

Publication list of T. Koike in English

Original paper:

>2009

- (1) Ryu K, Watanabe M, Shibata H, Takagi K, Nomura M, Koike T. (2009) Ecophysiological responses of the larch species in northern Japan to environmental changes as a base of afforestation. *Landscape and Ecological Engineering* (in press)
- (2) Qu, L., Kitaoka, S., Kuromaru, M., Osaki, M., Sasa, K. and Koike, T. (2009) Root-shoot communication of the seedlings of Japanese larch and its hybrid grown in different temperature regimes. *Landscape and Ecological Engineering* (accept)
- (3) Kayama, M. Makoto, K. Nomura, M, Satoh, F. and Koike, T. (2009) Dynamics of elements in larch seedlings (*Larix kaempferi*) regenerated on serpentine soil in northern Japan. *Landscape and Ecological Engineering* (accept)
- (4) Kitaoka, S., Watanabe, Y. and Koike, T. (2009) The effects of clear cutting of overstory trees and nitrogen supply on the gas exchange traits in four seral deciduous broad-leaved tree seedlings growing in larch plantations *Tree Physiology*
- (5) Koike, T., Shoji, Y., Uemura, S., Shibata, H. and Sasa, K. (2009) Conservation of the Mixed Conifer-Broadleaf Forests and Educational Development of Hokkaido University Forests in Northern Japan. *Sustainability Science* : (accept)
- (6) Kayama, M., Makoto, K., Nomura, M., Sasa, K. and Koike, T. (2009) Growth characteristics of Sakhalin spruce (*Picea glehnii*) planted on the northern Japanese hillsides exposed to strong winds. *Trees - Structure and Function* 23: 145-157
- (7) Takagi,K., Fukuzawa,K., Liang,N., Kayama,M., Nomura,M., Hojyo,H., Sugata,S., Shibata,H., Fukazawa,T., Takahashi,Y., Nakaji,T., Oguma,H., Mano,M., Akibayashi,Y., Murayama,T., Koike,T., Sasa,K. and Fujinuma,Y. (2009) Change in the CO₂ balance under a series of forestry activities in a cool-temperate mixed 2 forest with dense undergrowth. *Global Change Biology* 14: DOI:10.1111/j.1365-2486.2008.01975.x

>2008

- (8) Choi, D.S., Jin, H.O., Chung, D. J. Sasa, K. and Koike, T. (2008) Growth and physiological activity in *Larix kaempferi* seedlings inoculated with ectomycorrhizae affected by soil acidification. *Trees - Structure and Function* 22:729-735
- (9) Eguchi, N., Karatsu, K., Ueda, T., Funada, R., Takagi, K., Hiura, T., Sasa, K. and Koike, T. (2008) Photosynthetic responses of birch and alder saplings grown in a free air CO₂ enrichment system in northern Japan. *Trees - Structure and Function* 22: 437-447.
- (10) Eguchi, N., Morii, N., Ueda, T., Funada, R., Takagi, K., Hiura, T., Sasa, K. and Koike, T. (2008) Changes in petiole hydraulic structure and leaf water flow in birch and oak saplings in an enhanced CO₂ environment. *Tree Physiology* 28:287-295.
- (11) Watanabe, Y, Tobita, H, Kitao, M, Maruyama, Y, Choi, D.S., Sasa, K, Funada, R. and Koike, T. (2008) Effects of elevated CO₂ and nitrogen on wood structure related to water transport in seedlings of two deciduous broad-leaved tree species. *Trees - Structure and Function* 22: 403-411.
- (12) Kitahashi, Y., Ichie, T., Maruyama, Y., Kenzo, T., Kitaoka, S., Matsuki, S. Nakashizuka, T. and Koike, T. (2008) Photosynthetic water use efficiency in tree crowns of tropical emergent species in Sarawak, Malaysia. *Photosynthetica* 46: 151-

155.

>2007

- (13) Ishii, H., Kitaoka, S., Fujisaki, T., Maruyama, Y. and Koike, T. (2007) Plasticity of shoot and needle morphology and photosynthesis of two *Picea* species with different site preferences in northern Japan. *Tree Physiology* 27: 1595–1605.
- (14) Kitaoka, S., Sakata, T., Koike, T., Tobita, H., Uemura, A., Kitao, M., Maruyama, Y., Sasa, K. and Utsugi, H. (2007) Methane emission from leaves of larch, birch and oak saplings grown under elevated CO₂ in northern Japan –A preliminary study- *Journal of Agriculture Meteorology* 63: 201-206.
- (15) Kayama, M., Kitaoka, S., Choi, D.S. Wang, W. and Koike, T. (2007) Needle longevity and growth characteristics of eight spruce species planted in northern Japan. *Tree Physiology* 27: 1585-1593.
- (16) Kitao, M., Lei, T.T., Koike, T., Kayama, M., Tobita, H. and Maruyama, Y. (2007) Interaction of drought and elevated CO₂ concentration on photosynthetic down-regulation and susceptibility to photoinhibition in Japanese white birch seedlings grown under limited N availability. *Tree Physiology* 27: 727-735.
- (17) Wang, W., Wang, H., Zu, Yuangang, Yu, Jinghua and Koike, T. (2007) Photosynthetic characteristics of regenerated plantlets of *Camptotheca acuminata* as a diagnostic for tissue cultured plantlets in acclimatization in field growth. *Eurasian Journal of Forest Research* 10: 201-207.
- (18) Shinano, T., Yamamoto, T., Tawaraya, T., Tadokoro, M., Koike, T. and Osaki, M. (2007) Effects of enriched CO₂ levels on the nutrient uptake characteristics of *Larix Kaempferi*. *Tree Physiology*, 27: 97-104.
- (19) Zyryanova, O.A., Yabarov, V.T., Tchikhacheva, T.L., Koike, T., Makoto, K., Matsuura, Y., Satoh, F., and Zyryanova, V. I. (2007) The structure and biodiversity after fire disturbance in *Larix gmelinii* (Rupr.) Rupr. forests, northeastern Asia. *Eurasian Journal of Forest Research* 10: 19-29.
- (20) Kayama, M., Choi, D.S., Nomura, M, Sasa, K., Satoh, F. and Koike, T. (2007) Reforestation trial with Sakhalin spruce after forest fires in northern Japan. *Eurasian Journal of Forest Research* 10: 31-39.
- (21) Makoto, K., Nemilostiv, Y.P., Zyryanova, O.A., Kajimoto, T., Matsuura, Y., Yoshida, T., Satoh, F., Sasa, K. and Koike, T. (2007) Regeneration after forest fires in mixed conifer broadleaved forests of the Amur region in Far Eastern Russia: the relationship between species specific traits against fire and recent fire regimes. *Eurasian Journal of Forest Research* 10: 51-58.
- (22) Koike, T., Kitaoka, S., Masyagina, O.V., Watanabe, Y., Ji, D.H., Maruyama, Y. and Sasa, K. (2007) Nitrogen dynamics in leaves of deciduous broad-leaved tree seedlings grown in a unmanaged larch plantation in northern Japan. *Eurasian Journal of Forest Research* 10: 115-119
- (23) Makoto, K. and Koike, T. (2007) Effects of nitrogen supply on photosynthetic and anatomical changes in current-year needles of *Pinus koraiensis* seedlings grown under two irradiances. *Photosynthetica* 45:99-104.
- (24) Kujansuu, J., Yasue, K., Koike, T., Abaimov, A.P., Kajimoto, T., Takeda, T., Tokumoto, M. and Matsuura, Y. (2007) Responses of ring widths and maximum densities of *Larix gmelinii* to climate in contrasting north- and south-facing slopes in central Siberia. *Ecological Research* DOI10.1007/s11284-006-0062-4

