

DAFTAR PUSTAKA

- Achmad, SA, 1986. Buku Materi Pokok Kimia Organik Bahan Alam. Universitas Terbuka. Karunia. Jakarta.
- Alberdi, M and LJ Corcuera, 1991. Cold Acclimation in Plants. **Phytochem.** 30(10) : 3177-3184.
- Allison, LE, WB Ballen and CD Moodie, 1965. Total Carbon. *Dalam* : Sudjadi, M; IM Widjik dan M Soleh, 1971. Penuntun Analisa Tanah. Bagian Kesuburan Tanah. Lembaga Penelitian Tanah. Bogor.
- Andrijany, VS, 1988. Efek Simultan Ion-ion Logam Ca^{2+} , Mg^{2+} , Cu^{2+} dan Co^{2+} Terhadap Akumulasi Sapogenin Steroid dan Pertumbuhan Kalus *Agave amaninensis* Trel-Nowell. **Tesis**. Program Pascasarjana, Universitas Airlangga. Surabaya.
- Anonymous, 1985. Dasar-dasar Ilmu Tanah. Jurusan Ilmu Tanah, Fakultas Pertanian Universitas Brawijaya. Malang.
- _____, 1991. Kimia Tanah. Direktorat Jenderal Pendidikan Tinggi, Departemen Pendidikan dan Kebudayaan. Jakarta.
- _____, 1993. **Biochemical Pathways**. Ed. : Gerhard M. Boehringer Mannheim. Germany.
- Alva, AK, JH Graham and DPH Tucker, 1993. Role of Calcium in Amelioration of Copper Phytotoxicity for *Citrus*. **Soil Science** 155(3): 211-384.
- Backer, CA and RCB van den Brink, 1968. **Flora of Java** (Spermatophytes Only). Vol. III. Wolters-Noordhoff. NV. Groningen, The Netherlands.
- Bidwell, RGS, 1979. **Plant Physiology**. Second edition. Mac Millan Publishing Co. Inc. New York.
- Borner, J and JE Varner, 1976. **Plant Biochemistry**. Third edition. Academic Press. New York.

- Burden, RS, DTCoke and GACarter, 1989. Inhibitor of Sterol Biosynthesis and Growth in Plants and Fungi. **Phytochem.** 28(7) : 1791-1804.
- Burke, JJ and MJ Oliver, 1993. Optimal Thermal Environments for Plant Metabolic Processes (*Cucumis sativus* L.). **Plant Physiol.** 102 : 295-1804.
- Chapman, HD, 1966. **Diagnosis Criteria for Plants and Soils.** Eurasia Publish. House (p) Ltd. Ram Nagar, New Delhi.
- Crocomo, OJ, E. Aquarone and OR Gottlieb, 1981. Biosynthesis of Secondary Products in Vitro *In* : **Plant Tissue Culture, Methods and Applications in Agriculture.** Edited by Thorpe, TA. Academic Press. New York.
- Croteau, R, F Karp, KC Waschal, DM Satterwhite, DC Hyatt and CB Scotland, 1991. Biochemical Characterization of a Spearmint Mutant that Resembles Peppermint in Monoterpene Content. **Plant Physiol.** 96 : 744-752.
- Curry, KJ, 1987. Initiation of Terpenoid Synthesis in Osmophores of *Stanhopea anfracta* (Orchidaceae): A Phytochemical Study. **Amer. J. Bot.** 74(9) : 1332-1338.
- DeMan, JM, 1976. **Principles of Food Chemistry.** The AVI Publishing Co. Inc. New York.
- Emma, ST, 1989. Pengaruh Beberapa Komponen Media Murashige & Skoog Yang Dimodifikasi Terhadap Kandungan Steroida Kalus *Agave amaniensis* Trel-Nowell. **Tesis.** Fakultas Pascasarjana, Universitas Airlangga. Surabaya.
- Emiliawati, S, 1994. Pengaruh Ion Ca(II) Terhadap Kandungan Diosgenin Pada Kultur Tunas *Costus speciosus* (Koen) Sm. **Skripsi.** Fakultas Farmasi, Universitas Airlangga. Surabaya.

