UNIVERSITAS GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT
PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Aina O, Quesenberry K, Gallo M. 2012. In vitro induction of tetraploids in *Arachis paraguariensis*. *Plant Cell Tiss Organ Cult* 1–8. doi:10.1007/s11240-012-0191-0

Akhtar, M.S., Yoko, O., Tadashi, A., and Md. H.R. Khan. 2007. Analyses of Genetic Parameters (Variability, Heritability, Genetic Advanced, Relationship of Yield and Yield Contributing Characters) for Some Plant Traits Among *Brassica* Cultivars Under Phosphorus Starved Environmental Cues. J. Faculty Environ. *Sci. Tech*. 12(12):91-98.

Allard, R.W. 1995. *Pemuliaan Tanaman Jilid 2*. Terjemahan Manna. Edisi ke dua. PT. Rineka Cipta. Jakarta. 642 p.

Amiri S, Kazemitabaar S, Ranjbar G, Azadbakht M.. 2010. The Effect of Trifluralin and Colchicine Treatments On Morphological Characteristics of Jimsonweed (*Datura stramonium* L.). *Trakia J Sci* 8(4):47–61

Aryanti, Maria Bintang, Tri Muji Ermayanti and Ika Mariska. 2001. Production of Antileukemic Agent In Untransformed And Transformed Root Cultures of *Artemisia cina*. *Annales Bogorienses n.s. Vol.8 no.1*

Bodem J, Dobreva G, Hoffmann-Rohrer U, Iben S, Zentgraf H, Delius H, Vingron M, Grummt I. 2000. TIF-IA The Factor Mediating Growth-Dependent Control of Ribosomal RNA Synthesis Is The Mammalian Homolog Of Yeast Rrn3p. EMBO Reports 1, 171-5

UNIVERSITAS GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT
PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Chahal, G.S., Gosal S.S. 2002. *Principles and procedures of Plant Breeding biotechnological and conventional approaches*. Alpha Science International Ltd. Harrow, U.K, pp.413-428.

Cota J.H., and Wallace R.S. 1995. Karyotypic Studies In The Genus *Echinocereus* (Cactaceae) And Their Taxonomic Significance. Caryologia Vol.48, n.2:105-122

D'Amato F. 1952. Polyploidy In The Differentiation And Function of Tissues And Cells In Plants. *Caryologia* 4, 311-358.

Dahnum Deliana, Haznan Abimanyu, and Ahmad Senjaya. 2012. Isolation of Artemisinin As Antimalarial Drugs From *Artemisia annua* L. Cultivated In Indonesia. *International Journal Of Basic & Applied Sciences Ijbas-Ijens Vol:12 No:04.*

Dean, C. and R.M, Leech, 1982. Genome Expression During Normal Leaf Development. 2. Direct Correlation Between Ribulose Bisphosphate Carboxylase Content and Nuclear Ploidy In A Polyploid Series of Wheat. *Plant Physiol*., 70: 1605–1608

DeJesus Larry. 2003. *Effects Of Artificial Polyploidy In Transformed Roots Of Artemisia annua* L. Worcester Polytechnic Institute. USA.

Departemen Kesehatan R.I. 1991. *Inventaris Tanaman Obat Indonesia*. Edisi I. Departemen Kesehatan R.I. Badan Penelitian dan Pengembangan Kesehatan.

Dhawan, O.P., Lavania, U.C. 1996. Enhancing The Productivity Of Secondary Metabolites Via Induced Polyploidy: A Review. *Euphytica. 87:* 81-89.

UNIVERSITAS
GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Dinarti, D.; Yudiwanti dan Rahayuningsih, S. 2006. Pengaruh Kolkisin Terhadap Kevarianan Fenotipe dan Jumlah Kromosom Jahe Emprit (*Zingiber officinale* L. Asal In Vitro, p. 88–91. Dalam Sujiprihati et al., Sinergi Bioteknologi dan Pemuliaan Tanaman dalam Perbaikan Tanaman. Prosiding, *Seminar Nasional Bioteknologi dan Pemuliaan Tanaman*. Departemen Agronomi dan Hortikultura Fakultas Pertanian IPB Bogor, 1 – 2 Agustus 2006.

Duke, J.A. 1992. Dr. *Dukes Phytochemical and Ethnobotanical Databases*. Electronic Version. www.ars-grin.gov. USDA – ARS – NGRL, Beltsville Agricultural Research Centre, Beltsville. Maryland.

Ermayanti Tri Muji, Oktavia Yanti, and Erwin Al Hafiizh. 2004. *Cytological Analysis Of Root Culture Of Artemisia Cina.* Research Centre For Biothechnology. Indonesian Institute Of Science (Lipi).