>2006

- (25) Yanagihara, Y., Shibata, H., Matsuura, Y. and Koike, T. (2006) Effects of soil and vegetation types on soil respiration rate in larch plantations and a mature deciduous broadleaved forest in northern Japan. *Eurasian Journal of Forest Research* 9:79-95.
- (26) Koike, T., Matsuki, S., Choi, D.S., Matsumoto, T. Watanabe, Y. and Maruyama, Y. (2006) Photosynthesis, leaf longevity and defense characteristics in trees of Betulaceae planted in Northern Japan. *Eurasian Journal of Forest Research* 9: 69-78.
- (27) Kajimoto, T., Matsuura, Y., Osawa, A., Abaimov, A.P., Zyryanova, O.A., Mori, S. and Koike, T. (2006) Size-mass allometry and biomass allocation of two larch species growing on the continuous permafrost region in Siberia. *Forest Ecology and Management* 222:314-325.
- (28) Choi, D.S., Kayama, M., Jin, H.O., Lee, C.H., Izuta, T. and Koike, T. (2006) Growth and photosynthetic responses of two pine species (*Pinus koraiensis* and *Pinus rigida*) in a polluted industrial region in Korea. *Environmental Pollution* 139:421-432
- (29) Wang, W., Y.G. Zu, X.Q. Zhang, X.Y. Li, T. Hirano and T. Koike (2006) Newly-formed photosynthates and the respiration rate of girdled stems of Korean pine (*Pinus koraiensis* Sieb. et Zucc.) . *Photosynthetica* 43: 147-150.
- (30) Kitao, M., Lei, T.T., Koike, T., Tobita, H. and Maruyama, Y. (2006) Tradeoff between shade adaptation and mitigation of photoinhibition in leaves of *Quercus mongolica* and *Acer mono* acclimated to deep shade. *Tree Physiology* 26: 441-448.
- (31) Koike, T., Tobita, H., Shibata, T., Mastuki, S., Konno, K., Kitao, M., Yamashita, N. and Maruyama, Y. (2006) Defense characteristics of seral deciduous broad-leaved tree seedlings grown under differing levels of CO₂ and nitrogen. *Population Ecology* 48: 23-29.
- (32) Wang, W., Endo, I., Watanabe, Y., Ji, D.H. and Koike, T. (2006) Seasonal change in the photosynthetic capacity of cones at the canopy of Japanese larch trees. *Photosynthetica* 44:345-348
- (33) Masyagina O.V., Hirano T., Ji D.H., Choi D.S., Qu L., Fujinuma Y., Sasa K., Matsuura Y., Prokushkin S.G., and Koike T. (2006) Effect of spatial variation of soil respiration rates following disturbance by timber harvesting in a larch plantation in northern Japan. *Forest Science and Technology* 2: 80-91. Kujansuu, J., Yasue, K., Koike, T., Abaimov, A.P., Kajimoto, T., Takeda, T., Tokumoto, M. and Matsuura, Y. (2006) Climatic responses of tree-ring widths of *Larix gmelinii* growing on the contrasting north-facing and south-facing slopes in central Siberia. *Journal of Wood Science* DOI10.1007/s10086-006-0837-9.
- (35) Matsuki, S. and Koike, T. (2006) Comparison of leaf lifespan, photosynthesis and defensive traits across seven species of deciduous broad-leaf tree seedlings. *Annals of Botany* 97: 813 - 817.
- (36) Wang, W., Zu, Y., Cui, S., Hirano, T., Takagi, K., Watanabe, Y. and Koike, T. (2006) Changes in CO₂ exchange during the development of larch (*Larix gmelinii* (Rupr.) Rupr.) cones. *Tree Physiology* 26:1363–1368.
- (37) Kenzo, T., Ichie, T., Watanabe, Yoneda, R., Ninomiya I. and Koike, T. (2006) Changes in photosynthesis and leaf characteristics with tree height in five dipterocarp species in a tropical rain forest *Tree Physiology* 26: 865-873
- (38) Koike, T. Uemura, S., Shibata, H. and Sasa, K. (2007) Conservation of the

- Mixed Conifer-Broadleaf Forests and Educational Development of Hokkaido University Forests in Northern Japan. Sustainability Science (accept for publication)
- (39) Fukuzawa, K., Shibata, H., Takagi, K., Satoh, F., Koike, T. and Sasa, K. (2006) Vertical distribution and seasonal pattern of fine root dynamics in a cool-temperate forest in northern Japan: Implication of the understory vegetation, Sasa dwarf bamboo. Ecological Research.
- (40) Kayama, M., Choi, D.S., Tobita, H., Utsugi, H., Kitao, M., Maruyama, Y., Nomura, M. and Koike, T. (2006) Comparison of growth characteristics and tolerance to serpentine soil of three ectomycorrhizal spruce seedlings in northern Japan. Trees Structure and function 20: 430-440
- (41) Wang, W., Endo, I., Watanabe, Y., Ji, D.H. and Koike, T. (2006) Seasonal change in the photosynthetic capacity of cones at the canopy of Japanese larch trees. Photosynthetica 44: 344-348.
- (42) Kumagai, T., Ichie, T., Yoshimura, M., Yamashita, M., Kenzo, T., Saitoh, T. M., Ohashi, M., Suzuki, M., Koike, T. and Komatsu, H. (2006) Modeling CO₂ exchange over a Bornean tropical rain forest using measured vertical and horizontal variations in leaf-level physiological parameters and leaf area densities. Journal of Geophysical Research -Atmospheres, 111: D10107, doi:10.1029/2005JD006676.
- (43) Koike, T., Tobita, H., Shibata, T., Mastuki, S., Konno, K., Kitao, M., Yamashita, N. and Maruyama, Y. (2006) Defense characteristics of seral deciduous broad-leaved tree seedlings grown under differing levels of CO₂ and nitrogen. Population Ecology 48: 23-29
- (44) Wang, W., Y.G. Zu, X.Q. Zhang, X.Y. Li, T. Hirano and T. Koike (2006) Newly-formed photosynthates and the respiration rate of girdled stems of Korean pine (*Pinus koraiensis*). Photosynthetica 43: 147-150.
- >2005
- (45) Eguchi, N., Ichie, T., Ji, D.H., Karatsu, K., and Koike, T. (2005) Accurate estimation of nitrogen concentration in deciduous tree leaves in a field study using a portable non-destructive nitrogen detector. Journal of Plant Physiology 163: 680-683.
- (46) Eguchi, N., Funada, R., Ueda, T., Takagi, K., Hiura, T. Sasa, K. and Koike, T. (2005) Soil moisture condition and growth of deciduous tree seedlings native to northern Japan raised under elevated CO₂ with a FACE system. Phytion 45: 133-138.
- (47) Koike, T. Shibata, T., Lei, T.T., Matsuki, S., Nomura, M., Tobita, H. Kitao, M. Quoreshi, A.M. and Maruyama, Y. (2005) Defense characteristics of mountain alder seedlings raised under elevated CO₂ and nitrogen supply. Phytion 45: 163-168
- (48) Lei, T.T. and Koike, T. (2005) Effect of elevated CO₂ on photosynthetic ability and wood density of birch, oak and maple seedlings. Phytion 45: 145-152
- (49) Choi, D.S., Kayama, M., Jin, H.O., Lee, C.H., Izuta, T. and Koike, T. (2005) Growth and photosynthetic responses of two pine species planted under a polluted industrial region in Korea. Environmental Pollution 139:421-432
- (50) Kim, H.H., Hirano, T., Koike, T. and Urano, S. (2005) Contribution of litter CO₂ production to total soil respiration in two different deciduous forests. Phytion 45: (in press)
- (51) Tobita, H., Kitao, M., Koike, T. and Maruyama, Y. (2005) Effects of elevated CO₂ and nitrogen availability on nodulation of *Alnus hirsuta* (Turcz.). Phytion 45: 125-131

- (52) Choi, D.S., Qureshi A.M., Jin H.O, Maruyama Y. and Koike T. (2005) Mycorrhizal activities in *Pinus densiflora*, *P. koraiensis* and *Larix kaempferi* raised under high CO₂ in relation to water use efficiency. *Phyton* 45: 139-144
- (53) Mogami, J., Hirano, T. Hirata, R., Koike, T. and Fujinuma, Y. (2005) Temporal variation in photosynthetic photon flux density on a larch forest floor. *J. Agr. Meteor.*, 60: 1161-1164
- (54) Kayama, M., Qureshi, A.M., Uemura, S. and Koike, T. (2005) Differences in growth characteristics and dynamics of elements absorbed in seedlings of three spruce species raised on serpentine soil in northern Japan. *Annals of Botany* 95: 661-672.
- (55) Shibata, H., Hiura, T., Tanaka, Y., Takagi, K. and Koike, T. (2005) Carbon cycling and budget in a forested basin of southwestern Hokkaido, northern Japan. *Ecological Research* 20: 325-331.
- (56) Choi, D.S., Qureshi, A.M., Maruyama, Y., Jin, H.O. and Koike, T. (2005) Effect of ectomycorrhizal infection on growth and photosynthetic characteristics of *Pinus densiflora* seedlings grown under elevated CO₂ concentrations. *Photosynthetica* 43: 223-229.
- (57) Takagi, K., Nomura, M., Fukuzawa, K., Kayama, M., Shibata, H., Sasa, K., Koike, T., Akibayashi, Y., Inukai, K and Maebayashi, M. (2005) Deforestation effects on the micrometeorology in a cool-temperate forest in northernmost Japan. *Journal of Agricultural Meteorology* 60: 1025-1028.
- (58) Takagi, K., Nomura, M., Ashiya, D., Takahashi, H., Sasa, K., Fujinuma, Y., Shibata, H., Akibayashi, Y. and Koike, T. (2005) Dynamic carbon dioxide exchange through snowpack by wind-driven mass transfer in a conifer-broadleaf mixed forest in northernmost Japan. *Global Biogeochemical Cycles* 19:BG2012:1-10
- (59) Kitao, M., T. Koike, H. Tobita, and Y. Maruyama (2005) Susceptibility to photoinhibition in leaves of Japanese white birch (*Betula platyphylla* var. *japonica*) grown under elevated CO₂ and limited nitrogen nutrition. *Physiologia Plantarum* 125: 64-73.
- (60) Ichie, T. Kenzo, T., Kitahashi, Y. Koike, T. and Nakashizuka, T. (2005) How does *Dryobalanops aromatica* supply carbohydrate resources for reproduction in a masting year? *Trees; Structure and Function* 19: 703-710
- (61) Wang W.J., Zu Y.G., Wang H.M., Matsuura, Y., Sasa, K. and Koike, T. (2005) Plant Biomass and productivity of *Larix gmelinii* forest ecosystems in Northeast China: intra- and inter- species comparison. *Eurasian Journal of Forest Research* 8: 21-41
- (62) Qu Laiye, Ji Donghun, Shi Fuchen, Sasa K. and Koike T. (2005) Growth and photosynthetic performance of two larch seedlings grown in shade conditions. *Eurasian Journal of Forest Research* 8: 43-51.
- (63) Kitaoka, S. and Koike, T. (2005) Seasonal and year-to-year variation in light use and nitrogen use of four deciduous broad-leaved tree seedling species invading larch plantations. *Tree Physiol.* 25: 25: 467-475
- (64) Wang, W.J., Zu, Y.G., Wang, H., Hirano, T., Sasa, K. and Koike, T. (2005) Effects of collar inserting and parameters selection on the soil respiration measurement by LI-6400 in a larch forest. *J. For. Res.*, 10: 57 - 60