- Fathiyah, 1996. Pengaruh Kadar Ion Ca^{2+} dan Mg^{2+} Pada Biomassa Terhadap Pertumbuhan dan Pembentukan Sapogenin Steroid Kalus *Agave amaniensis* Trel-Nowell. **Skripsi**. Fakultas Farmasi, Universitas Airlangga. Surabaya.
- Fessenden, RJ and JS Fessenden, 1992. Kimia Organik. *Penerjemah* : A.H. Pudjaatmaka. Edisi ketiga. Erlangga. Jakarta.
- Firck, HA and T. Verwijst, 1993. Plant Viability as a Function of Temperature Stress. The Richard Function Applied to Data from Freezing Tests of Growing Shoots. **Plant Physiol.** 103 : 125-130.
- Gardner, FP, RB Fearce and RL Mitchell, 1991. Fisiologi Tanaman Budidaya. *Penerjemah* : Herawati Susilo dan Subiyanto. UI Press. Jakarta.
- Giner, JL and C Djerassi, 1991. Biosynthesis of 24- Methylene- 25- Methylcholesterol in *Phaseolus vulgaris*. **Phytochem.** 30(3) : 811-814.
- Greenberg, AE., LS. Clesceri and AD. Eaton, 1993. Standard Methods for the Examination of Water and Waste Water. **Americans Official of Analytical Chemist.**
- Greene, RM, RJ Geider, Z Kolber and PG Falkowski, 1992. Iron-induced Changes in Light Harvesting and Phytochemical Energy Conversion Processes in Eukaryotic Marine Algae. **Plant. Physiol.** 100 : 565-575.
- Gunarto, L, 1992. Tanggapan Tanaman Jagung Terhadap Pemberian N, P, K dan Unsur Mikro di Regosol-Meliana, Timor Timur. **Agrivita** 15 (2) : 65-69.
- Haughan, PA, RS. Burden, JR Lenton and LJ Goad, 1989. Inhibition of Celery Cell Growth and Sterol Biosynthesis by the Enantiomers of Paclobutrazol. **Phytochem.** 28 (3) : 781-787.
- Holden, MA, PR Holden and MM Yeoman, 1988. Elicitation of Cell Culture. *In* : **Manipulating Secondary Metabolism in Culture**. Edited by : Robin, R.J. and MJS. Rhides. Cambridge University Press.

- Huang, LS and C Grundwals, 1989. Mevalonate Incorporation Into *Alfalfa* Sterol. **Phytochem.** 28 (2) : 465-468.
- Indrayanto, G, 1994. Pengaruh Beberapa Sumber Karbon Terhadap Kecepatan Pertumbuhan dan Produktivitas Relatif Hekogenin Kultur Kalus *Agave amaniensis* Trel-Nowell. **Majalah Farmasi Airlangga.** Surabaya.
- _____, L Rahayu, A Rahman dan PE Noeraini, 1993. Effect of Calcium, Strontium and Magnesium Ions on the Formation of Phytosterols in Callus Cultures of *Agave amaniensis* Trel-Nowell. **Planta Med.** 59 : 97-98.
- _____, G, 1994. Metoda Validasi Pada Analisis Kimia. Dalam : Pensahihan Analisa KCKT dan Densitometer KLT. **Prosiding Pendidikan Berkelanjutan Apoteker** Nomer 7 Fakultas Farmasi-Ikatan Sarjana Farmasi Indonesia. Surabaya.
- _____, W Utami and A Syahrani, 1996, *Agave amaniensis* Trel & Nowell; In Vitro Cultures and Production of Phytosteroids. Ed. Bajaj, YPS. Medicinal and Aromatic Plants IX, **Biotechnology in Agriculture and Forestry** 37:1-14. Springer-Verlag, Berlin Heidenberg.
- Issac, RA and JD Kerber, 1971. Atomic Absorption and Flame Photometry : Techniques and Uses in Soil, Plant and Water Analysis. *Dalam* : Sudjadi, M; IM Widjik dan M Soleh, 1971. Penuntun Analisa Tanah. Bagian Kesuburan Tanah. Lembaga Penelitian Tanah. Bogor.
- Januwati, M, 1985. Adaptasi *Costus/Solanum* Terhadap Lingkungan di Daerah Jawa Barat. *Dalam* : **Makalah Seminar Nasional Produksi Bahan Baku Dasar Kontrasepsi Oral.** Kimia Farma. Jakarta.
- Johnes, Jr, JB, 1972. Plant Tissue Analysis for Micronutrients. *In* : **Micronutrients in Agriculture** Editor : Mortveddt, JJ. and PM. Giordano and WL. Lindsay. Soil Science Society Amer. Publish. Madison, Winconsin.

