

เอกสารอ้างอิง

- นันทา เชิงเชาว์. 2538. อิทธิพลของเอนไซม์ 1,3-เบต้ากลูคาเนสต่อการต้านทานโรคของยางพารา. รายงานการวิจัยภาควิชาชีวเคมี คณะวิทยาศาสตร์ มหาวิทยาลัยสงขลานครินทร์.
- นันทา เชิงเชาว์. 2540. ไฟโตอิเล็กซินจากยางพาราซึ่งถูกกระตุ้นโดยเชื้อราไฟทอปทอราพาลมิโวรา.
- รายงานการวิจัยภาควิชาชีวเคมี คณะวิทยาศาสตร์ มหาวิทยาลัยสงขลานครินทร์
- ประภา พัฒนกุล. 2532. โรคในยางพารา. เอกสารประกอบคำบรรยายในการสัมมนาเรื่อง"โรคยางพารา". ณ ศูนย์วิจัยยางสงขลา. ระหว่างวันที่ 29-31 สิงหาคม 2532. 22 หน้า (อัดสำเนา)
- ประสาทพร สมิตะมาน. 2534. โรคพืชวิทยา, 337 หน้า, กรุงเทพฯ : ภาควิชาโรคพืช คณะเกษตรศาสตร์ มหาวิทยาลัยเชียงใหม่
- พงษ์เทพ ขจรไชยกุล. 2523. โรคและศัตรูยางพาราในประเทศไทยปี 2522. วารสารยางพารา 1: 12-19.
- ไพโรจน์ จั้วพานิช. 2525. หลักวิชาการโรคพืช, 386 หน้า. กรุงเทพฯ: ภาควิชาโรคพืช คณะเกษตร มหาวิทยาลัยเกษตรศาสตร์.
- สถาบันวิจัยยาง กรมวิชาการเกษตร กระทรวงเกษตรและสหกรณ์. 2542. คำแนะนำพันธุ์ยาง ปี 2542.
- สุดฤดี ประเทืองวงศ์. 2527. โรคยางพารา, 203 หน้า. กรุงเทพฯ : ภาควิชาโรคพืช คณะเกษตร มหาวิทยาลัยเกษตรศาสตร์.
- Berre, J – Y. L., Panabieres, F., Ponchet, M., Denoroy, L., Bonnet, P., Marais, A. and Ricci, P. 1994. Occurrence of multiple forms of elicitors in *Phytophthora cryptogea*. *Plant Physiol. Biochem.* 32 :251-258.
- Bonnet, P., Bourdon, E., Ponchet, M., Blein, J. P. and Ricci, P.1996. Acquired resistance triggered by elicitors in tobacco and other plants. *Eur. J. Plant Pathol.* 102:181-192.
- Bouaziz, S., Heijenoort, C., Huet J. C., Pernollet, J. C. and Guittet, E. 1994. ¹H and ¹⁵N resonance assignment and secondary structure of capsicein, an α -elicitor, determined by three-dimensional heteronuclear NMR. *Biochemistry.* 33 : 8188-8197.

