 1984. Potato (*Solanum* spp.) in the hot tropics. I. Soil temperature effects on emergence, plant development and yield. *Field Crops Res.* 8, 255-271.
- MILLER, C.O., SKOOG, F., OKOMURA, F.S., VON SALZA, M.H. & STRONG, F.M., 1955. Isolation, structure and synthesis of kinetin, a substance promoting cell division. *J. Am. Chem. Soc.* 78, 1375–1380.
- MOJECKA-BREJOVA, M. & KERIN, V., 1995. Regulation of green pepper vegetative growth and fruit bearing capacity with paclobutrazol. *Bulgarian J. Agri. Sci.* 1, 253-257.

- MOK, M.C., 1994. Cytokinins and plant development - an overview. In: Mok, D.W.S. & Mok, M.C. (eds.). Cytokinins: chemistry and function, Boca Raton, Florida: CRC Press.
- MOORBY, J., 1968. The influence of carbohydrates and mineral nutrient supply on growth of potato plants. *Ann. Bot.* 32, 57-68.
- MORPURGO, R. & ORTIZ, R., 1988. Morphological variation in potato (*Solanum* spp.) under contrasting environments. *Environ. Exp. Bot.* 28, 165-169.
- MORRIS, D., 1996. Hormonal regulation of source-sink relationship: An overview of potential control mechanisms. In: Zamski, E. & Schaffer, A.A. (eds.) Photoassimilate distribution in plants and crops: Source-sink relationship, Marcel Dekker Inc., pp. 441-465.
- MSTAT-C., 1991. A microcomputer program for design management and analysis of agronomic research experiments. Michigan State University, East Lansing, MI, USA.
- MÜLLER-RÖBER, B., SONNEWALD, U. & WILLMITZER, L., 1992. Inhibition of the ADP-glucose pyrophosphorylase in transgenic potatoes leads to sugar-storing tubers and influences tuber formation and expression of tuber storage protein genes. *EMBO J.* 11, 1229-1238
- MULLIGAN, D.R. & PATRICK, J.W., 1979. Pacllobutrazol and ancymidol protect corn seedling from high and low temperature stresses. *Planta* 145, 233-238.
- MURPHY, H.J. & GOVEN, M.J., 1959. Factors affecting the specific gravity of the white potato in Maine. *Maine Agric. Exp. Sta. Bull.* 583, Orono.
- NAGARAJAN, S. & BANSAL, K.C., 1990. Growth and distribution of dry matter in a heat tolerant and a susceptible potato cultivars under normal and high temperature. *J. Agro. Crop Sci.* 165, 306-311.

- NAWSHEEN, B.J. 2001. The effect of sucrose concentration on micro propagation of potato, B.Sc. (Hons), University of Mauritius, Mauritius.
- NEWMAN, S. E. & TANT, J.S., 1995. Root-zone medium influences growth of poinsettias treated with paclobutrazol-impregnated spikes and drenches. *HortScience* 30(7), 1403-1405.
- NIELSEN, T.H. & VEIERSKOV, B., 1988. Distribution of dry matter in sweet pepper plants (*Capsicum annum L.*) during juvenile and generative growth phases. *Sci. Hort.* 35, 79-187.
- NITSCH, J.P., 1970. Hormonal factors in growth and development. In: Hulme, A.C. (ed.), The biochemistry of fruits and their products. Vol.1. Academic press, London, New York.
- NOSBERGER, J. & HUMPHRIES, E.C., 1965. The influence of removing tubers on dry matter production and net assimilation rate of potato plants. *Ann. Bot.* 29, 579-588.
- O'BRIEN, T.P. & MC CULLY, M.E., 1981. The study of plant structure principles and selected methods. Prentice-Hall of Australia Pty. Limited, Sydney, Australia.
- OBATA-SASAMOTO, H. & SUZUKI, H., 1979. Activities of enzymes relating starch synthesis and endogenous levels of growth regulators in potato stolon tips during tuberization. *Physiol. Plant.* 45, 320–324.
- OKAZAWA, Y. & CHAPMAN, H.W., 1962. Regulation of tuber formation in the potato plant. *Physiol. Plant.* 15, 413-419.
- OOMS, G. & LENTON, J.R., 1985. T-DNA genes to study plant development: precocious tuberization and enhanced cytokinins in *A. tumefaciens* transformed potato. *Plant Mol. Biol.* 5, 205–212.
- OPARKA, K.J. & DAVIES, H.V., 1985. Translocation of assimilates within and between potato stems. *Ann. Bot.* 56, 45-54.