- Kadkade, PG and C Rolsz, 1977. Steroidal Alkaloids of *Solanum accule-atissium*. **Phytochem.** 16 (7) : 1128.
- Kamaludin, M and J Grace, 1992. Photoinhibition and Ligh Acclimation in Seedling of *Bischofia javanica*, a Tropical Forest Tree from Asia. **Annals of Botany** 69 : 47-52.
- Khalil, IA and EI Mercer, 1990. Effect of Some Sterol-Biosynthesis-Inhibiting Fungicides on the Biosynthesis of Poliisoprenoide Compounds in Winter Wheat Seedling. **Phytochem.** 29 (2) : 417-424.
- Kusmawati, NEAK, 1994. Pengaruh Cu (II) dan Ion Co (II) Terhadap Kandungan Sapogenin Steroid Kalus *Agave amaniensis* Trel- Nowell Pada Media MS Yang Dimodifikasi Tanpa Ion Ca. **Skripsi**. Fakultas Farmasi, Universitas Airlangga. Surabaya.
- Last, PJ and KMR Bean, 1991. Controlling Manganese Deficiency in Sugar beet with Foliar Sprays. **Journ. Of. Agric. Sci.** 116 : 351-358.
- Lubis, I dan S Sastrapradja, 1980. Penelitian Kandungan Diosgenin Pada *Costus*. Dalam : **Perkembangan Penelitian Tanaman Rempah dan Obat**. Edisi khusus No. 1. Balai Penelitian Rempah dan Obat. Bogor.
- Mattoo, AK, RA Mehta and JE Baker, 1992. Copper-Induced Ethylene Biosynthesis in Terrestrial (*Nicotiana tabacum* and Aquatic (*Spirodela oligorrhiza*) Higher Plants. **Phytochem.** 31(2) : 405-409.
- Midmore, DJ and RK Prance, 1992. Growth Responses of Two *Solanum* Species to Contrasting Temperature and Irradiance Levels : Relation to Photosynthesis, Dark Respiration and Chlorophyll Flourescence. **Annals of Botany** 97 : 76-81.
- Mulyati, RS, 1988. Pengaruh Pemberian Boron dan Tembaga Melalui Daun Terhadap Pertumbuhan, Produksi dan Kandungan Solasodin *Solanum khasianum* Clarke. **Tesis**. Program Pasca sarjana. Institut Pertanian Bogor. Bogor.

- Nakanishi, K, T. Goto, S Ito, S Natori and S Nozoe, 1974. **Natural Product Chemistry**. Vol. 1. Kodansha Academic Press Inc. Tokyo, New York, London.
- Nishi, A, 1994. Effect of Elicitors on the Production of Secondary Metabolites. *In* : **Advances in Plant Biotechnology**. Ed. Ryu, DDY. And S. Furusaki. Elsevier Publish. Co. Inc. Tokyo.
- Noeraini, PE, 1992. Pengaruh Ion Kalsium Terhadap Kandungan Fito-steroid Kalus *Agave amaniensis* Trel-Nowell. **Skripsi**. Fakultas Farmasi, Univer-sitas Airlangga. Surabaya.
- Nuliyantini, D, 1989. Pengaruh Sumber Nitrogen Terhadap Kecepatan Pertumbuhan dan Profil Kandungan Steroid Kalus *Solanum indicum* L. **Skripsi**. Fakultas Farmasi, Universitas Airlangga. Surabaya.
- Ojeniyi, SO, and GO Kayode, 1993. Response of Maize to Copper and Sulphur in Tropical Region. **Journ. Of Agric. Sci.** 120 : 295-299.
- Olsen, SR, CV Cole, FS Wabatabe and LA Dean, 1954. Estimation of Available Phosphorus in Soils by Extraction with Sodium Bicarbonate. *Dalam* : Sudjadi, M; IM Widjik dan M Soleh, 1971. Penuntun Analisa Tanah. Bagian Kesuburan Tanah. Lembaga Penelitian Tanah. Bogor.
- Paczkowski, C, J Zimowski, D Krawczyk and ZA Wojciechowski, 1990. Steroid-Specific Glucosyl-transferases in *Asparagus plumosus* Shoots. **Phytochem.** 29(3) : 63-70.
- Patterson, GW, S Hugly and D Harrison, 1993. Sterol and Phytol Ester of *Arabidopsis thaliana* Under Normal and Chilling Temperatures. **Phytochem.** 33 (6) : 1381-1383.
- Pecsok, RL, LD Shield, T Chairn and IG McMillan, 1976. **Modern Method of Chemical Analysis**. Second edition. John Wiley and Sons. New York.