- (65) Zyryanova O.A., Yaborov V.T., Abaimov A.P., Koike T., Sasa K. and Terazawa M. (2005) Problems in the maintenance and sustainable use of forest resources in Priamurye in the Russian Far East. *Eurasian J. For. Res.* 8: 53-64.
- (66) Kayama, M., Quoreshi, A.M., Uemura, S. and Koike, T. (2005) Differences in growth characteristics and dynamics of elements absorbed in seedlings of three spruce species raised on serpentine soil in northern Japan. *Ann. Bot.*, 94: 661-672.
- (67) Takagi, K., Nomura, M., Fukuzawa, k., Kayama, M., Shibata, H., Sasa, K., Koike, T., Akibayashi, Y., Inukai, K and Maebayashi, M. (2005) Deforestation effects on the micrometeorology in a cool-temperate forest in northernmost Japan. *J. Agri. Meteorol.* 60: 1025-1028.
- >2004
- (68) Matsuki, S., Sano, Y. and Koike, T. (2004) Chemical and physical defense in the early and late leaves in three heterophyllous birch species native to northern Japan. *Ann Bot.*, 93: 141-147.
- (69) Liang, N., Nakadai T., Hirano T., Qu L., Koike T., Fujinuma Y. and Inoue G. (2004). In-situ comparison of four approaches to estimating soil CO₂ efflux in a northern larch (*Larix kaempferi* Sarg.) forest. *Agr. For. Meteorol.*, 123:97-117.
- (70) Kurokawa, H., Kitahashi, Y., Koike, T., Lai, J., and Nakashizuka, T. (2004) Allocation of net production to growth or defense? Defensive allocation at seedling stages in Borneo ironwood and two dipterocarp species. *Oecologia* 140:261-270.
- (71) Yazaki, K., S. Ishida, T., Kawagishi, E. Fukatsu, Y. Maruyama, M. Kitao, H. Tobita, T. Koike and R. Funada (2004) Effects of elevated CO₂ on growth, annual ring structure and photosynthesis in *Larix kaempferi* seedlings *Tree Physiol.*, 24: 941-949
- (72) Kitaoka, S. and Koike, T. (2004) Invasion of broadleaf tree species into a larch plantation: Seasonal light environment, photosynthesis, and nitrogen allocation. *Physiol. Plant.*, 121: 604-611.
- (73) Eguchi, N. Fukatsu, E., Funada, R., Tobita, H., Kitao, M., Maruyama, Y., and Koike, T. (2004) Changes in morphology, anatomy and photosynthetic capacity of needles of Japanese larch (*Larix kaempferi*) seedlings grown in high CO₂ concentrations. *Photosynthetica* 24: 173-178
- (74) Kenzo, T., Ichie, T., Yoneda, R., Watanabe, Y., Ninomiya, I. and Koike, T. (2004) Interspecific variation of photosynthesis and leaf characteristics in some canopy trees of Dipterocarpaceae in tropical rain forest. *Tree Physiol.*, 24: 1187-1192
- (75) Izuta, T., Yamaoka, T., Nakaji, T., Yonekura, T., Yokoyama, M., Funada, R., Koike, T. and Totsuka, T. (2004). Growth, net photosynthesis and leaf nutrient status of *Fagus crenata* seedlings grown in brown forest soil acidified with H₂SO₄ or HNO₃ solution. *Trees* 18: 677-685.
- (76) Qu, Laiye, Kayama, M., Kitaoka, S., Akasaka, M. Sasa, K. and Koike, T. (2004) Micro- environmental analysis of natural regeneration of larch in northern Japan. *Eurasian J. For. Res.*, 7: 43-51.
- (77) Jiang, L.F., Shi, F.C., Wang, H.T., Zu, Y.G., and Koike, T. (2004) Root respiration in *Larix gmelinii* plantations in northeast China. *Plant Physiol. Comm.* 40: 27-30.
- (78) Kitao, M., Koike, T., Qu Laiye, Tobita, H. and Maruyama, Y. (2004) Increased susceptibility to photoinhibition in pre-existing needles experiencing low

temperature at spring budbreak in Sakhalin spruce (*Picea glehnii* Masters) seedlings. *Physiol. Plant.* 122:226-232

- (79) Qu, Laiye, Shinano, T., Quoreshi, A.M., Tamai, Y., Osaki, M. and Koike, T. (2004) Allocation of ¹⁴C-Carbon in infected with ectomycorrhizae of two species of larch seedlings. *Tree Physiol.* 24: 1369–1376
- >2003
- (80) Kayama, M, Quoreshi, A.M., Kitaoka, S., Kitahashi, Y., Sakamoto, Y., Maruyama, Y., Kitao, M., and Koike, T. (2003) Effects of deicing salt on the vitality and health of two spruce species, *Picea abies*. Karst. and *P. glehnii* Masters planted along roadsides in northern Japan. *Environ. Pollut.*, 124: 127-137.
- (81) Ishii, H., Ooishi, M., Maruyama, Y. and Koike, T. (2003) Acclimation of shoot and needle morphology and photosynthesis of two *Picea* species to different soil nutrient availability. *Tree Physiol.*, 23: 453-462.
- (82) Kitao, M., Lei, T.T., Koike, T., Tobita, H. and Maruyama, Y. (2003) Higher electron transport rate observed at low intercellular CO₂ concentration in long-term drought-acclimated leaves of Japanese mountain birch (*Betula ermanii*). *Physiol. Plant.*, 118: 406-413.
- (83) Wang, W., Osaki, M., Hirano, T., Hiura, T. and Koike, T. (2003) Stomatal and non-stomatal limitation of *Sasa senanensis* raised in balanced nutrition regimes. *Bamboo J.*, 20: 19-32.
- (84) Qu, Laiye, Quoreshi, A.M., Koike, T. (2003) Root growth characteristics, biomass and nutrient dynamics of seedlings of two larch species raised under different fertilization regimes. *Plant Soil* 255: 293-302
- (85) Fen, J.L., Shi F.C., Zu, Y.G., Wang, W. and Koike, T. (2003) Study on stem respiration of *Larix gmelinii* of different ages and its relationship to environmental factors. *Bull. Bot. Res.*, 23: 296-301.
- (86) Koike, T., Kitao, M., Quoreshi, A.M. and Matsuura, Y. (2003) Growth characteristics of root-shoot relations of three birch seedlings raised under different water regimes. *Plant Soil* 255: 303-310.
- (87) Wang, W., Yang, F.J., Zu, Y., Wang H.M., Takagi K., Sasa, K. and Koike T. (2003) Stem respiration of a larch (*Larix gmelinii*) plantation in Northeast China. *Acta Botanica Sinica* 45: 1387-1397.
- (88) Kenzo, T., Ichie, T., Ninomiya, I. and Koike, T. (2003) Photosynthetic activity in seed wings of Dipterocarpaceae in a masting year: Does wing photosynthesis contribute to reproduction? *Photosynthetica*. 41: 551-557.
- (89) Qu, Laiye, Quoreshi, A. M., Iwase, K., Tamai, Y., Funada, R. and Koike, T. (2003) In vitro ectomycorrhiza formation on larch seedlings with six different fungal species. *Eurasian J. For. Res.*, 6:65-73
- (90) Koike, T., Matsuki, S., Matsumoto, T., Yamaji, K., Tobita, H., Kitao, M. and Maruyama, Y. (2003) Bottom-up regulation for protection and conservation of forest ecosystems in northern Japan under changing environment. *Eurasian J. For. Res.*, 6: 177-189
- (91) Quoreshi, A.M., Maruyama, Y., Koike, T. (2003) The Role of mycorrhiza in forest ecosystems under CO₂-enriched atmosphere. *Eurasian J. For. Res.*, 6: 171-176.

