

3.3 Joint Research

(1) List of Joint Research

A-1) Studies on the Micrometeorological Improvement of Agricultural Fields in Arid Lands

Measurements and Simulation on the Profiles of Atmospheric Carbon Dioxide Concentration over the Vegetation under the Advective Condition

Kyoko NAKAMOTO, Seiji HAYAKAWA, Makio KAMICHIKA and Tamon TSUJI

Relationship between Evapotranspiration and Penman's Potential Evapotranspiration in the Greenhouse

Takesi MIURA, Noboru MORITA, Kyoichi OTSUKI and Makio KAMICHIKA

Estimation of Soil Moisture in the Shallow Root Zone using Simple Meteorological Observation

Masahiro, YOSHIHARA, Nobuhiro MATSUOKA, Son GU, Kyoichi OTSUKI and Makio KAMICHIKA

A-2) Hydraulic Design and Water Management of Microirrigation

Development of Chemical Injection in Micro Irrigation System using the Bend Pipe

Soichi NISHIYAMA and Tomohisa YANO

Numerical Study on Water and Salt Transport

Kazuro MOMII and Tomohisa YANO

A-3) Analysis of the Eco-physiological Characteristics of the Root System under Arid Land Condition

Root System Structure in Relation to Water Collection and Conductance in Crop Plants

Akira YAMAUCHI, Shinobu INANAGA and Yukihiro SUGIMOTO

Respiration Cost in Rice Increases by Root Development under Low Soil Moisture Conditions

Tohru KOBATA, Takayuki ASAKI and Shinobu INANAGA

Study on Root Characteristics Relating to Stress Tolerance of Cereal Crops with Aspects of Functional Morphology

Jun ABE, Junko YAMAGISHI, Shinobu INANAGA and Yukihiro SUGIMOTO

A-4) Studies on Water-Saving Cultivation of Crops in Arid Lands

Effects of Salt Water Irrigation on Growth of Easter Lily

Hiroshi OKUBO, Mizue IDE and Masao TOYAMA

A-5) Eco-physiological Studies on Tree Tolerance to Water Deficiency and Salinity

Studies on Salt Tolerance of Tree Species

Tsuneo NAKASUGA and Shigenobu TAMAI

Pre-planting with *Salix psammophila* on Coastal Sand Dunes – Direct Planting of Cuttings

Masazo TOKUOKA and Shigenobu TAMAI

Growth, Phenology, and Drought Tolerance of *Acacia* Species Distributed in Semi-arid Area

Fukuju YAMAMOTO, Norikazu YAMANAKA and Shigenobu TAMAI

A-6) Studies on Farm Land Conservation in Arid Areas

On the Slope Protection from Soil Erosion in Shirasu using a Non-woven Fabric

Kenzo HOSOYAMADA and Tahei YAMAMOTO

Preferential Flows and Solutes Transport in Sandy Soils

Hiroyuki CHO, Gerrit H. de ROOIJ, Tahei YAMAMOTO and Mitsuhiro INOUE

The Experimental Study on the Rill Formation Process on a Bare Slope

- Plane and Cross-sectional Patterns of Rills-

Mitsuo FUKADA, Tahei YAMAMOTO and Mitsuhiro INOUE

Research on Measurement of Hydraulic Properties for Conservation of the Shallow Groundwater

Yuji TAKESHITA, Mitsuhiro INOUE and Tahei YAMAMOTO

B-1) Studies on Water and Salt Management on Woody Plants in Arid Areas

Water Dynamics in Citrus Tree

Tetsuo SAKURATANI, Hirokazu HIGUCHI, Tomohisa YANO and Shigemitsu TAKAGI

Studies on Water Requirement of Several Fruit Trees

Kuniaki TAKAHASHI, Noboru NAKATA and Tomohisa YANO

Ecophysiological Study of Drought Damage on Japanese Trees

Tatsuaki KOBAYASHI, Norikazu YAMANAKA and Shigenobu TAMAI

B-2) Integrated Researches on Soil-Water-Plant Monitoring by Remote Sensing

Analysis of Surface Temperature on Kagoshima Prefecture

- Considering Surface Emissivity on Landsat-5/TM Data -

Etsuji ISHIGURO, Yutaka HORAKU, Tomohiro TABATA, Ryuichi YONEMURA, Muneharu SATO, Hiroyuki KIKUKAWA, Makio KAMICHIKA, Kyoichi OTSUKI and Yasushi ABE