- OPARKA, K.J. & WRIGHT, K.M. 1988. Influence of cell turgor on sucrose partitioning in potato tuber storage tissues. *Planta* 175, 520–526.
- OPARKA, K.J., DAVIES, H.V. & PRIOR, D.A.M., 1987. The influence of applied nitrogen on export and partitioning of current assimilate by field grown potato plants. *Ann. Bot.* 59, 311-323.
- OWENS, C.L. & STOVER, E., 1999. Vegetative growth and flowering of young apple trees in response to prohexadione-calcium. *HortScience* 34(7), 1194-1196.
- PAIVA, E., LISTER, R.M. & PARK, W.D., 1983. Induction and accumulation of major tuber proteins of potato in stems and petioles. *Plant Physiol.* 71, 161-168.
- PALMER, C.E. & SMITH, E., 1969. Cytokinins and tuber initiation in the potato (*Solanum tuberosum* L.). *Nature* 221, 279-280.
- PAMMENTER, N.W., LORETO, F. & SHARKEY, T.D., 1993. End product feedback effect on photosynthetic electron transport. *Photosynthesis Res.* 35, 5-14.
- PANKHURST, R., 1964. Notes for a history of Ethiopian agriculture. *Ethiopian Observer* 7, 210-240.
- PARK ,W.D., 1990. Molecular approaches to tuberization in potato. In: Vayda, M.E. & Park, W.D. (eds.) The molecular and cellular biology of the potato. Redwood Press Ltd, Malkashim, Uk, pp. 261-278.
- PEET, M.M. & KRAMER, P.J., 1980. Effects of decreasing source/sink ratio in soybeans on photosynthesis, photorespiration, transpiration and yield. *Plant Cell Environ.* 3, 201-206.
- PELACHO, A.M., MARTIN-CLOSAS, L., CAMPABADAL, C., TORRES, A., FARRAN, I., MINGO-CASTEL, A.M., 1994. *In vitro* tuberization of potato: Effect of several morphogenic regulators in light and darkness. *J. Plant Physiol.* 144, 705-709.

- PERL, A., AVIV, D., WILLMITZER, L. & GALUN, E., 1991. *In vitro* tuberization in transgenic potato harbouring  $\beta$ -glucuronidase linked to a patatin promoter, effects of sucrose levels and photoperiods. *Plant Sci.* 73, 87-95.
- PETERSON, R.L., BARKER, W.G. & HOWARTH, M.J., 1985. Development and structure of tubers. In: Li, P.H. (ed.), Potato Physiology. Orlando, Academic Press, pp. 123-152.
- PHARIS, R.P. & KING, R.W., 1985. Gibberellins and reproductive development in seed plants. *Annu. Rev. Plant Physiol.* 36, 517-68.
- PINHERO, R.G. & FLETCHER, R.A., 1994. Paclobutrazol and ancymidol protects corn seedlings from high and low temperatures stresses. *J. Plant Growth Regul.* 15, 47-53.
- PINHERO, R.G., RAO, M.P., PALIYATH, G., MURR, D.P. & FLETCHER, R.A., 1997. Changes in activities of antioxidant enzymes and their relationship to genetic and paclobutrazol induced chilling tolerance of maize seedlings. *Plant Physiol.* 114, 695-704.
- PLAISTED, P.H., 1957. Growth of the potato tuber. *Plant Physiol.* 32, 445-453.
- PORLINGIS, I.C. & KOUKOURIKOU-PETRIDOU, M., 1996. Promotion of adventitious root formation in mung bean cutting by four triazole growth retardants. *HortScience* 71, 573-579.
- PORTER, W.L., FITZPARTICK, J.J. & TALLER, E.A., 1964. Studies of the relationship of specific gravity in total solids of potatoes. *Am. Potato J.* 41, 329-336.
- POTTER, T.I., ZANEWICH, K.P. & ROOD S.B., 1993. Gibberellin biosynthesis of safflower: Endogenous gibberellins and response to gibberellic acid. *Plant Growth Regul.* 12, 133-140.
- PRAT, S., FROMMER, W.B., HÖFGEN, R., KEIL, M., KOBMANN, J., KÖSTER-TÖFER, M., LIU, X.J., MÜLLER, B., PEÑA-CORTÉS, H., ROCHA-SOCA, M., SÁNCHEZ-