Falconer, D.S. and T.F.C. Mackay. 1996. *Introduction to quantitative genetic*. 4th edition. Addison Wesley Longman, Essex, UK.

Galbraith *et al.* 1991. Systemic Endopolyploidy in *Arabidopsis thaliana*. *Plant Physiology* 96: 985–989.

Gao, S.L., Zhu, D.N., Cai, Z.H., Xu, D.R. 1996. Autotetraploid Plants Form Colchicine-Treated Bud Culture of *Salvia miltiorrhiza* Bge. *Plant Cell Tiss. Org. Cult*. 47:73-77.

Gunarso W, 1989. *Penuntun Praktikum Sitogenetika*. PAU Institut Pertanian Bogor. Bogor

UNIVERSITAS
GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Hagerup, O. 1932. Polyploidy In Relation To Climate, Oncology, and Phylogeny. *Hereditas* 16: 19–40.

Herawati, R. Purwoko, B.S. Dewi I.S. 2009. Keragaman Genetik dan Karakter Agronomi Galur Haploid Ganda Padi Gogo dengan Sifat-Sifat Tipe Baru Hasil Kultur Antera. *J.Agron. Indonesia 37(2):87-94*.

Herawati, M.M. 2014. Induksi Poliploidi Secara In Vitro untuk Meningkatkan Biosintesis Artemisinin Pada *Artemisia cina* berg ex poljakov. *Disertasi tidak dipublikasikan*. Universitas Kristen Satya Wacana. Salatiga

Hetharie, H. 2003. *Perbaikan sifat tanaman melalui pemuliaan poliploidi. Makalah Individu Pengantar Falsafah Sains (PPS702).* Program Pascasarjana S3 Institut Pertanian Bogor. http://pttipb.wordpress.com. Diakses tanggal 12 Februari 2009.

Hiscox J.D., Israelstam G.F. 1979. A Method For The Extraction of Chlorophyll From Leaf Tissue Without Maceration. *Canadian Journal of Botany* 57: 1332–1334.

Huyluoglu Zekiye, Meral Unal, and Narcin Palavan. 2008. Cytological Evidences of The Role Of Meta-Topolin and Benzyladenin In Barley Root Tips. *Advances in Molecular Biology* (1): 31-37.

Ingle J,**.** **,** Pearsong,. G. & Sinclair J. 1973**.** Species Distribution and Properties of Nuclear Satellite DNA In Higher Plants. *Nature, New Biology 242*, 193-197.

UNIVERSITAS GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT
PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Jadrna P., Plavcova O., Kobza F. 2009. Polyploidization of *Pelargonium* × *hortorum* L.H. Bailey In Greenhouse Conditions. *Horticultural Science (Prague)*, *1*: 32–38.

Kaymak F., T. Gul, and F.D.G Muranli. 2006. Genotoxic Effects of Avenoxan on *Allium cepa* L. and *Allium sativum* L. *Caryologia*, 59 (3), 241.

Keeler HK and Davis GA (1999) Comparison of Commom Cytotypes of *Andropogon gerardii* (Andropogoneae, Poaceae). *Am Bot* 86:974-979

Lavania, U.C. 1988. Development of Fertile Autotetraploid Strain in *Hyoscyamus muticus* L. *Trop. Agric*. 65:277-278.

Levan A, Fredga K., and Standberg Aa. 1964. Nomenclature For Centromeric Position On Chromosomes. *Hereditas 52*: 201-220.

Li W, Sixiang Z, Zhijian G. 2002. In Vitro Culture of Tetraploids of *Aloe vera* L. *Acta Hort Sin* 29(2):176–178

Lin X, Zhou Y, Zhang J, Lu X, Zhang F, Shen Q, Wu S, Chen Y, Wang T, Tang K. 2011. Enhancement of Artemisinin Content In Tetraploid *Artemisia annua* Plants By Modulating The Expression of Genes In Artemisinin Biosynthetic Pathway. *Biotechnol and Appl Biochem* 58(1):50–57

Ma, J., Jackson, S.A., 2006. Retrotransposon Accumulation and Satellite Amplification Mediated By Segmental Duplication Facilitate Centromere Expansion In Rice. Genome Res. 16, 251–259.

Majdi M, Karimzadeh G, Malboobi MA, Omidbaigi R, Mirzaghaderi G. 2010. Induction of Tetraploidy To Feverfew (*Tanacetum parthenium* Schulz-

UNIVERSITAS
GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Bip.): Morphological, Physiological, Cytological, and Phytochemical Changes. *HortSci* 45(1):16–21

Mansyurdin H dan Murni D. 2004. Induksi Tetraploid pada Tanaman Cabai Merah Keriting dan Cabai Rawit Dengan Kolkisin. *Stigma* Volume XII no.3, Juli –September 2004

Mcarthur Ed and Sanderson Sc. 1999. Cytogeography and Chromosome Evolution of Subgenus *Tridentatae* Of *Artemisia* (Asteraceae). *American Journal Of Botany* 86: 1754-1775.