>2002

- (92) Kayama, M., Sasa, K. and Koike, T. (2002) Needle life span, photosynthetic rate, and nutrient concentration of *Picea glehnii*, *P. jezoensis*, and *P. abies* planted on serpentine soil in northern Japan. *Tree Physiol.*, 22: 707-716.
- (93) Fujii, T., Tomaru, N., Okuyama, K., Koike, T., Mikami, T. and Ueda, K. (2002) Chloroplast DNA phylogeography of *Fagus crenata* (Fagaceae) in Japan. *Plant Syst. Evolut.*, 232: 21-33
- (94) Ichie, T., Kitahashi, Y., Matsuki, S., Maruyama, Y. and Koike, T. (2002) The use of a portable non-destructive type nitrogen meter for leaves of woody plants in field studies. *Photosynthetica* 40: 289-292.
- (95) Usoltsev, V.A., Koltunova, A.I., Kajimoto, T., Osawa, A and Koike, T. (2002) Geographical gradient of annual biomass production of larch forests in northern Eurasia. *Eurasian J. For. Res.*, 5:52-62.
- (96) Shi, F.C., Qu, L.Y., Wang, W., Matsuura, Y., Koike, T. and Sasa, K. (2002) Aboveground biomass and productivity of *Larix gmelinii* forests in northeast China. *Eurasian J. For. Res.*, 5:23-32.
- (97) Korotkii, T., Prokushkin, S.G., Matsuura, Y. and Koike, T. (2002) Effects of soil temperature on the content of nitrogen compounds in seedlings of *Larix gmelinii* regenerated on permafrost in central Siberia. *Eurasian J. For. Res.*, 5:39-42.
- (98) Wang, W., Shi, F.C., Zu, Y., Yang, F.J., Mao, Z.J. and Koike, T. (2002) Construction and development of CO₂ flux networks on terrestrial ecosystems. *J. Northeast Forestry Univ.*, 30: 57-61.
- (99) Matsuda, K., Shibuya, M. and Koike, T. (2002) Maintenance and rehabilitation of the mixed conifer-broadleaved forests in Hokkaido, northern Japan. *Eurasian J. For. Res.*, 5: 119-130

>2001

- (100) Kitao, M., Lei, T.T., Nakamura, T. and Koike, T. (2001) Manganese toxicity as indicated by visible foliar symptoms of Japanese white birch (*Betula platyphylla* var. *japonica*). *Environ. Pollut.*, 111: 89-94.
- (101) Wang, W., Kayama, M., Kitaoka, S., Osaki, M. and Koike, T. (2001) Photosynthetic characteristics of *Sasa senanensis* grown under low nitrogen, potassium and phosphorous nutrient conditions. *Bamboo J.*, 18: 23-36.
- (102) Koike, T., Kitao, M., Maruyama, Y., Mori, S., and Lei, T.T. (2001) Leaf morphology and photosynthetic adjustments among deciduous broad-leaved trees within the vertical canopy profile. *Tree Physiol.*, 21: 951-958.
- (103) Izuta, T., Yamaoka, T., Nakaji, T., Yonekura, T., Yokoyama, M., Matsumura, H., Ishida, S., Yazaki, K., Funada, R. and Koike, T. (2001) Growth, net photosynthetic rate, nutrient status and secondary xylem anatomical characteristics of *Fagus crenata* seedlings grown in brown forest soil acidified with H₂SO₄ solution. *Water, Soil Air Pollut.*, 130: 1007-1012.
- (104) Yazaki, K., Funada, R., Mori, S., Maruyama, Y., Abaimov, A.P., Kayama, M., and Koike, T. (2001) Growth and annual ring structure of *Larix sibirica* grown at different CO₂ concentration and nutrient supply. *Tree Physiol.*, 21: 1223-1229.
- (105) Yonekura, T., Honada, Y., Oksanen, E., Yoshidome, M., Watanabe, M., Funada, R., Koike, T. and Izuta, T. (2001) The Influences of ozone and soil water stress, singly and in combination, on leaf gas exchange rates, leaf ultrastructural characteristics and annual ring width of *Fagus crenata* seedlings. *J. Jpn. Soc. Atmos. Environ.*, 51:330-347

- (106) Shi, F., Li, J., Koike, T. and Nie, S. (2001) Resources of white birch (*Betula platyphylla* var. *japonica*) for sap production and its ecological characteristics in northern China. *Eurasian J. For. Res.*, 2: 27-30.
- (107) Koike, T., Hojyo, H., Naniwa, A., Ashiya, D., Sugata, S., Sugishita, S., Kobayashi, M., Nomura, M., Akibayashi, Y., Nakajima, J., Takagi, K., Shibata, H., Satoh, F., Wang, W., Shi, F., Takada, M., Fujinuma, Y., Matsuura, Y. and Sasa, K. (2001) Basic data for CO₂ flux monitoring of a young larch plantation –Current status of a mixed conifer-broadleaf forest stand-. *Eurasian J. For. Res.*, 2: 65-79.
- (108) Prokshukin, S.G., Prokushukin, A.S., Stasova, V.V., Mori, S., Sakamoto, Y., Quoreishi, A.M. Koike, T. (2001) Reaction of *Larix gmelinii* roots under low soil temperatures in northern parts of Central Siberia. *Eurasian J. For. Res.*, 4: 25-38.
- >2000
- (109) Kayama, M., Nomura, M., Sugishita, Y., Satoh, F., Sasa, K. and Koike, T. (2000) Growth of dwarf bamboo community grown at cold and very windy adjacent sites in northern most Japan as affected by snow depth. *Bamboo J.* 17: 20-26.
- (110) Kitao, M., Lei, T.T., Koike, T., Tobita, H., Maruyama, Y., Matsumoto, Y. and Ang, Lai-Hoe. (2000) Temperature response and photoinhibition investigated by chlorophyll fluorescence measurements for four distinct species of Dipterocarp trees. *Physiol. Plant.*, 109: 284-290.
- (111) Kato, S., Koike, T., Lei, T.T., Hsieh, C.F., Ueda, K. and Mikami, T. (2000) Analysis of mitochondrial DNA of an endangered beech species, *Fagus hayatae* Palibin ex Hayata. *New Forests* 19: 109-114.
- (112) Kitao, M., Lei, T.T., Koike, T., Tobita, H. and Maruyama, Y. (2000) Susceptibility to photoinhibition of three deciduous broadleaf tree species with different successional traits raised under various light regimes. *Plant Cell Environ.*, 23: 81-89.
- (113) Koike, T., Yazaki, K., Funada, R., Maruyama, Y., Mori, S. and Sasa, K. (2000) Forest heath and vitality in northern Japan - A case study on larch plantation-. *Research Note, Fac. Forestry, The Univ. Joensuu.* 92: 49-60.
- (114) Abaimov, AP., Zyryanova, OA, Prokushkin, SG, Matsuura, Y. and Koike, T. (2000) Forest ecosystems of the cryolithic zone of Siberia; regional features, mechanisms of stability and pyrogenic changes. *Eurasian J. For. Res.*, 1: 1-10.
- (115) Yanagihara, Y., Koike, T., Matsuura, Y., Mori, S., Shibata, H., Satoh, F., Masuyagina, O.V., Zyranova, O.A, Prokushkin, S.G, and Abaimov, A.P. (2000) Soil respiration rate on the contrasting north-and south-facing slopes of a larch forest in central Siberia.. *Eurasian J. For. Res.*, 1: 19-29.
- (116) Koike, T., Yazaki, K., Funada, R., Kitao, M., Maruyama, Y., Takahashi, K., Maximov, TC, and Ivanov, BI. (2000) Photosynthetic characteristics of Dahurian larch, Scotch pine and white birch seedlings native to eastern Siberia raised under elevated CO₂. *Eurasian J. For. Res.*, 1: 31-37.
- (117) Abaimov, A. P., Zyryanova, O. A, Prokushkin, S. G, Matsuura, Y. and Koike, T. (2000) Forest ecosystems of the cryolithic zone of Siberia; regional features, mechanisms of stability and pyrogenic changes. *Eurasian Journal of Forest Research* 1: 1-10.

>1999

- (118) Kitao, M., Lei, T.T. and Koike, T. (1999) Effects of manganese in solution culture on the growth of five deciduous broad-leaved tree species with different successional characters from northern Japan. *Photosynthetica* 36: 31-40.
- (119) Nakamura, T., Koike, T., Lei, T.T., Ohashi, K., Shinano, T. and Tadano, T. (1999) The effect of CO₂ enrichment on the growth of nodulated and non-nodulated isogenic types of soybean raised under two nitrogen concentrations. *Photosynthetica* 37: 61-70.

>1998

- (120) Koike, T., Kato, S., Shimamoto, Y., Kitamura, K., Kawano, S., Ueda, K. and Mikami, T. (1998) Mitochondrial DNA variation follows a geographic pattern in Japanese beech species. *Botanica Acta* 11: 87-91.
- (121) Koike, T., Tabuchi, R., Mori, S., Takahashi, K. and Lei, T.T. (1998) Characteristics of the light response in seedlings and saplings of two mid successional species, ash and kalopanax, during the early stage of regeneration in a mature forest. *J. Sustainable For.*, 6: 73-84
- (122) Lei, T.T., Tabuchi, R., Kitao, M., Takahashi, K. and Koike, T. (1998) Effects of season, weather and vertical position on the light variation in quantity and quality in a Japanese deciduous broadleaf forest. *J. Sustainable For.*, 6: 35-55.
- (123) Kitao, M., Lei, T.T. and Koike, T. (1998) Application of chlorophyll fluorescence to evaluate Mn tolerance of deciduous broad-leaved tree seedlings native to northern Japan. *Tree Physiol.* 18: 135-140.
- (124) Lei, T.T. and Koike, T. (1998) Functional leaf phenotypes for shade and open environments of a dominant dwarf bamboo (*Sasa senanensis*) in northern Japan. *Int. J. Plant Sci.*, 159: 812-820.
- (125) Lei, T.T. and Koike, T. (1998) Some observations of phenology and ecophysiology of *Daphne kamtschatica* Maxim. var. *jezoensis* (Maxim.) Ohwi, a shade deciduous shrub, in the forest of northern Japan. *J. Plant Res.*, 111: 207-212.
- (126) Izuta, T., Kobayashi, T., Matsumura, H. and Koike, T. (1998) Visible foliar injuries induced by simulated acid rain in several Japanese forest tree seedlings. *Forest Resources Environ.*, 36: 12-18.
- (127) Umemoto-Mori, M., Izuta, T. and Koike, T. (1998) Application of simple infiltration method for evaluating stomatal patchiness in beech leaves treated with O₃ and high CO₂. *Forest Resources Environ.*, 36: 19-25.
- (128) Koike, T., Watanabe, T., Toda, H. and Haibara, K. (1998) Morphological diversity of stomata of representative broadleaved trees in a temperate region: detection with the Sump method. *Forest Resources Environ.*, 36: 55-63.