- SERRANO, J.J., SONNWALD, U., & WILLMITZER, L., 1990. Gene expression during tuber development in potato plants. *Fed. Eur. Biochem. Soc. Lett.* 268, 334-338.
- PROUNDFOOT, K.G., 1965. The effect of flower and berry formation on tuber yield in *Solanum demissum* Lindi. *Eur. Potato J.* 8(2), 118-119.
- RADEMACHER, W., 1997. Bioregulation of crop plants with inhibitors of gibberellin biosynthesis. *Proc. Plant Growth Regul. Soc. Am.* 24, 27-31.
- RAILTON, I.D. & WAREING, P.F., 1973. Effects of day length on endogenous gibberellins in *Solanum andigena*. I. Changes in acidic gibberellin-like substances. *Physiol. Plant.* 28, 88-94.
- REED, A.N., CURRY, E.A. & WILLIAMS, M.W., 1989. Translocation of triazole growth retardants in plant tissue. *J. Am. Soc. Hort. Sci.* 114, 893-898.
- RENZ, A. & STITT, M., 1993. Substrate specificity and product inhibition of different forms of fructokinases and hexokinases in developing potato tubers. *Planta* 190, 166–175.
- REYNOLDS, P.M. & EWING, E.E., 1989. Effects of high air and soil temperature stress on growth and tuberization in *Solanum tuberosum* L. *Ann. Bot.* 64, 241-247.
- RICE, R.P., RICE, L.W. & TINDALL, H.D., 1990. Fruit and vegetable production in warm climates. Macmillan Press Ltd, London, pp. 294-95.
- RICHARDSON, P.T. & MACANENY, K.J., 1990. Influence of fruit number on fruit weight and yield of kiwifruit. *Sci. Hort.* 23, 21-33.
- RIJTEMA, P. & ENDRODI, G. 1970. Calculation of production of potatoes. *Neth. J. Agr. Sci.* 18, 26-36.
- RITCHIE, G.A., SHORT, K.C. & DAVEY, M.R., 1991. *In vitro* acclimatization of chrysanthemum and sugar beet plantlets by treatment with paclobutrazol and exposure to reduced humidity. *J. Exp. Bot.* 42, 1557-1563.

- ROBERS, M., KANETA, T., KAWAIDE, H., YAMAGUCHI, S., YANG, Y.Y., IMAI, R., SEKIMOTO, H. & KAMIYA, Y., 1999. Regulation of gibberellin biosynthesis genes during flower and fruit development of tomato. *Plant J.* 17(3), 241-50.
- ROBERTS, A.V. & MATHEWS, D., 1995. The preparation *in vitro* of chrysanthemum for transplantation to soil. 5. The 2s, 3s enantiomers of paclobutrazol improves resistance to desiccation. *Plant Cell, Tiss. Org. Cult.* 40, 191-193.
- ROITSCH, T. & EHNEß, R., 2000. Regulation of source/sink relations by cytokinins. *Plant Growth Regul.* 32, 359–367.
- ROSS, H.A., DAVIES, H.V., BURCH, L.R., VIOLA, R. & MACRAE, D., 1994. Developmental changes in carbohydrate content and sucrose degrading enzymes in tuberizing stolons of potato (*Solanum tuberosum* L.). *Physiol. Plant.* 90, 748-756.
- SADIK, S., 1983. Potato production from true potato seed. In: Hook, W.J. (ed.), Proceeding International Congress "Research for Potato in the Year 2000", CIP, Lima, Peru.
- SAGEE, O. & ERNER, Y., 1991. Gibberellins and abscisic acid contents during flowering and fruit set of 'Shamouti' orange. *Sci. Hort.* 48, 29-39.
- SALE, P.J.M., 1973. Productivity of vegetative crops in a region of high solar input. III. Carbon balance of potato crop. *Aust.J. Plant Physiol.* 1, 283-296.
- SALE, P.J.M., 1976. Effects shading at different times on the growth and yield of potato. *Aust. J. Agri. Res.* 27, 557-566.
- SALISBURY, F.B. & ROSS, C.W., 1992. Plant Physiology 4th ed. Wadsworth Publishing Com., California, USA.
- SALTER, J.W., 1968. The effect of night temperature on the initiation of the potato. *Eur. Potato J.* 11, 14-32.
- SANCHEZ-SERRANO, J.J. & ET, A.L., 1990. Promoter elements and hormonal regulation of proteinase inhibitor II gene expression in potato. In: Vayda, M.E. & Park, W.D.