Mertha, I.G. 2001. Karyotipe *Murraya exotica* L. Dan *Murraya paniculata* (L) Jack di Jawa sebagai bukti Taksonomi. Tesis. Pasca Sarjana UGM. Yogyakarta.

Miller G, Panov KI, Friedrich JK, Trinkle-Mulcahy L, Lamond AI, Zomerdijk JC. 2001. hRRN3 Is Essential In The SL1-mediated Recruitment of RNA Polymerase I to rRNA Gene Promoters. *Embo J* 20, 1373-82.

Mitra, J. and F. C. Steward. 1961. Growth Induction in Cultures of *Haplopappus gracilis.* II. The Behaviour of The Nucleus. Am. J. Bot. 48: 358-368.

Moedjiono, M.J. Mejaya. 1994. Variabilitas Genetik Beberapa Karakter Plasma Nutfah Jagung Koleksi Balittas Malang. *Zuriat 5(2):27-32.*

Murdaningsih, H.K., A. Baihaki, G. Satari, T. Danakusuma, dan A.H. Permadi. 1990. Variasi Genetik Sifat-Sifat Tanaman Bawang Putih Di Indonesia. *Zuriat*, 1 (1) : 32 – 36.

UNIVERSITAS GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT
PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Nagaki, K., Z. Cheng, S. Ouyang, P.B. Talbert, M. Kim, K.M. Jones, S. Henikoff, C.R. Buell, and J. Jiang. 2004. Sequencing of A Rice Centromere Uncovers Active Genes. Nat. Genet. 36**:** 138-145.

Nasir M, 2002. *Bioteknologi: Potensi dan keberhasilannya dalam bidang pertanian*. Raja Grafindo Perkasa, Jakarta.

Pellicer *et al.* 2011. *Artemisia* (Asteraceae): Understanding Its Evolution Using Cytogenetic and Molecular Systematic Tools, With Emphasis On Subgenus *Dracunculus*. *Pharmaceutical Sciences*: 199-222 ISBN: 978-81-7895-528-5.

Salisbury FB and CW Ross. 1995. *Fisiologi Tumbuhan*. Diah R Lukman, Ira Sumaryono, penerjemah. Bandung : ITB Press. Terjemahan dari: *Plant Physiology.*

Satina, S. and Blakeslee, A. F. (1941). Periclinal Chimeras In *Datura stramonium* In Relation To The Development of The Leaf And Flower. *Am. J. Bot.*28, 862-871.

Schubert, Ingo. 2007. Chromosome Evolution. *Plant Biology* 2007, 10:109–115

Setyawan, A.D. dan Sutikno. 200. Karyotipe Kromosom pada *Allium sativum* L. (Bawang Putih) dan *Pisum sativum* L. (Kacang Kapri). *Biosmart* ISSN: 1411-321X Volume 2, Nomor 1. Halaman: 20 – 27.

Sharma, A.K. and A. Sharma. 1959. Chromosomal Alteration in Relation to Speciation. *The Botanical Review* XXV : 515-517.

Smith, C.A. & Wood, E.J. 1992. *Cell Biology.* Chapman and Hall, London, p. 229.

UNIVERSITAS GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT
PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Singh, R.K., dan Chaudhary, B.D. 1979. *Biometrical methods in quantitative genetic analysis*. Kalyani Publ., New Delhi.

Singh, R.J. 2003. *Plant cytogenetics*- 2nd ed. CRC Press

Soltis, D. E., P. S. Soltis, and J. A. Tate. 2004. Advances In The Study of Polyploidy Since Plant Speciation. New Phytologist 161:173-191.

Soh YW and Yang WY. 1993. Effect of Plant Growth Regulators On Mitotic Chromosomes In *Allium cepa* L. *Nucleus.* 36: 109-113.

Stebbin Jr., G.L. 1951. Variation and Evolution in Plants. *Columbia Biological Series No.XVI*. New York.

Stern, H. 1960. *Biochemical sequences in mitosis*. In Developing Cell Systems and Their Control. Edited by D. Rudnick. Ronald Press, New York.

Sulistyaningsih E., Aoyagi Y., and Tashiro Y. 2006. Flower Bud Culture of Shallot (*Allium cepa* L. Aggregatum group) With Cytogenetic Analysis of Resulting Gynogenic Plants and Somaclones. *Plant Cell Tiss Organ Cult* 86: 249-255

Suprihati, D., Elimasni, E. Sabri. 2007. Identifikasi Karyotipe Terung Belanda (*Solanum betaceum* Cav.) Kultivar Brastagi Sumatera Utara. Jurnal Biologi Sumatera Utara. 2(1): 7 – 11.