- Bradford, M. M. 1976. A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principal of protein dye-binding. *Anal. Biochem.* 72: 246-254.
- Bradley, D. J., Kjellbom, P. and Lamb, C. J. 1992. Elicitor-and wound-induced oxidative cross-linking of a proline-rich plant cell wall protein : a novel, rapid defense response. *Cell.* 70: 21-30.
- Breton, F., Sanier, C. and d' Auzac, J. 1994. Biochemical characterization of *Hevea brasiliensis/Colletotrichum gloeosporioides* interaction. In *Proc. Soc. Fr. Physiol, Plant Sci.* Saint-Malo. France: 325-330.
- Breton, F., Garcia D., Sanier C., Eschbach, J. M. and d' Auzac, J. 1997. The interaction between *Corynespora cassiicola* and *Hevea brasiliensis*. *Plantations, Research, Development.* 4: 322-335.
- Breton, F., Sanier, C. and d' Auzac, J. 1997. Scopoletin production degradation in relation to resistance of *Hevea brasiliensis* to *Corynespora cassiicola*. *J. Plant Physiol.* 151: 595-602.
- Broekaert, W. F., Lee, H-I, Kush, A., Chua, N-H. and Raekhel, N. 1990. Wound-induced accumulation of mRNA containing a hevein sequence in laticifers of rubber tree (*Hevea brasiliensis*). *Proc. Nat. Acad. Sci.* 87: 7633-7637.
- Burner, R. L. 1964. Determination of reducing sugar value 3,5 dinitrosalicylic acid method. *Method in Carbohydrate Chemistry.* 4 : 67-71.
- Chee, K. H. 1969 a. Variability of *Phytophthora* species from *Hevea brasiliensis*. *Trans. Br. Mycol. Soc.* 52 : 425-436.
- Chee, K. H. 1969 b. *Phytophthora* leaf disease in Malaysia. *J. Rubb. Res. Inst. Malaya.* 21 : 79-87.
- Churngchow, N., Suntaro, A. and Wititsuwunnakul, R. 1995. Two β -1,3-glucanase isozymes from the latex of *Hevea brasiliensis*. *Phytochemistry.* 39 : 505-509.
- Churngchow, N. and Rattarasarn M. 2000. The elicitor secreted by *Phytophthora palmivora*, a rubber tree pathogen. *Phytochemistry.* 54 : 33-38.

- Churngchow, N. and Rattarasarn M. 2001. Biosynthesis of scopoletin in *Hevea brasiliensis* leaves inoculated with *Phytophthora palmivora*. *J. Plant Physiol.* 158 : 875-882.
- Darvill, G. A. and Albersheim P. 1984. Phytoalexins and their elicitors-a defense against microbial infection in plants. *Annual Reviews Plant Physiology.* 35 : 243-275.
- Donohue, M. J., Goussean, H., Huet J.C., Tepfer, D. and Pernollet, J. C. 1995. Chemical synthesis, expression and mutagenesis of a gene encoding β - cryptogein, an elicitor produced by *Phytophthora cryptogea*. *Plant Molecular Biology.* 27: 577-586.
- Dubery, I. A., Meyer, D. and Bothma, C. 1994. Purification and characterization of cactorein, a phytotoxin secreted by *Phytophthora cactorum*. *Phytochemistry.* 35 (2) : 307-312.
- Erwin, D. C. and Riberio, O. K. 1996. *Phytophthora botryosa*. In K. H. Chee (ed.), *Phytophthora Disease Worldwide*, pp.243-244. Minnesota : APS Press.
- Friend, J., Reynolds, S. B. and Aveyard, M. A. 1973. Phenylalanine ammonia-lyase, chlorogenic acid and lignin in potato tuber tissue inoculated with *Phytophthora infestans*. *Physiol. Plant Pathol.* 3 : 495-507.
- Fry, S. C. 1982. Phenolic components of the primary cell wall. *Biochem. J.* 203 : 493-504.
- Garcia, D., Cazaux E., Rivano F. and d'Auzac J. 1995 a. Chemical and structural barriers to *Microcyclus ulei*, the agent of south american leaf blight, in *Hevea spp.* *Eur. J. Pathol.* 25 : 282-292.
- Garcia, D., Sanier, C., Machiex, J. J. and d'Auzac, J. 1995 b. Accumulation of scopoletin in *Hevea brasiliensis* infected by *Microcyclus ulei* (P. Henn.) V. ARX and evaluation of its fungitoxicity for three leaf pathogens of rubber tree. *Physiol. Mol. Plant Pathol.* 47 : 213-223.
- Giesemann, A., Biehland, B. and Lieberei, R. 1986. Identification of scopoletin as a phytoalexin of the rubber tree *Hevea brasiliensis*. *J. Phytopathol.* 117 : 373-376.