(eds.), The molecular and cellular biology of the potato. UK, Redwood Press Ltd., Malkashim, pp.57-70.

SANKHLA, A., DAVIS, T.D., SANKHLA, D., SANKHLA, N., UPADHYAYA, A. & JOSHI, S., 1992. Influence of plant growth regulators on somatic embryogenesis, plantlet regeneration, and post transplant survival of *Echinochloa frumentacea*. *Plant Cell Rep.* 11, 368-371.

SANKHLA, N., DAVIS, T.D., UPADHYAYA, A., SANKHLA, D., WALSER, R.H. & SMITH, B.N., 1985. Growth and metabolism of soybean as affected by paclobutrazol. *Plant Cell Physiol.* 26(5), 913-921.

SCHUPP, J.R., FERREE, D.C. & WARRINGTON, I.J., 1992. Interaction of root pruning and deblossoming on growth, development, and yield of "Golden Delicious" apple. *J. Hort. Sci.* 67(4), 465-480.

SEBASTIAN, B., ALBERTO, G., EMILIO, A.C., JOSE, A.F. & JUAN, A.F., 2002. Growth, development and colour response of potted *Dianthus caryophyllus* cv. Mondriaan to paclobutrazol treatment. *Sci. Hort.* 1767, 1-7.

SHARMA, K.N. & THOMPSON, N.R. 1956. Relationship of starch grain size to specific gravity of potato tubers. *Quarterly Bul. Michigan Agr. Exp. Sta.* 38, 559-569.

SHIK, C.Y. & RAPPAPORT, L., 1970. Regulation of bud rest in tubers of potato (*Solanum tuberosum* L.) VII. Effect of abscisic and gibberellic acid on nucleic acid synthesis in excised buds. *Plant Physiol.* 45, 33-36.

SIMKO, I., 1991. *In vitro* potato tuberization after treatment with paclobutrazol. *Biologia* 46, 251-256.

SIMKO, I., 1994. Effects of paclobutrazol on in vitro formation of potato micro-tubers and their sprouting after storage. *Biol. Plant.* 36(1), 15-20.

- SIMKO, I., MANSCHOT, A., YANG, H.M., MCMURRY, S., DAVIES, P.J. & EWING, E.E., 1996. Analysis of polyamines in potato leaves. In: Abstracts of Conferences Papers, Posters and Demonstrations, 13<sup>th</sup> Triennial Conference of the European Association for Potato Research. QTL Analysis of abscisic acid in potato tubers, pp. 644-645.
- SMITH, E.F., GRIBAUDO, I., ROBERTS, A.V. & MOTTELY, J., 1992. Paclobutrazol and reduced humidity improves resistance to wilting in micro propagated grapevine. *HortScience* 27, 111-113.
- SMITH, O., 1968. Potato: Production, Storing and Processing. The Avil Publishing Company, Inc., Westport, Connecticut, London, pp. 16-22.
- SNYDER, R.G. & EWING, E.E. 1989. Interactive effect of temperature, photoperiod and cultivar on tuberization of potato cuttings. *HortScience*. 24, 336-338.
- SOLOMON, Y., 1987. Review of Potato Research Program in Ethiopia. In: Godfrey-Sam, A. & Bereke-Tsehay, T. (eds.), Proceedings of First Ethiopian Horticultural Crops Workshop. IAR, Addis Ababa.
- SONNEWALD, U., 1992. Expression of *E.coli* inorganic pyrophosphatase in transgenic plants alters photoassimilate partitioning. *The Plant J.* 2, 571–581.
- SOPHER, C.R., KRÒL, M., HUNER, N.P.A., MOORE, A.E. & FLETCHER, R.S., 1999. Chloroplastic changes associated with paclobutrazol-induced stress protection in maize seedling. *Can. J. Bot.* 77(2), 279-290.
- SOWOKINOS, J.R. & VARNS, J.L., 1992. Induction of sucrose synthase in potato tissue culture; Effect of carbon source and metabolic regulation on sink strength. I. *Plant Physiol.* 139, 672-679.
- SRIVASTAVA, M. & RAM, S., 1999. Paclobutrazol residues in the fruits of mango cultivars. *Jour. Appl. Hort.* 1(1), 27-28.