>1997

- (129) Koike, T., Honma, K., Lei, T.T., Matsui, K. and Makita, A. (1997) Characteristics of the light response of photosynthetic rate in *Sasa kuliensis* seedlings. *Bamboo J.*, 14: 15-19.
- (130) Hanba, Y.T., Mori, S., Lei, T.T., Koike, T. and Wada, E. (1997) Variations in leaf δ¹³C along a vertical profile of irradiance in a temperate Japanese forest. *Oecologia* 110: 253-261.
- (131) Kitao, M., Lei, T.T., Mori, S., Koike, T. and Maruyama, Y. (1997) Increased susceptibility to photoinhibition in leaves of Japanese elm (*Ulmus davidiana* var. *japonica*) with high manganese concentration. *Plant and Soil* 195: 409-410.

- (132) Koike, T., Izuta, T., Lei, T.T., Kitao, M. and Asanuma, S.(1997) Effects of high CO₂ on nodule formation in roots of Japanese mountain alder seedlings grown under two nutrient levels. *Plant and Soil* 195: 887-888.
- (133) Kitao, M., Lei, T.T. and Koike, T.(1997) Effect of manganese toxicity on photosynthesis of white birch (*Betula platyphylla* var. *japonica*) seedlings. *Physiol. Plant.* 101: 249-256.
- (134) Kitao, M., Lei, T.T. and Koike, T. (1997) Comparison of photosynthetic responses to manganese toxicity in deciduous broad-leaved trees in northern Japan. *Environ. Pollut.*, 97: 113-118.
- (135) Koike, T., Miyashita, N. and Toda, H.(1997) Effects of shading on leaf structural characteristics in successional deciduous broadleaved tree seedlings and their silvicultural meaning. *Forest Resources Environ.*, 35: 9-25.
- (136) Nakamura, T., Osaki, M., Hanba, Y.T., Koike, T., Wada, E. and Tadano, T. (1997) Effect of CO₂ enrichment on carbon and nitrogen interaction in wheat and soybean. *Soil Sci. Plant Nutri.* 43: 789-798.

>1996

- (137) Lei, T.T., Tabuchi, R., Kitao, M. and Koike, T. (1996) The functional relationship between chlorophyll content, leaf reflectance, and light capturing efficiency of Japanese forest species under natural shade and open light regimes. *Physiol. Plant.* 79: 411-418.
- (138) Koike, T., Lei, T.T., Maximov, T.C., Tabuchi, R., Takahashi, K. and Ivanov, B.I (1996) Comparison of the photosynthetic capacity of Siberian and Japanese birch seedlings grown in elevated CO₂ and temperature. *Tree Physiol.*, 16: 381-385.
- (139) Koike, T., Mori, S., Takahashi, K. and Lei, T.T. (1996) Effects of high CO₂ on the shoot growth and photosynthetic capacity of seedlings of Sakhalin fir and Monarch birch native to northern Japan. *Environ. Sci.* 4: 93-102.
- (140) Shinano, T., Lei, T.T., Kawamukai, T., Inoue, M.T., Koike, T. and Tadano, T. (1996) Dimethylsulfoxide method for the extraction of chlorophylls a and b from the eaves of wheat, field bean, dwarf bamboo, and oak. *Photosynthetica* 32: 409-415.
- (141) Rousi, M., Mattson, W.J., Tahvanainen, J., Koike, T., and Uotila, I. (1996) Growth and hare resistance of birches: testing defense theories. *Oikos* 77: 20-30.
- (142) Wu, G., Toda, H., Haibara, K. and Koike, T. (1996) Dynamics of water-soluble base cations in a forest soil measured by an in situ IER method. *Jpn. J. For. Environ.*, 38: 92-97.
- (143) Koike, T.(1996) Leaf morphology and anatomy affecting the net photosynthetic rate of 33 deciduous broadleaved trees. *Forest Resources Environ.*, 34:25-32.
- (144) Koike, T., Umemoto, M., Horie, K. Sato, K. and Izuta, T. (1996) Foliar symptoms and shoot development of deciduous broadleaved tree seedlings raised under ambient and enriched carbon dioxide with two nutrient regimes. *Forest Resources Environ.*, 34:81-88.

>1995

- (145) Koike, T. (1995) Effects of CO₂ in interaction with temperature and soil fertility on the foliar phenology of alder, birch, and maple seedlings. *Can. J. Bot.*, 73:149-157.

- (146) Koike, T., Kohda, H., Inoue, M.T., Mori, S., Takahashi, K. and Lei, T.T. (1995) Growth responses of the cuttings of two willow species to elevated CO₂ and temperature. *Plant Species Biol.*, 10: 95-101.
- (147) Lechowicz, M.J. and Koike, T. (1995) Phenology and seasonality of woody plants: An unappreciated element in global change research? *Can. J. Bot.*, 73:147-148.
- >1994
- (148) Lei, T.T., Mori, S., Takahashi, K. and Koike, T. (1994) Seasonal photosynthetic patterns of *Sasa senanensis* in natural open and forest shade sites in Hokkaido, Japan. *Bamboo J.* 12: 49-55.
- (149) Kogami, H., Shono, M., Koike, T., Yanagisawa, S., Izui, K., Sentoku, N., Tanifuji, S., Uchimiya, H. and Toki, S. (1994) Molecular and physiological evaluation of transgenic tobacco plants expressing a maize phosphoenolpyruvate carboxylase gene under the control of the cauliflower mosaic virus 35S promoter. *Transgenic Res.*, 3:287-296.
- (150) Koike, T., Mori, S., Kitao, M., Takahashi, K. and Lei, T.T. (1994) Effect of elevated CO₂ and temperature on the survival and growth of transplanted rhizomes of *Sasa senanensis*. *Bamboo J.* 12: 43-48.
- (151) Koike, T., Hasler, R. and Item, H. (1994) Needle longevity and photosynthetic performance in Cembra Pine and Norway Spruce growing on the north- and east-facing slopes of the timberline of Stillberg in the Swiss Alps. *USDA INT-GTR*, 309:78-80.
- >1993
- (152) Matyssek, R., Keller, Th. and Koike, T. (1993) Branch growth and leaf gas exchange of *Populus tremula* exposed to low ozone concentration through out two growing seasons. *Environ. Pollut.*, 79:1-7.
- >1992
- (153) Koike, T., Sanada, M., Lei, T.T., Kitao, M. and Lechowicz, M.J. (1992) Senescence and the photosynthetic performance of individual leaves of deciduous broad-leaved trees as related to forest dynamics. *Res. Photosynthesis.* 4: 703-706.
- >1990
- (154) Koike, T. (1990) Autumn coloring, photosynthetic performance and leaf development of deciduous broad-leaved trees in relation to forest succession. *Tree Physiol.*, 7:21-32.
- >1989
- (155) Koike, T. and Sanada, M. (1989) Photosynthesis and leaf longevity in alder, birch, and ash seedlings grown under different nitrogen levels. *Ann. Sci. For. (Paris)* 46: 295-297, 1989.
- >1988
- (156) Koike, T. (1988) Leaf structure and photosynthetic performance as related to the forest succession of deciduous broad-leaved trees. *Plant Species Biol.*, 3:77-87.
- >1987
- (157) Koike, T. (1987) Photosynthesis and expansion in leaves of the early, mid, and late successional tree species, birch, ash and maple. *Photosynthetica* 21:503-508.
- >1986

- (158) Koike, T. (1986) Photosynthetic responses to light intensity of deciduous broad-leaved tree seedlings raised under various artificial shade. *Environ. Cont. Biol.*, 24:51-58.
- (159) Koike, T. (1986) A method for measuring photosynthesis with detached parts of deciduous broadleaved trees in Hokkaido. *J. Jpn. For. Soc.*, 68:425-428, 1986
- (160) Koike, T. and Tanaka, K. (1986) Photosynthesis and respiration in leaves of *Betula maximowicziana* infected with *Taphrina betulina*. *J. Jpn. For. Soc.*, 68: 194-196.
- >1985
- (161) Koike, T. and Sakagami, Y. (1985) Comparison of the photosynthetic responses to temperature and light of *Betula maximowicziana* and *Betula platyphylla* var. *japonica*. *Can. J. For. Res.*, 15:631-635.
- >1984
- (162) Koike, T. (1984) Comparison of photosynthetic response to habitat factors between seedlings and saplings *Fraxinus mandshurica* var. *japonica*. *Environ. Cont. Biol.*, 22:33-38.
- (163) Koike, T. and Sakagami, Y. (1984) Examination of methods of measuring photosynthesis with detached parts of three species of birch in Hokkaido. *J. Jpn. For. Soc.*, 66:373-340.
- >1982
- (164) Koike, T. (1982) The formation of new leaves on seedlings of *Chamaecyparis obtusa* S. et Z. treated photoperiodically from summer to winter. *J. Jpn. For. Soc.*, 64:275-279.