- Pich, A; G Scholz and UW Stephan, 1994. Iron-dependent Changes of Heavy Metals, Nicotinamine and Citrate in Different Plant Organs and in Xylem Exudate of Two Tomato Genotypes. Nicotianamine as possible copper translocator.
- Polle, A.; K. Chakrabarti, S Chakrabarti, F Seifert, P Schramel and H Rennenberg, 1991. Antioxidants and Manganese Deficiency in Needles of Norway Spruce (*Picea abies*) Trees. **Plant Physiol.** 99 : 1084-1089.
- Prave, P; U. Faust, W Sittig and DA Sukatsch, 1987. **Basic Biotechnology.** A Student Guide. Translator : BJ. Hazzard. CH, Weinheim. Federal Republic of Germany.
- Raskin, H; PBAN Kumar, S Dushenkov and DE Salt, 1991. Bioconcentration of Heavy Metals by Plants. Review Article. **Current Opinion in Biotechnology** 5 : 2895-2901
- Robinson, T, 1964. **The Organic Constituents of Higher Plants.** Burgess Publishing. Miniapolis.
- Samino, S; S Yitnosumarto dan M Soedaryanto, 1993. Pengaruh Pemberian Triakontanol dan Auksin Serta Interaksinya Terhadap Kandungan Solasodin Buah (*Solanum khasianum* Clarke). **Jurnal Universitas Brawijaya** 5 (1) : 29-34.
- Santosa, Budi, 1984. Konsep dan Prosedur Analisa Tanaman. Jurusan Ilmu Tanah, Fakultas Pertanian, Universitas Brawijaya. Malang.
- Santosa, Beny, 1992. Pengaruh Pemberian Boron Terhadap Produksi Kacang Tanah (*Arachis hypogaeae* L.) Pada Tanah Mediteran (Alfisol) Jawa Timur. **Skripsi.** Fakultas Pertanian, Universitas Brawijaya. Malang.
- Shetty, K and OF Curtis, 1995. Biotechnology of Plant Secondary Metabolites and their Applications in Food. **Prosiding Widyakarya Nasional Khasiat Makanan Tradisional.** Kantor Menteri Negara Urusan Pangan RI. Jakarta.

- Sillanpaa, M, 1972. Trace Elements in Soils and Agriculture. Food and Agriculture. Organization of the United Nation. **FAO Soil Bull.** No. 17.
- daSilva, JJE and RJP Williams, 1991. **The Biological Chemistry of the Elements.** The Inorganic Chemistry of Life. Clarendon Press. Oxford.
- Sitompul, SM and B Guritno, 1995. Analisis Pertumbuhan Tanaman Gajah Mada University Press. Yogyakarta.
- Stefanov, K; Y Markovska, G Kimenov and S Popov, 1992. Lipid and Sterol Changes in Leaves of *Herbelea rhodopensis* and *Ramonda serbica* at Transition from Biosis into Anabiosis and Vice Versa Caused by Water Stress **Phytochem.** 31 (7) : 2309-2314.
- Stefanov, K; I Popov, B Nikolova-Damyanova, G Kimenov and S Popov, 1992. Lipid and Sterol Changes in *Phaseolus vulgaris* Caused by Lead ions. **Phytochem.** 312(11) : 3745-3738.
- Stefanov, K; I Popov, E Kamburova, T Pancheva, G Kimenov, L Kuleva and S Popov, 1993. Lipid and Sterol Changes in *Zea mays* Caused by Lead Ions. **Phytochem.** 33 (1) : 47-51.
- Stevenson, FG, 1994. **Humus Chemistry.** John Willey and Sons. London, New York, Sidney, Toronto.
- Sudarmadji, S; B Haryono dan Suhardi, 1985. Penuntun Analisis Kimia Hasil Pertanian. Liberty. Yogyakarta.
- Sudiarto, 1984. Kemungkinan Pembudidayaan Tanaman Penghasil Diosgenin dan Solasodin di Indonesia. **Makalah Seminar Nasional II Bahan Baku Kontrasepsi Pil.** Badan Penelitian Tanaman Industri. Bogor.
- Sudjadi, M; IM Widjik dan M Soleh, 1971. Penuntun Analisa Tanah. Bagian Kesuburan Tanah. Lembaga Penelitian Tanah. Bogor.