- STALLKNECHT, G.F., 1985. Tuber initiation in *Solanum tuberosum*. Effects of phytohormones and induced changes in nucleic acid and protein metabolism. In: Li, P.H. (ed.), Plant Physiology. Orlando, Academic Press, Inc., pp. 232-260.
- STALLKNECHT, G.F. & FARNSWORTH, S., 1982. General characteristics of coumarin-induced tuberization of axillary shoots of *Solanum tuberosum* L cultured *in vitro*. *Am. Potato J.* 59, 17-32.
- STARCK, Z., KOZINSKA, M. & SZANIAWSKI, R., 1979. Photosynthesis in tomato plants with modified source-sink relationship. In: Marcelle, R., Clijsters H. & Van Poucke, M. (eds.). Photosynthesis and plant development, Dr. W. Junk Publishers, Hague, The Netherlands
- STEFFENS, G.L., WANG, S.Y., FAUST, M. & BYUN, J.K., 1985. Growth, carbohydrate, and mineral element status of shoot and spur leaves and fruits of 'Spartan' apple trees treated with paclobutrazol. *J. Am. Soc. Hort. Sci.* 110, 4-8.
- STEFFENS, G.L., LIN, J.T., STAFFORD, A.E., METZGER, J.D. & HAZEBROEK, J.P., 1992. Gibberellin content of immature apple seeds from paclobutrazol treated trees over three seasons. *J. Plant Growth Regul.* 11, 165-170.
- STERRETT, J.P., 1988. XE-1019: Plant response, translocation and metabolism. *J. Plant Growth Regul.* 7, 19.
- STEWARD, F. C., MORENO, V., & ROCA, W.M., 1981. Growth, form and composition of potato plants as affected by environment. *Ann. Bot.* 48(2), 1-45.
- STITT, M., VON SCHAEWEN, A. & WILLMITZER, L., 1990. 'Sink' regulation of photosynthetic metabolism in transgenic tobacco plants expressing yeast invertase in their cell wall involves a decrease of the Calvin-cycle enzymes and an increase of glycolytic enzymes. *Planta* 183, 40-50

- STRUIK, P.C., 1986. Effects of shading during different stages of growth on development, yield and tuber size distribution of *Solanum tuberosum* L. *Am. Potato J.* 63, 457. (Abstr.)
- STRUIK, P.C. & KERCKHOFFS, H.J., 1991. Temperature effects on the development of shoots, stolons, tubers and roots in *Solanum tuberosum* L. Proc. Golden Jubilee Symp. Gen. Res. Educ: Current trends and the next fifty years.
- STRUIK, P. C. & VAN VOORST, G. 1986. Effects of drought on the initiation, yield and size distribution of tubers of *Solanum tuberosum* L. cv. Bintje. *Potato Res.* 29, 487-500.
- STRUIK, P.C., GEERTSEMA, J. & CUSTERS, C.H.M.G., 1989. Effects of shoot, root and stolon temperature on the development of potato (*Solanum tuberosum* L.) plant. Development of tubers. *Potato Res.* 32, 151-158.
- STRUIK, P.C., VREUGDENHIL, D., VAN ECK, H.J., BACHEM, C.B. & VISSER, R.G.F., 1999. Physiologic and genetic control of tuber formation. *Potato Res.* 42, 313-331.
- SUGAVANAM, B., 1984. Diastereoisomers and enantiomers of pacllobutrazol: their preparation and biological activity. *Pestic. Sci.* 15, 296-302.
- SUH, S.G., STIEKEMA, W.J. & HANNAPEL, D.J., 1991. Proteinase-inhibitor activity and wound-inducible expression of the 22-kDa potato-tuber proteins. *Planta* 184, 423–430.
- SUNG, S.S., XU, D. & BLACK, C.C., 1989. Identification of actively filling sucrose sinks. *Plant Physiol.* 89, 1117-1121.
- SUZUKI, R.M., KERBAUY, G.B. & ZAFFARI, G.R. 2004. Endogenous hormonal levels and growth of dark-incubated shoots of *Catasetum fimbriatum*. *J. Plant Physiol.* 161, 929-935.