Contribution to Book Chapter:

- (1) Koike, T., Yazaki, K., Eguchi, N., Kitaoka, S., and Funada, R. (2009) Effects of elevated CO₂ on ecophysiological responses of larch species native to Northeast Eurasia. *In: Osawa, A., Matsuura, Y. Abaimov. A.P. and Wein, R.W. eds. "Larch Forest Ecosystems in the Permafrost Zone of Siberia". Springer Verlag, Ecological Studies Series.*
- (2) Qu L., Makoto K., Choi D.S., Quoreshi A.M. and Koike T. (2009) The role of ectomycorrhiza in boreal forest ecosystem. *In: Osawa, A., Matsuura, Y. Abaimov. A.P. and Wein, R.W. eds. "Larch Forest Ecosystems in the Permafrost Zone of Siberia". Springer Verlag, Ecological Studies Series.*
- (3) Koike, T., Mori, S., Zyryanova, O.A., Kajimoto, T., Matsuura, Y. and Abaimov, A.P. (2009) Photosynthetic characteristics of trees and shrubs grown at north- and south-facing slopes in central Siberia. *In: Osawa, A., Matsuura, Y. Abaimov. A.P. and Wein, R.W. eds. "Larch Forest Ecosystems in the Permafrost Zone of Siberia". Springer Verlag, Ecological Studies Series.*
- (4) Koike, T., Matsuki, S., Tobita, H., Shibata, t., Kitao, m., Qu. L.Y., Choi, D.S., Konno, K., ns Maruyama, Y. (2006) Defense characteristics of seedlings of *Betula platyphylla* var. *japonica* grown under different levels of CO₂ and soil fertility. *In: Terazawa, M. ed. "Tree Sap III", Hokkaido University Press, Sapporo, 133-140.*
- (5) Yazaki, K., Maruyama, Y., Mori, S., Koike, T. and Funada, R. (2005) Effects of elevated carbon dioxide concentration on wood structure and formation in trees, *In:*

- Omasa, K. Nouchi, I. and De Kok, L. J. (eds), "Plant responses to air pollution and global change." Springer Tokyo, 89-97.
- (6) Koike, T. (2004) Autumn coloration, carbon acquisition, and leaf senescence. *In*: L.D. Noodén ed.: "Plant Cell Death Processes". Elsevier-Academic Press. Amsterdam, San Diego. 245-258.
 - (7) Koike, T., Kitaoka, S., Ichie, T., Lei, T.T. and Kitao, M. (2004) Photosynthetic characteristics of mixed broadleaf forests from leaf to stand. *In*: Shiomi, M. and Kawahata, H. eds. "Global Environmental Change in the Ocean and on Land". TerraPub, Tokyo 453-472.
 - (8) Nakamura, T., Kitao, M., Tobita, H., Maruyama, Y., Lei, T.T. and Koike, T. (2000) Observation of patchy stomatal closure and growth of white birch seedlings raised under ambient and elevated CO₂ with special reference to soil moisture. *In*: Terazawa, M., "Trees Sap II", Hokkaido University Press, Sapporo, 97-104.
 - (9) Schulze, E-D., Bazzaz, F.A., Nadelhoffer, K., Koike, T. and Takatsuki, S. (1996) SCOPE Series: Functional Roles of Biodiversity: A global perspective. *In*: Mooney, H.A., Cushman, J.H., Medina, E., eds. "Biodiversity and ecosystem function of temperate deciduous broad-leaved forests" John Wiley & Sons, Chichester, New York, Singapore., 71-98.
 - (10) Reich, P.B., Koike, T., Gower, S.T. and Schoettle, A (1995) Ecophysiology of coniferous forests. *In*: W.K. Smith and T.M. Hinkley eds. "Causes and consequences of variation in conifer leaf life-span", Academic Press, San Diego, 225-254.
 - (11) Koike, T. (1995) Vegetation Science in Forestry: Global Perspective based on Forest Ecosystems of East & Southeast Asia. *In*: E.O. Box et al. eds., "Physiological ecology of the growth characteristics of Japanese mountain birch in northern Japan: a comparison with Japanese mountain white birch", Kluwer Academic Publishers, The Netherlands, 409-422.
 - (12) Takahashi, K., Fujimura, Y. and Koike, T. (1987) Frost damage of Akaezomatsu (*Picea glehnii* Mast.) plantations by a cold air lake. *In*: Fujimori, T. and Kimura, M. eds. Human Impacts and management of Mountain Forests. Sobun-sha, Tokyo, 167-175.
 - (13) Koike, T. (1987) The growth characteristics in Japanese mountain birch (*Betula ermanii*) and white birch (*Betula platyphylla* var. *japonica*) and their distribution in the northern part of Japan. *In*: Fujimori, T. and Kimura, M. eds. Human Impacts and management of Mountain Forests. Sobun-sha, Tokyo, 189-200.
 - (14) Koike, T., Sakagami, Y. and Fujimura, Y. (1986) Characteristics of the leaf dynamics and photosynthesis of the seedlings and saplings of *Betula maximowicziana* and *Fraxinus mandshurica* var. *japonica* in Hokkaido, Japan. *In*: Fujimori, T. and Whitehead, D. eds. Crown and Canopy Structure in relation to Productivity, Forestry & Forest Products Research Institute, Sobun-sha, Tokyo, 396-408.

Proceedings of international congresses:

- (1) Makoto, K., Shibata, H., Kim Y.S., Satomura, T., Takagi, K., Nomura, M., Satoh, F., Sasa, K., Koike, T. (2008) The effects of charcoal removal on short term soil nutrient dynamics after experimental burning in the *Betula platyphylla* forests,

- northern Japan. Proceed. "The '88 Fires: Yellowstone and Beyond" in Jackson, Wyoming on September 22-27, 2008. Pp 124-125.
- (2) Eguchi, N., K. Karatsu, T. Ueda, R. Funada, K. Takagi, T. Hiura, K. Sasa, and T. Koike(2005) Change of growth and photosynthetic responses of deciduous tree species saplings grown in a free air CO₂ enrichment (FACE) system. 7th International Carbon Conference, Colorado, U.S.A.
 - (3) Choi, D.S., Y. Maruyama, H.O Jin, K. Sasa and T. Koike (2005) Effect of ectomycorrhizal infection on the growth and photosynthetic characteristics of three species of pine seedlings grown under elevated CO₂ concentrations. 7th International Carbon Conference, Colorado, U.S.A.
 - (4) Koike, T., Matsuki, S., Choi, D.S., Matsumoto, T., Sakamoto, Y. and Maruyama, Y. (2005) Leaf longevity and defense characteristics in trees of Betulaceae. IUFRO workshop S07. in press
 - (5) Koike, T., Matsuki, S. and Matsumoto, T. (2003) Effects of Defoliation on Defense Characteristics in Leaves of Deciduous Broad-Leaved Tree Species in Changing Environment. COE international symposium of Kanazawa University on Long- and short-term dynamics Pan-Japan Sea area: Environmental change and Prediction. 402-405.
 - (6) Teskey, R. O. and Koike, T. (2002) Carbon cycle management in forests. "Carbon cycle management in terrestrial ecosystems", Proc. The 9th U.S.-Japan workshop on global change. 9-10.
 - (7) Koike, T. (2002) Maintenance of high biomass productivity of mixed conifer-broadleaved forests under changing environment: an ecophysiological perspective. "Carbon cycle management in terrestrial ecosystems", Proc. The 9th U.S.-Japan workshop on global change. 35-36.
 - (8) Zyranova, I.A., Bugaenko, T.N., Buganenk, N.N., Koike, T., and Takenaka, A. (2001) Plant association diversity regeneration as related cryogenic microrelief and forest fires. Proc. Joint Siberia Permafrost Studies, 9: 18-23.
 - (9) Koike, T., Wang, W., Kitaoka, S., Mori, S., Matsuura, Y., Prokushkin, A.S., Zyryanova, O.A., Prokushkin, S.G. and Abaimov, A.P. (2001) Photosynthetic light curves of trees and shrubs grown under contrasting north-and south-facing slopes in central Siberia. Proc. Joint Siberia Permafrost Studies, 9: 35-41.
 - (10) Wang, W., Kitaoka, S., Shi, F., Sasa, K. and Koike, T. (2001) Respiration rate of stems and roots of a larch plantation with special reference to the seasonal change in their cambium activity. Proc. Joint Siberia Permafrost Studies, 9: 42-49.
 - (11) Korotki, T.I., Prokushkin, A.S., Prokushkin, S.G., Abaimov, A.P. Matsuura, Y., Koike, T. and Shibata, H. (2001) Variability of dissolved organic carbon and dissolved nitrogen in central Evenkia stream during vegetation period. Proc. Joint Siberia Permafrost Studies, 9: 85-92.
 - (12) Masyagina, O.V., Prokushkin, S.G., Mori, S., Koike, T. and Yanagihara, Y. (2001) Postfire vegetation cover respiration in permafrost zone of middle Siberia. Proc. Joint Siberia Permafrost Studies, 9: 128-133
 - (13) Kitaoka, S., Kitahashi, Y., Shimizu, K., Hiura, T. and Koike, T. (2001) Canopy photosynthesis and transpiration in deciduous trees with special references stomatal and non-stomatal regulation. Proc. Canopy biology in Tropical Rain Forests. 108-114.
 - (14) Koike, T., Kitahashi, Y., Nakagawa, M. and Nakashizuka, T. (2001) Mid-day

depression of photosynthetic rate in canopy trees native to Tropical Rain Forest in the Lambir Hills National Park, Sarawak, Malaysia. Proc. Canopy biology in Tropical Rain Forests. 51-56.