- Sumadi, 1991. Catatan Untuk Analisis Runut Guna Mengendalikan Cemaran dan Kontaminan Kimia. **Majalah Kimia Indonesia** 3 (1) : 1-7.
- Sunarlin, E, 1989. Pengaruh Sumber P Terhadap Kecepatan Tumbuh dan Profil Kandungan Steroid *Agave amaniensis* Trel-Nowell. **Skripsi**. Fakultas Farmasi, Universitas Airlangga. Surabaya.
- Sumarno, 1985. Analisis dan Uji Tanah. Jurusan Ilmu Tanah, Fakultas Pertanian, Universitas Brawijaya. Malang.
- Supanji, 1984. Pengaruh Pupuk N dan K Terhadap Produksi Bobotkering Umbi dan kadar Pati Tanaman Uwi (*Dioscorea alata* L.) pada Tanah Kambisol Humik Desa Sumber kembar, Dampit, Malang. **Skripsi**. Fakultas Pertanian, Univ. Brawijaya. Malang.
- Supriyanto, A, 1991. Pengaruh Sumber Karbon Terhadap Kecepatan Pertumbuhan dan Kandungan Steroid Kalus *Dioscorea pentaphylla*. **Skripsi**. Fakultas Farmasi, Universitas Airlangga. Surabaya.
- Susilowati, E, 1983. Pengaruh Penambahan Ca, Mg, Cu dan Zn Terhadap Produksi Tanaman Kentang Varetas Desire Yang Dipupuk NPK Pada Sandosol Sumber Brantas. **Skripsi**. Fakultas Pertanian, Universitas Brawijaya. Malang.
- Suyono, B Sugianto dan PR Wikandari, 1997. Kapasitas Penukaran Kation Pb dan Cd Dalam Air Oleh Asam Humat *Tletong*. **Laporan hasil penelitian**. Proyek Litmud Ditjen Dikti Depdikbud-IKIP Surabaya.
- Suyono, PR. Wikandari dan Suherman, 1997. Isolasi dan Karakterisasi Asam Humat Lumpur Limbah Domestik. **Laporan hasil penelitian**. Proyek Litmud, Ditjen Dikti (Depdikbud)-IKIP Surabaya.
- Syekhfani, 1985. Hubungan Cu, Zn dan Unsur Lain Dengan Penyakit Kalimati Pada Tebu (*Saccharum officinarum* L.) Tegalan di Manyingsal, Subang, Jawa Barat. **Disertasi**. Program Pascasarjana IPB. Bogor.

- Syekhfani, 1998. *Dasar-dasar Ilmu Tanah*. Program Pascasarjana, Universitas Brawijaya, Malang.
- _____, 1998. *Hara-Air-Tanah-Tanaman*. Jurusan Tanah, Fakultas Pertanian, Universitas Brawijaya. Malang.
- Tarigan, P, 1980. *Beberapa Aspek Kimia Sapogenin Steroid Pada Tumbuhan di Indonesia (Dalam usaha mencari bahan baku steroid)*. **Disertasi**. Program Pascasarjana, Universitas Padjadjaran. Bandung.
- Tedder, JM; A Nechvatal, AW Murray and J Camduff, 1972. **Basic organic Chemistry**. John Wiley and sons. London, New York, Sidney, Toronto.
- Trease, GE and WC Evans, 1985. **Pharmacognosy**. Twelf edition. ELBS. Eastbourne.
- Treshow, 1961. **Environment and Plant Response**. McGraw-Hill Publication in the Agriculture Science.
- Uritani, I, 1975. *Physiology of Cu and Zn*. *In : Significance of Minor Elements of Plant Physiology*. Editor : Okajima, H., I. Uritani and HK. Huang. Food and Fertilizer Technology Center ASPAC. Taipei, Taiwan.
- Van Steenis, 1978. *Flora Untuk Sekolah di Indonesia*. PT. Pradnya Paramita. Jakarta.
- Van Loon, JC., 1980. **Analytical Atomic Absorption Spectroscopy**. Selected Methods. Academic Press. New York.
- Weber, MB; H Schat and WMTB Van der Maarel, 1991. *The Effect of Copper Toxicity on the Contents of Nitrogen Compounds in *Silene vulgaris* (Moench) Garcke*. **Plant and Soils** 133 : 101-109.
- Worokarti, 1991. *Pengaruh P Terhadap Kandungan Hekogenin Pada Kalus *Agave amaniensis* Trel-Nowell*. **Skripsi**. Fakultas Farmasi, Universitas Airlangga. Surabaya.

- Zancani, M; G Nagy, A Vianello and F Macri., 1985. Copper-inhibited NADH-dependent Peroxidase Activity of Purified *Soya bean* Plasma Membranes. **Phytochem.** 40(2): 367-371.
- Zubadia, B, 1991. Pengaruh Sumber Karbon Terhadap Pertumbuhan dan Kandungan Steroid Kalus *Agave amaniensis* Trel-Nowell. **Skripsi.** Fakultas Farmasi, Universitas Airlangga. Surabaya.
- Zuraidah, 1994. Pengaruh Ion Mg Terhadap Pembentukan Sapogenin Steroid Kalus *Agave amaniensis* Trel-Nowell. **Skripsi.** Fakultas Farmasi, Universitas Airlangga. Surabaya.