The Basic Study for Identifying Vegetation Structure and Physiology using Remote Sensing

Yoshiaki HONDA, Yasusi KAJIWARA, Chiaki OKANO and Kyoichi OTSUKI

Land Cover Classification of Satellite Images in Tottori Low Flatland

Hisashi FUJIMURA, Maki, KAMICHIKA and Kyoichi, OTSUKI

Application of Satellite Image Data to Land Use Change, Water Management in Large Scale Water Use System in Arid Area

Seiji TORII and Tahei YAMAMOTO

C) Free Subject on Arid Land Studies

Three dimensional numerical simulation of the flow field over Tottori sand dune

Tetsuya KAWAMURA, Yuki MOROHOSHI and Makio KAMICHIKA

Ethnopedological and Ecotechnological Study for Sustainable Agricultural Development in a Sahelian Watershed, Niger

Keiichi HAYASHI, Toshiyuki WAKATSUKI, Kyoichi OTSUKI

Study on the Change of Sand Dunes due to the Removal of Sand-Protection Trees

Hiroshi YAJIMA and Makio KAMICHIKA

Spectral Reflectance of Soybean Leaves Affected by Water and Salt Stresses

Yasuhide FUJIYAMA, Tamaki KAWAMOTO, Kyoichi OTSUKI and Makio KAMICHIKA

Measurement of Water Vapor Flux Using the Micrometeorological Methods

Hiromichi ODANI and Tomohisa YANO

Productivity of Wheat Culture in Arid Region of China

I. Observation of Wheat Plant Grown in the Field

Tadashi TAKAHASHI, Akihiro ISODA, Shinobu INANAGA and Yukihiro SUGIMOTO

Time Course of Bleeding Rate with Reference to Root System Development in Field Grown Maize

Shigenori MORITA, Junko YAMAGISHI, Jun ABE, Shinobu INANAGA and Yukihiro SUGIMOTO

Study on Pant Salt Tolerance by Metabolic Engineering of Glycinebetaine Accumulation in Rice

Tetsuko TAKABE, Shinobu INANAGA and Yukihiro SUGIMOTO

Fundamental Study on Natural Plant Growth Regulators for Enhancement of Crop Productivity in the Arid Land

Hiromitsu NAKAJIMA, Yukihiro SUGIMOTO and Shinobu INANAGA

Comparative Study on Factor of Soil Concerning Biological Products on Desert

Kazuhisa HASEGAWA and Masao TOYAMA

Ecophysiological Studies on the Pine Wilt Disease Occurring in Coastal Sand Dunes

Kazuyoshi FUTAI, Norikazu YAMANAKA, Shigenobu TAMAI and Fukuju YAMAMOTO

Ecophysiological Study on Drought Resistance of Tree Species in China

Ken YOSHIKAWA, Takashi KUWADA, Ayako SEO and Shigenobu TAMAI

Basic Studies on Agricultural Books in the Islamic World

Kosuke SHIMIZU and Tahei YAMAMOTO

Studies for Optimal Operation of Sub-Surface Drainage System in Arid and Semi-arid Regions - For Salinity Control and Supplementary Sub-Surface Irrigation -

Niaz AHMAD, Yoshihiro KAIDA and Tahei YAMAMOTO

Dynamics on Soil Moisture Variation by Temporal Underground Irrigation for Saving Water

Sakae SHIBUSAWA, Akira SASAO, Naoko KUROHAMA, and Mitsuhiro INOUE

Estimation of Hydraulic Properties for Water Flow and Salt Transport

Yasushi MORI, Yasutaka KIHARA and Mitsuhiro INOUE

In-situ Measurement of Soil Permeability

Toshihiro MORII and Mitsuhiro INOUE

X-ray Microanalysis of Silicon Localization in Leaves, Fruits, Stems and Roots of Wheat (*Triticum aestivum* L.) Grown with or without Silicate

Eiichi TANIMOTO, Alexander LUX, Miroslava LUXOVA, Ryoichi YAMAMOTO, Donald J. NEVINS, Emanuel EPSTEIN, Keiko TSUKAMOTO, Yukihiro SUGIMOTO and Shinobu INANAGA