- (15) Qu, L.Y., Quoreshi, A.M. and Koike, T. (2001) Root growth characteristics, biomass and nutrient dynamics of larch species raised under different fertilization regimes. Proceedings of International Symposium of Root Research, 6: 376-377.
- (16) Quoreshi, A.M., Qu, L.Y., Kitaoka, S. and Koike, T. (2001) Root growth, dry matter and nutrient partitioning in containerized *Picea glehnii* seedlings in response to exponential nutrient loading and elevated CO₂. Proceedings of International Symposium of Root Research, 6: 378-379.
- (17) Qu, L.Y., Wang, W., Shi, F.C., Quoreshi, A.M., Kitaoka, S. and Koike, T. (2001) Stem and soil respiration of Japanese larch plantation and their contributions to CO₂ flux estimation. Int. Carbon Dioxide Conference 6:441-444.
- (18) Quoreshi, A.M., Qu, L.Y., Kitaoka, S. and Koike, T. 2001. Root growth, dry matter and nutrient partitioning in containerized *Picea glehnii* seedlings in response to exponential nutrient loading and elevated CO₂. Proceedings of International Symposium of Root Research, 6: 378-379.
- (19) Kitaoka, S. Wang, W., Shi, F., Sasa, K. and Koike, T. 2001. Seasonal changes of light utilization capacity in deciduous broad-leaved tree seedlings invaded into trunk space of a larch plantation. 6th International Carbon Conference, 392-395.
- (20) Kitaoka, S., Koike, T., Quoreshi, A.M., Takagi, K., Wang, W., Shi, F., Kayama, M., Ishida, N., Mamiya, H. and Sasa, K. 2001. Seasonal changes in the photosynthetic capacity of Japanese larch trees planted on the Tomakomai National Forest, northern Japan. Proceedings of International Workshop for Advanced Flux Network and Flux Evaluation, 109-112.
- (21) Wang, W., Kitaoka, S., Koike, T., Quoreshi, Ali M., Takagi, K., Kayama, M., Ishida, N., Mamiya, H. Shi, F., Zu, Y. and Sasa, K. 2001. Respiration of non-photosynthetic organs and forest soil of Japanese larch plantation and its contribution to CO₂ flux estimation. Proceedings of International Workshop for Advanced Flux Network and Flux Evaluation, 119-123.
- (22) Kayama, M., Kitaoka, S., Koike, T., Takagi, K., Satoh, F., Wang, W., Shi, F., Sugata, S., Hojyo, H., Sugishita, Y. Nomura, M., Akibayashi, Y. and Sasa, K. 2001. Photosynthetic Capacity of hybrid larch and dwarf bamboo grown in the Teshio experiment forest located at the border between Russia and Japan. Proceedings of International Workshop for Advanced Flux Network and Flux Evaluation, 105-108.
- (23) Koike, T. (1993) Ecophysiological responses of the northern tree species in Japan to elevated CO₂ concentrations and temperature. First IGBP Symposium (Oshima, Y. ed.), Japan Promotion of Sciences, Tokyo, 425-430.1993
- (24) Koike, T., Sasa, K., Satoh, F., Yasue, K., Yazaki, K., Funada, R., Mori, S., Matsuura, Y., Maruyama, Y., Zyryanova, O.A., Prokushkin, A.S., and Abaimov, A. P. (2000) Annual ring growth of larch trees grown on the contrasting north-and south-facing slopes in eastern central Siberian Taiga under global changing environment. Proc. Joint Siberia Permafrost Studies. 8: 23-28.
- (25) Prokushkin, A.S., Prokushkin, S.G. Koike, T. and Abaimov, A. P. (2000) Fluxes and activity of dissolved organic carbon in larch ecosystems of the northern part of central Siberia. Proc. Joint Siberia Permafrost Studies. 8: 135-140.
- (26) Koike, T. Tanaka, K., Kitao, M., Ninomiya, I., Kendawang, J.J. and Ogino, K.

- (2000) Photoinhibition of seedlings detected by a chlorophyll fluorescence method in the Bakam experimental reserve in Sarawak. Workshop on Forest Ecosystem Rehabilitation. Malaysia, 168-175.
- (27) Hiromi, T., Ninomiya, I., Koike, T., and Ogino, K. (2000) Transpiration and stomatal regulation at canopy top of Tropical rain forest in Sarawak. Workshop on Forest Ecosystem Rehabilitation. Malaysia. 176-181
- (28) Tanaka, K., Koike, T., Ninomiya, I., Kendawang, J.J. and Ogino, K. (2000) Response of light-photosynthesis curve of several tree species planed in the Bakam experimental reserve. Workshop on Forest Ecosystem Rehabilitation. Malaysia. 162-165.
- (29) Mori, S., Koike, T. Yanagihara, Y., Masyagina, O., Prokushkin, A.S., Kajimoto, T., Zyryanova, O.A., Prokushkin, A.S., Abaimov, A.P., Matsuura, Y. and Ueda, T. (2000) Daytime whole-tree respiration of *Larix gmellini* trees in middle Siberia. Proc. Joint Siberia Permafrost Studies, 8: 59-65.
- (30) Ninomiya, I., Tanaka, K., Koike, T., Lee, H.S. and Ogino, K. (2000) Ecophysiology of seedlings planted in the Bakam experimental reserve. Workshop on Forest Ecosystem Rehabilitation. Malaysia, 25-29.
- (31) Koike, T., Haibara, K., Matsuura, Y., Takahashi, K. Maximov, T.C and Ivanov, B.I. (1999) Micro-site and age-dependent shoot development and needle nutrient levels of Scotch pine growing in the Yakutian permafrost region, eastern Siberia. Proc. of Forth Symposium on Joint Siberian Permafrost Studies between Japan and Russia. (Fukuda, M.ed.) The Low temperature Sci. Hokkaido Univ., Sapporo, 48-53.
- (32) Koike, T. (1999) Forest vitality and health – a brief history of larch plantation in northern Japan-, Asia-Europe workshop- people-to-people exchange in sustainable forest management, Univ. of Joensuu, Finland, 11-12.
- (33) Koike, T., Haibara, K., Lei, T.T., Matsuura, Y., Mori, S., Funada, R., Takahashi, K. and Ivanov, B.I. (1997) Comparison of photosynthetic characteristics of eastern Siberia larch, Scots pine and white birch seedlings raised under elevated CO₂. Proc. Joint Siberian Permafrost Studies, 5: 109-114.
- (34) Takahashi, K., Koike, T., Tabuchi, R., Ohta, S., Maximov, T.C., Kononov, A.V. Maximov, A.P. and Ivanov, B.I. (1997) Diurnal change of atmospheric CO₂ concentration in Siberian Taiga during growing season at Yakutsk. Proc. Joint Siberian Permafrost Studies, 5: 21-27.
- (35) Koike, T., Lei, T.T., Mori, S., Chiba, Y. and Oikawa, T. (1997) Leaf structure and gas exchange responses of birch and maackia, a woody legume raised under CO₂ levels ranging from the pre-industrial period to a tripling. Int. Workshop on Global Change and Terrestrial Environment in Monsoon Asia. The Univ. Tsukuba Special Project for Global Change. 7-10.
- (36) Ivanov, B.I., Maximov, T.C., Desyatkin, R.V., Kononov, A.V., Maximov, A.P., Koike, T. and Takahashi, K. (1995) CO₂ emission by conifers and leaf-bearing forests of Yakutia. Proc. Symposium Joint Permafrost studies between Japan and Russia in 1992-1994. (Solomonov, N., et al. eds.), Russian Academy of Science, Siberian Division, Yakut Institute of Biology, Yakutsk, 12-17.
- (37) Maximov, T.C., Kononov, A.V. and Koike, T. (1995) Photosynthetic activity of woody plants in Yakutia. Proc. Sympto. Joint Permafrost study between Japan and Russia in 1992-1994. (Solomonov, N. et al. eds.), Russian Academy of Science, Siberian Division, Yakutsk, 24-30.