Suryo. 2013. *Sitogenetika*. Gadjah Mada University Press. Yogyakarta

Susiyanti. 2008. Penyisipan Gen Fitase pada Genome Beberapa Kulitivar Tebu, Regenerasi, Ekspresi dan Aklimatisasi. *Disertasi*. Bogor: Program Pascasarjana, Institut Pertanian Bogor.

UNIVERSITAS
GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Syamsuhidayat, S.S. dan J.R. Hutapea. 1991. *Inventaris Tanaman Obat Indonesia I*. Badan Penelitian dan Pengembangan Kesehatan. Departemen Kesehatan. Jakarta.

Tabur Selma, Şemsettin Civelek, Siğnem Oney, Şadiye Betul Yilmaz Ergun, Murat Kurşat, and İsmail Turkoğlu. 2012. Chromosome Counts and Karyomorphology of Some Species of *Artemisia* (Asteraceae) From Turkey. *Turk J Bot 36* (2012): 235-246 C Tubitak Doi:10.3906/Bot-1010-98

Tan, R., Zheng, W., and Tang, H. 1998. Biologically Active Substances From The Genus *Artemisia*. Planta Med. 64:295-302.

Taylor, N. L., M. K. Anderson, K. H. Quesenbery and L. Watson. 1976 Doubling The Chromosome Number of *Trifolium* Species Using Nitrous Oxide. *Crop Sci*., 16: 516–518

Torrell, R., Vallès, J., Garcia-jacas, N., Mozaffarian, V. and Garbielian, E. 2003. New Or Rare Chromosome Counts In The Genus *Artemisia* L. (Asteraceae, Anthemideae) From Armenia and Iran. *Bot. J. Linn. Soc*. 135: 514–550.

Torrey JG. 1961. Kinetin As Trigger For Mitosis In Mature Endomitotic Plant Cells. *Exp Cell Res*. 23:281-299.

Torrey, J. G.1965. Physiological Bases of Organisation and Development in The root. *In* Handbuch der Pflanzen-physiologie. Vol. 15, Part 1. *Edited by* A. Lang. Springer, Berlin. PP. 1256-1327.

UNIVERSITAS GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT
PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Urwin NA, Horsnell J, Moon T. 2007. Generation and Characterisation of Colchicine-Induced Autotetraploid *Lavandula angustifolia*. *Euphytica* 156(1–2):257–266

Vainola, A. 2000. Polyploidization and Early Screening of Rhododendron Hybrids. *Euphytica* 112 : 239-244

Valles J. and Siljak-Yakovlov, S. 1997. Cytogenetic Studies in The Genus *Artemisia* L. Fluorochrome Banded Karyorypes Of Five Taxa, Including The Iberian Endemic Species *A. Barrelieri* Besser. Can. J. Bot. **75**: 595–606.

Valles J., Garnatje T, Garcia S, Sanz M, and Korobkov AA. 2003. Chromosome Numbers in The Tribes Anthemideae and Inuleae (Asteraceae). *Botanical Journal of the Linnean Society* 148: 77-85.

Weisenberger, D., Scheer, U. A. 1995. A Possible Mechanism For The Inhibition of Ribosomal RNA Gene Transcription During Mitosis. *J. Cell Biol.* **129,** 561-575.

Wellburn, A.R., 1994. The Spectral Determination of Chlorophylls A and B As Well As Total Carotenoid, Using Various Solvents With Spectrophotometers of Different Resolution. *J.Plant.Physio*l. 144, 307-313

Zahedi Ali Akbar, Hosseini Bahman, Fattahi Mohammad, Dehghan Esmail, Parastar Hadi and Madani Hadi. 2014. Overproduction of Valuable Methoxylated Flavones In Induced Tetraploid Plants of *Dracocephalum kotschyi* Boiss. *Botanical Studies* 2014, 55:22

UNIVERSITAS
GADJAH MADA
KERAGAMAN SITOLOGI TANAMAN ARTEMISIA CINA Berg ex Poljakov HASIL PERLAKUAN KOLKISINA DAN ZAT PENGATUR TUMBUH (2,4-DICHLOROPHENOXYACETIC ACID DAN BENZYLADENINE)
LISTY ANGGRAENI, Dr. Ir. Aziz Purwantoro, M.Sc. / Dr. Ir. Endang Sulistyaningsih, M.Sc.
Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/

Zen, S. dan H. Bahar. 2001. Variabilitas Genetik, Karakter Tanaman, dan Hasil Padi Sawah Dataran Tinggi. *Stigma* 9(1):25-28.

Zulkarnain. 2009. Kultur Jaringan Tanaman. PT. Bumi Aksara. Jakarta