- Hahlbrock, K. and Scheel, D. 1989. Physiology and molecular biology of phenylpropanoid metabolism. *Ann. Rev. Plant Physiol. Mol. Biol.* 40 : 347-369.
- Han, K. S., Kauffmann, S., Albersheim, P. and Darvill, A. G. 1991. A soybean pathogenesis-related protein with β -1,3-glucanase activity releases phytoalexin elicitor-active heat-stable fragments from fungal wall. *J. Mol. Plant Micro. Interac.* 4 (6) : 545-552.
- Hedrick, S. A., Bell, J. N., Boller, T. and Lamb, C. J. 1988. Chitinase cDNA cloning and mRNA induction by fungal elicitor, wounding and infection. *Plant Physiol.* 86:182-186.
- Huet, J. C., Nespoulous, C. and Pernollet J. C. 1992. Structures of elicitin isoforms secreted by *Phytophthora drechsleri*. *Phytochemistry.* 31 : 1471-1476.
- Huet, J. C., Mansion, M. and Pernollet, J. C. 1993. Amino acid sequence of the α -elicitin secreted by *Phytophthora cactorum*. *Phytochemistry.* 34 (5) : 1261-1264.
- Huet, J. C. and Pernollet J. C. 1993. Sequences of acidic and basic elicitin isoforms secreted by *Phytophthora megasperma megasperma*. *Phytochemistry.* 33 : 797-805.
- Kamoun, S., Young, M., Glascock, C. B. and Tyler B. M. 1993. Extracellular protein elicitors from *Phytophthora* : host-specificity and induction of resistance to bacterial and fungal phytopathogens. *The American Phytopathological Society.* 6 (1) : 15-25.
- Kamoun, S., Young, M., Forster, H., Coffey, M. D. and Tyler, B. M. 1994. Potential role of elicitins in the interaction between *Phytophthora* species and tobacco. *Appl. Env. Microbiol.* 60 : 1593-1598.
- Kuc['], J. 1995. Phytoalexins, stress metabolism, and disease resistance in plants. *Ann. Rev. Phytopathol.* 33 : 275-291.
- Kush, A., Goyvaerts, E., Chye, M-L. and Chua, N-H. 1990. Laticifer specific gene expression of *Hevea brasiliensis* (rubber tree). *Proc. Nat. Acad. Sci.* 87 : 1787-1790.

- Legrand, M., Kauffmann, S., Geoffroy, P. and Fritic, B. 1987. Biological function of pathogenesis-related proteins : four tobacco pathogenesis-related proteins and chitinases. *Proc. Nat. Acad. Sci. USA.* 84 : 6750-6754.
- Linthorst, H. I. M. 1991. Pathogenesis related-proteins of plant. *Crit. Rev. Plant Sci.* 10 : 123-150.
- Martin, N. M. 1991. The latex of *Hevea brasiliensis* contains high levels of both chitinase and chitinase/lysozymes. *Plant Physiol.* 95 : 469-476.
- Mauch, F., Hadwiger, L. A. and Boller, T. 1988. Antifungal hydrolases in pea tissue I. Purification and characterization of two chitinases and two β -1,3-glucanases differentially regulated during development and in response to fungal infection. *Plant Physiol.* 87 : 325-333.
- Mauch, F., Mauch-Man, B. and Boller, T. 1988. Antifungal hydrolases in pea tissue II. Inhibition of fungal growth by combinations of chitinase and β -1,3-glucanase. *Plant Physiol.* 88 : 936-942.
- Milat, M. L., Ricci, P., Bonnet, P. and Blein, J. P. 1991. Capsidiol and ethylene production by tobacco cells in response to cryptogein, an elicitor from *Phytophthora cryptogea*. *Phytochemistry.* 30 (7) : 2171-2173.
- Nespoulous, C., Huet J. C. and Pernollet. J. C. 1992. Structure-function relationships of α and β elicitors, signal proteins involved in the plant – *Phytophthora* interaction. *Planta.* 186 : 551-557.
- Parijs, J. V., Broekaert, W. F., Goldstein, I. J. and Peumans, W. J. 1991. Hevein : an antifungal protein from rubber-tree (*Hevea brasiliensis*) latex. *Planta.* 183 : 258-264
- Parker, J. E., Schulte, W., Hahlbrock, K. and Scheel, D. 1991. An extracellular glycoprotein from *Phytophthora megasperma* f. sp. *Glycinea* elicits phytoalexin synthesis in cultured parsley cell and protoplasts. *Plant Physiol.* 4 : 19-27
- Pierpoint, W. S., 1986. The pathogenesis-related proteins of tobacco leaves. *Phytochemistry.* 25 : 1595-1601.