- SWAMINATHAN, M.S. & SAWYER, R.L. 1983. The potential of potato as a world food.  
*In:* Hook, W.J. (ed.). Proceeding International Congress "Research for Potato in the Year 2000", CIP, Lima, Peru, pp. 3-10.
- SYMONS, P.R.R., HOFMAN, P.J. & WOLSTENHOLME, B.N. 1990. Responses to paclobutrazol of potted "Hass" avocado trees. *Acta Hort.* 275, 193-198.
- TAFAZOLI, E. & BEYL, C.A., 1993. Changes in endogenous abscisic acid and cold hardness in *Actinidia* treated with triazole growth retardants. *J. Plant Growth Regul.* 12, 79-83.
- TALBURT, W.F. & SMITH, O. 1967. Potato processing. The AVI publishing company. Inc. Westport Connecticut, USA, pp. 588.
- TAMAS, I.A., ATKINS, B.D., WARE, S.M. & BIDWELL, R.G.S., 1972. Indoleacetic acid stimulation of phosphorylation and bicarbonate fixation by chloroplast preparation ion light. *Can. J. Bot.* 50, 1523-1527.
- TERIESA, J., 1997. A Simple guide for potato production in Eastern Ethiopia, Alemaya University, Ethiopia.
- TERRI, W.S. & MILLIE, S.W., 2000. Growth retardants affect growth and flowering of Scaevola. *HortScience* 35(1), 36-38.
- THORNTON M.K., MALIK, N.J. & DWELLE, R.B., 1996. Relationship between leaf gas exchange characteristics and productivity of potato clones grown at different temperatures. *Am. Potato J.* 73, 63-77.
- TONKINSON, C.L., LYDON, R.L., ARNOLD, G.M. & LENTON, J.R., 1995. Effect of Rht3 dwarfing gene on dynamics of cell extension in wheat leaves, and its modification by gibberellin acid and paclobutrazol. *J. Expt. Bot.* 46, 1085-1092.

- TREHARNE, K.J. & STODDART, J.L., 1970. Effects of gibberellin and cytokinins on the activity of photosynthetic enzymes and plastid ribosomal RNA synthesis in *Phaseolus vulgaris* L. *Nature* 228, 129-131.
- TSEGAW, T. & ZELLEKE, A., 2002. Removal of reproductive growth increased yield and quality of potato (*Solanum tuberosum* L.) *Trop. Agric.* 79(2), 125-128.
- TURNER, A.D. & EWING E.E., 1988. Effects of photoperiod, night temperature, and irradiance on flower production in the potato. *Potato Res.* 31, 257-268.
- UPADHYAYA, A., DAVIS, T.D., LARSEN, M.H. & SANKHLA, N., 1990. Uniconazole-induced thermotolerance in soybean seedling root tissue. *Physiol. Plant.* 79, 78-84.
- VANDAM, J., KOOMAN, P.L. & STRUIK, P.C., 1996. Effects of temperature and photoperiod on early growth and final number of tubers in potato (*Solanum tuberosum* L.) *Potato Res.* 39, 51-62.
- VAN DEN BERG, J.H., EWING, E., PLAISTED, R.L., MCMURRY, S. & BONIERBALE, M.W., 1996. QTL analysis of potato tuberization. *Theor. Appl. Genet.* 93, 307-316.
- VAN DEN BERG, J.H., SIMKO, I., DAVIES, P.J., EWING, E.E. & HALINSKA, A., 1995. Morphology and (<sup>14</sup>C)gibberellin A<sub>12</sub> aldehyde metabolism in wild type and dwarf *Solanum tuberosum* spp. *andigena* grown under long and short photoperiods. *J. Plant Physiol.* 146, 467-473.
- VAN DEN BOOGAARD, R., 1994. Variation among wheat cultivars in efficiency of water use and growth parameters. PhD thesis, Utrecht University, The Netherlands.
- VAN DER ZAAG, D.E., 1984. Reliability and significance of simple method of estimating the potential yield of potato crop. *Potato Res.* 27, 51-73.
- VAN DER ZAAG, D.E. & VAN LOON, C.D., 1987. Effect of physiological age on growth vigour of seed potatoes of two cultivars. 5. Review of literature and integration of some experimental results. *Potato Res.* 30, 451-472.