- (38) Koike, T., Lei, T.T., Maximov, T.C., Mori, S., Takahashi, K. and Ivanov, B.I. (1995) Growth and photosynthetic characteristics of Siberian white birch and Scotch pine seedlings raised under elevated CO₂ and temperature. Proc. Joint Siberian Permafrost Studies 3: 102-108.
- (39) Maximov, T.C., Tabuchi, R. and Koike, T. (1994) Preliminary experiment of measuring light-photosynthesis curve of representative plants native to eastern Siberia region. Interim Report of Joint Research Project "Carbon Storage and Carbon Dioxide Budget in Forest Ecosystems" between Japan and Russia. (Takahashi, K. ed.) FFPRI, Sapporo, 21-22, 1994
- (40) Koike, T. and Tabuchi, R. (1994) Ecophysiological studies of woody plants of Yakutia. Abstract of Sakha-Japan Joint Research. Interim Report of Joint Research Project "Carbon Storage and Carbon Dioxide Budget in Forest Ecosystems" between Japan and Russia. (Takahashi, K. ed.) FFPRI, Sapporo, 59-71, 1994
- (41) Koike, T., Tabuchi, R., Lei, T.T., Maximov, T.C., Ivanov, B. and Takahashi, K. (1994) Growth and homeostatic adjustment in the photosynthetic capacity of Siberian and Japanese birch grown under elevated CO₂ and temperature. Proc. Joint Siberian Permafrost Studies, 2: 169-176.
- (42) Tabuchi, R., Koike, T., Maximov, T.C., Ivanov, B.I. and Takahashi, K. (1994) Gas exchange measurements on some major tree species in Siberian permafrost region in summer. Proc. Joint Siberian Permafrost Studies, 2: 164-168.
- (43) Koike, T. and Tabuchi, R. (1993) A trial of the measurement of CO₂ concentration in a forest and photosynthesis of woody species native to eastern Siberia. Proc. Joint Siberian Permafrost Studies, 1: 69-74.

Abstract of international congress

- (1) Koike, T., Matsuki, S., Shibata, T., Tobita, H., Konno, K., Kitao, M., Maruyama, Y. (2005) Defense characteristics of deciduous broad-leaved tree seedlings grown under factorial combination of two levels of CO₂ and nitrogen, 17th International Botanical Congress (Vienna)
- (2) Eguchi N, Karatsu K, Ueda T, Takagi K, Sasa K, Hiura T, Funada R, Koike T (2005) Change of photosynthetic capacity of *Alnus hirsuta* sapling grown in a free air CO₂ enrichment (FACE) system-Comparing the proximate *Betula* spp. without symbiotic N₂ fixing micro-organism- 17th International Botanical Congress (Vienna)
- (3) Qu, L.Y., Kitaoka, S., Sasa, K. and Koike, T. (2005) Influence of environmental factors, soil carbon, and soil microorganism biomass on soil microbial respiration in a Japanese larch forest. 9th INTECOL (Montreal)
- (4) Kitaoka, S. Wang, W., Sakuma, Y., Choi, D., Kayama, M., Fujinuma, Y., Hirano, T., Sasa, K. and Koike, T. (2004) Seasonal and yearly variation of CO₂ assimilation capacity in needles of the canopy of larch trees in northern Japan.
- (5) Choi, D.S., Quoreshi, A.M., Maruyama, Y., Jin, H.O and Koike, T. (2004) Mycorrhizal activities in *Pinus densiflora*, *P. koraiensis* and *Larix kaempferi* raised under high CO₂ in relation to water use efficiency. The 6th International Symposium on Plant responses to Air Pollution and Global Changes From Molecular Biology to Plant Production and Ecosystem. (APGC2004) (Tsukuba, Japan). (in press).
- (6) Choi, D.S., Jin, H.O, Lee, C.H. and Kayama, M. (2004) Effects of soil acidification on the growth of Korean Pine (*Pinus koraiensis*) seedlings in granite-derived forest

- soil. The 6th International Symposium on Plant responses to Air Pollution and Global Changes From Molecular Biology to Plant Production and Ecosystem (Tsukuba, Japan) (APGC2004) (in press).
- (7) Choi, D.S., Jin, H.O, Maruyama, Y. and Koike, T. (2004) Photosynthetic characteristics of larch seedlings inoculated with ectomycorrhiza in combination with nutrient and CO₂ levels. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
 - (8) Masyagina, O.V., Hirano,T., Ji, D.H., Choi, D.S., Qu. L.Y., Fujinuma, Y., Sasa, K., Matsuura, Y., Abaimov, A.P., and Koike, T. (2004) Spatial and temporal variation of soil respiration rates affected by disturbance of timber harvest from a larch plantation in northern Japan. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
 - (9) JI, D.H., D.S.CHOI, Norikazu EGUCHI, Youko WATANABE, Satoshi KITAOKA, MyongJong YI, Takayoshi KOIKE (2004) Effects of shading on the photosynthetic characteristics of Japanese larch (*Larix kaempferi*) seedlings raised under different nitrogen regimes. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
 - (10) KOIKE, T., Makoto KUROMARU, DongHun JI, DongSu CHOI, Kentaro TAKAGI, Mutsumi NOMURA, Kaichiro SASA (2004) A brief history of making larch plantations and development of hybrid larch F1 in northern Japan. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
 - (11) Eguchi, N., Funada, R., Fukatsu, E., Koike, T. (2004) Changes of photosynthetic capacity of Japanese larch (*Larix kaempferi*) seedlings grown in high CO₂ concentration: morphological and anatomical approach within the needles. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
 - (12) Sakuma,Y., Watanabe, y., Fujinuma, Y., Ichie, T., Kayama, M., Kitaoka,S., and Koike, T. (2004) Canopy photosynthetic traits of short- and long-shoot needles in Japanese Larch (*Larix kaempferi*). In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
 - (13) WANG, Wenjie, Yuangang ZU, Kentaro TAKAGI Ikuko ENDO, Tomoaki ICHIE, Kaichiro SASA and Takayoshi (2004) Seasonal change in the photosynthetic capacity of cones in two larch species. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press)
 - (14) Qu. L.Y., Shinano, A. M. Quoreshi, Y. Tamai, M. Osaki and T. (2003) Allocation of ¹⁴C-carbon in infected with ectomycorrhizae of two species of larch seedlings. Proceeding of Third International Symposium Dynamics of Physiological Processes in Woody Roots. September2003.
 - (15) Kayama, M., Kitaoka, S., Okuyama, S., Matsuda, K., and Koike, T. (2002) Needle longevity and turnover of five spruce species planted in northern Japan. VIII INTECOL 2002, Seoul, August 2002.
 - (16) Koike, T., Jin, H.O. and Son, Y.H. (2002) Forest Health and vitality of coniferous forests in East Asia under changing environment. 8th International Congress on Ecology, Seoul, Aug., 2000
 - (17) Kitahashi, Y., Ichie, T., Maruyama, Y. and Koike, T. (2002) Difference of

- water-use efficiency in the crown of tropical trees. 3rd International Canopy conference 2002, CAIRNS-Australia
- (18) Kitahashi, Y., Maruyama, Y., Ichie T., Koike, T. (2002) Water utilization of broad-leaved trees varies at different height of the same sunny crown. VIII INTECOL 2002, SEOUL-Korea 8th International Congress on Ecology, Seoul, Aug., 2002
- (19) Qu, L.Y., Yanagihara, Y., Kitaoka, S., Fujinuma, Y., Sasa, K and Koike, T. (2002) Seasonal changes in the soil respiration rate in a Japanese larch forest 8th International Congress on Ecology, Seoul, Aug., 2002
- (20) Matsuki, S. and Koike, T. (2002) Chemical and physical defense of Betulaceae seedlings under changing environment” 8th International Congress on Ecology, Seoul, Aug., 2002.
- (21) Ichie, T., Nishimura, K., Ninomiya, I., Koike, T. and Nakashizuka, T. (2002) Flushing mechanism for a tropical canopy tree, *Dipterocarpus pachyphyllus*. 3rd International Canopy Conference (Cairns, Australia), 2002, June
- (22) Koike, T. Ichie, T., Nakagawa, M. and Nakashizuka, T. (2002) Photosynthetic characteristics of emergent trees in Lambir, Malaysia. 3rd International Canopy Conference (Cairns, Australia), 2002, June.
- (23) Ichie, T., Kenta, T., Nishimura, K., Ninomiya, I., Koike, T. and Nakashizuka, T. (2002) Dynamics of the the storage resource for general flowering process of a tropical emergent tree, *Dipterocarpus tempehes*. INTECOL, 8th, Seoul, Korea, 2002, Aug.
- (24) Ichie, T., Koike, T. and Ninomiya, I. (2002) Dynamics of the storage resources for reproduction of tropical emergent trees, *Dipterocarpus tempehes* and *Dryobalanops aromatica*. 50th Annual meeting of Japanese Ecological Society (Tsukuba Conference center) 2003, March.
- (25) Qu, L.Y., Y. Yanagihara, F.C. Shi, Y. Fujinuma, K. Sasa and T. Koike (2002) Seasonal changes in soil respiration rate of a Japanese larch forest. 8th International Congress on Ecology, (Seoul, Korea).
- (26) Matsuki, S. and Koike, T. (2001) The differences in the responses of spring leaf damage in Betulaceae seedlings” BRAIN Symposium、Multitrophic Interactions and Evolutionally Benign Pest Management, Kyoto, Jan. 2001, PO-5.
- (27) Koike, T., Matsuki, S., Matsumoto, T. and Maruyama, Y. (2001) Successional traits and defense chemicals of leaves of adult trees in Betulaceae. BRAIN Symposium、Multitrophic Interactions and Evolutionally Benign Pest Management, Kyoto, Jan. 2001, PO-4