- Pierpoint, W. S., Jackson, P. J. and Evans, R. M. 1990. The presence of a thaumatin-like protein, a chitinase and a glucanase among the pathogenesis-related proteins of potato (*Solanum tuberosum*). *Physiol. Mol. Plant Pathol.* 36 (4) : 325-338.
- Ricci, P., Bonnet, P., Huet J. C., Sallantin, M., Beauvais-Cante, F., Bruneteau, M., Billard, V., Michel, G. and Pernollet, J. C. 1989. Structure and activity of proteins from pathogenic fungi *Phytophthora* eliciting necrosis and acquired resistance in tobacco. *Eur. J. Biochem.* 183 : 555-563.
- Ricci, P., Trentin, F., Bonnet, P. and Venard, P. 1992. Differential production of parasiticein, an elicitor of necrosis and resistance in tobacco, by isolate of *Phytophthora parasitica*. *Plant Pathol.* 41 : 298-307.
- Robert, W. K. and Selitrennikoff, C. P. 1986. Isolation and partial characterization of two antifungal proteins from barley. *J. Cell Biochem. Suppl.* 10 : 26.
- Roby, J. F. and White, J. B. 1987. Biochemical Techniques Theory and Practice, 407 pp. California : Wadsworth Inc.
- Schagger, H. and Jagow, G. V. 1987. Tricine-sodium dodecyl sulfate polyacrylamide gel electrophoresis for the separation of proteins in the range from 1 to 100 kDa. *Anal. Biochem.* 166 : 368-379.
- Shinshi, H., Mohnen, D. and Meins, F. 1987. Regulation of a plant pathogenesis related enzyme : inhibition of chitinase and chitinase mRNA accumulation in cultured. *Proc. Nat. Acad. Sci. USA.* 84 : 89-93.
- Sock, J., Roringer, R. and Kang, Z. 1990. Extracellular beta-1,3-glucanases in stem rust affected and abiotically stressed wheat leaves. Immunocytochemical localization of the enzyme and detection of multiple forms in gels by activity staining with dry-labeled laminarin. *Plant Physiol.* 94 (4) : 1376-1389.
- Tahiri-Alaoui, A., Dumus, E. and Gianinazzi, S. 1990. Detection of PR-b proteins in tobacco roots infected with *Chalara elegans*. *Plant Mol. Biol.* 14 (5) : 869-871

- Tan, A. M. and Low, F. C. 1975. Phytoalexin production by *Hevea brasiliensis* in response to infection by *Colletotrichum gloeosporioides* and its effect on the other fungi. In : *Proceeding of International Rubber Conference. RRIM, Kuala Lumpur, Malaysia.* 3 : 217-227.
- Trudel, J. and Asslin, A. 1989. Detection of chitinase activity after polyacrylamide gel electrophoresis. *Anal. Biochem.* 178 : 362-366.
- Tsao, P. H., Chew-chin, N. and Syamananda, R. 1975. Occurrence of *Phytophthora palmivora* on *Hevea* rubber in Thailand. *Plant Disease Reporter.* 59 : 955-958.
- Tsujibo, H., Yoshida, Y., Imada, C., Okami, Y., Miyamoto, K. and Inamori, Y. 1991. Isolation and characterization of a chitin degradation marine bacterium belonging to the genus *Alteromona*. *Nippon Suisan Gakkaishi.* 57 : 2127.
- Yu, L. M. 1995. Elicitin from *Phytophthora* and basic resistance in tobacco. *Proc. Nat. Acad. Sci. USA.* 92 : 4088-4094.
- Zanetti, A., Beauvais, F., Huet, J. C. and Pernallet, J. C. 1992. Movement of elicitors, necrosis-inducing proteins secreted by *Phytophthora* sp., in tobacco. *Planta.* 87 : 163-170.