- VANDER ZAAG, P., DEMAGANTE, A.L. & EWING, E.E., 1990. Influence of plant spacing on potato (*Solanum tuberosum* L.) morphology, growth, and yield under two contrasting environments. *Potato Res.* 33, 313-324.
- VAN GELDER, W.M.J., 1981. Conversion factor from nitrogen to protein for potato tuber protein. *Potato Res.* 24, 423-425.
- VAN HEEMST, H.D.J. 1986. The distribution of dry matter during growth of a potato crop. *Potato Res.* 29, 55-66.
- VEERMAN, A. & VAN LOON, C.D., 1993. Prevention of berry formation in potato plants (*Solanum tuberosum* L.) by single foliar applications of herbicides or growth regulators. *Potato Res.* 36, 135-142.
- VILLAFRANCA, M.J., VERAMENDI, J., SOTA, V. & MINGO-CASTEL, A.M., 1998. Effect of physiological age of mother tuber and number of subcultures on *in vitro* tuberization of potato (*Solanum tuberosum* L.). *Plant Cell Rep.* 17, 787-790.
- VINCE-PRUE, D., 1985. Photoperiod and hormones. *Encyclo. Plant Physiol.* 11, 308-364.
- VISSEER, C., FLETCHER, R.A. & SAXENA, P.K., 1992. Thidaizuron stimulates expansion of and greening in cucumber cotyledons. *Physiol. Mol. Biol. Plants* 1, 21-26.
- VISSEER, R.G.F., VREUGDENHIL, D., HENDRIX, T. & JACOBSEN, E., 1994. Gene expression and carbohydrate content during stolon to tuber transition in potatoes (*Solanum tuberosum* L.). *Physiol Plant.* 90, 285-292.
- VOS, J., 1995. The effects of nitrogen supply and stem density on leaf attributes and stem branching in potato. *Potato Res.* 38, 271-279.
- VREUGDENHIL, D., & SERGEEVA, L.I., 1999. Gibberellins and tuberization in potato. *Potato Res.* 42, 471-481.
- VREUGDENHIL, D. & STRUIK, P.C., 1989. An integrated view of hormonal regulation of tuber formation in potato (*Solanum tuberosum* L.). *Physiol. Plant.* 75, 525-531.

- VREUGDENHIL, D. & STRUIK, P.C., 1990. Hormonal regulation of tuber formation. In: EAPR abstracts of conference papers and posters, 11<sup>th</sup> triennial conference of the European Association of Potato Research, Edinburgh, pp. 37-38.
- WANG, L.H. & LIN, C.H., 1992. The effect of paclobutrazol on physiology and biochemical changes in primary roots of pea. *J. Exp. Bot.* 43, 1367-1372.
- WANG, S.Y., BYUN, J.K., STEFFENS, G.L., 1985. Controlling plant growth via the gibberellin biosynthesis system. II. Biochemical and physiological alterations in apple seedlings. *Physiol. Plant.* 63, 169-175.
- WAREING, P.F., 1968. The physiology of the whole tree. Report E. Malling Research Station for 1967, pp. 55-68.
- WAREING, P.F. & JENNINGS, A.M.V., 1980. The hormonal control of tuberization in potato. In: Skoog, F. (ed.), *Plant growth substances*. Berlin, Spring-Verlag. pp. 293-300.
- WEDGWOOD, R.B., 1988. Control of berry production of potato plants. *J. Agri. Sci.* 110, 39-46.
- WENZEL, C., WILLIAMSON, R.E. & WASTENEYS, G.O., 2000. Gibberellin induced changes in growth anisotropy precede gibberellin dependent changes in cortical microtubule orientation in developing epidermal cells of barley leaves. Kinematics and cytological studies on gibberellin-responsive dwarf mutant, M489. *Plant Physiol.* 124, 813-822.
- WERF, A., 1996. Growth analysis and photoassimilate partitioning In: Zamski, E. & Schaffer, A.A. (eds.) *Photoassimilate distribution in plants and crops: Source-sink relationship*. Marcel Dekker Inc., pp. 1-20.
- WHEELER, R.M. & TIBBITTS, T.W., 1986. Growth and tuberization of potato (*Solanum tuberosum* L.) under continuous light. *Plant Physiol.* 80, 801-804.

- WHEELER, R.M., STEFFEN, K.L., TIBBITTS, T.W. & PALTA, P., 1986. Utilization of potatoes for life support in space. II. The effects of temperature under 24-h and 12-h photoperiods. *Am. Potato J.* 63, 639-647.
- WHITAKER, B.D. & WANG, C.Y., 1987. Effects of paclobutrazol and chilling on leaf membrane lipids in cucumber seedlings. *Physiol. Plant.* 70, 404-411.
- WIELAND, W.F. & WAMPLE, R.L., 1985. Root growth, water relation and mineral uptake of young ‘Delicious’ apple trees treated with soil and stem applied paclobutrazol. *Sci. Hort.* 26, 129-137.
- WILSON, D. & COOPER, J.P., 1970. Effect of selection for mesophyll cell size on growth and assimilation in *Lolium perenne* L. *New Phytol.* 69, 233-245.
- WILSON, J.H. & MLINDSAY, A., 1969. The relation between specific gravity and dry matter content of potato tubers. *Am. Potato J.* 64, 323-328.
- WITCHARD, M., 1997. Paclobutrazol is phloem mobile in castor oil plants (*Ricinus communis* L.). *J. Plant Growth Regul.* 16, 215-217.
- WOLF, S., MARANI, A. & RUDICH, J., 1990. Effects of temperature and photoperiod on assimilate partitioning in potato plant. *Ann. Bot.* 66, 515-520.
- WOOD, D.W. & SCOTT, R.K., 1975. Sowing sugar beet in autumn in England. *J. Agri. Sci.* 10, 399-408.
- WURR, D.C.E., 1977. Some observation on patterns of tuber formation and growth in potato. *Potato Res.* 20, 63-75.
- XU, X., VREUGDENHUIJSEN, D.V. & VAN LAMMEREN, A.M., 1998. Cell division and enlargement during potato tuber formation. *J. Exp. Bot.* 49 (320), 573-582.
- YELENOSKY, G., VU, J.C.V. & WUTSCHER, H.K., 1995. Influence of paclobutrazol in the soil on growth, nutrient elements in the leaves, and flood/freeze tolerance of citrus rootstock seedlings. *J. Plant Growth Regul.* 14, 129-134.

YESHITELA, T., ROBBERTSE, P.J. & STASSEN, P.J.C., 2004. Paclobutrazol suppressed vegetative growth and improved yield as well as fruit quality of ‘Tommy Atkins’ mango (*Mangifera indica*) in Ethiopia. *New Zealand J. Crop Hort. Sci.* 32, 281-293.

YIM, K.O., KWON, Y.W. & BAYER, D.E., 1997. Growth responses and allocation of assimilates of rice seedlings by paclobutrazol and gibberellin treatment. *J. Plant Growth Regul.* 16, 35-41.

ZEEVAART, J.A.D., 1964. Effects of the growth retardant CCC on floral initiation and growth in *Pharbitis nil*. *Plant Physiol.* 39, 402-408.

ZEEVAART, J.A.D., GAGE, D.A. & CREELMAN, R.A., 1990. Recent studies of the metabolism of abscisic acid. In: Pharis, R.P. & Rood, S.B. (eds.), plant growth substances. Springer-Verlag, Heidelberg, Germany.

ZHOU, W. & XI., H., 1993. Effects of mixatalol and paclobutrazol on photosynthesis and yield of rape (*Brassica napus*). *J. Plant Growth Regul.* 12, 157-161.

ZHU, L., VAN DE PEPPEL, A. & LI, X., 2004. Changes of leaf water potential and endogenous cytokinins in young apple trees treated with or without paclobutrazol under drought conditions. *Sci. Hort.* 99, 133-141.