

2.2 Research Projects

All Divisions

Basic studies toward establishing sustainable biological production systems required for combating desertification in dry land, since April 2000

1) Division of Arid Land Environment

Subdivision of Natural Environment

Studies on the wind climate and the sand movement in the Tottori Sand Dune

Allocation from the University Funds, Since April 1991

Analysis of ground surface information by remote sensing

Allocation from the University Funds, Since April 1991

Studies on the effect of water retentivity and thermal variation under soil surface mulching

Allocation from the University Funds, Since April 1993

Studies on the modification of the microclimate of the agricultural fields

Allocation from the University Funds, Since April 1997

Studies on the evaluation and utilization of natural energies

Allocation from the University Funds, Since April 1997

Studies on the monitoring of desertification in the Loess Plateau, China

Ministry of Education, Culture, Sports, Science and Technology for 21st Century COE Program for Arid Land Science, Since April 2003

Subdivision of Water Resources

Movement of salt and water due to water uptake by plant roots

Allocation from the University Funds, Since April 1990

Design and water management of micro irrigation

Allocation from the University Funds, Since April 1993

Estimation of crop consumptive use of water

Allocation from the University Funds, Since April 1993

Establishment of soil moisture measurement methods

Allocation from the University Funds, Since April 1993

Soil and water properties for effective water management

Allocation from the University Funds, Since January 1996

Development of technology for rehabilitation of salt accumulated soils

Allocation from the University Funds, Since April 1999

2) Division of Biological Production

Subdivision of Plant Ecophysiology

Physiological responses of gramineous plants to drought stress

21st Century COE Program Funds from Monbukagakusho, Since October 2002

Physiological responses of leguminous plants to salt stress

21st Century COE Program Funds from Monbukagakusho, Since October 2002

Photosynthetic characteristics of date palm

Allocation from the University Funds, Since April 2001

Control of plant root system

Joint Research Funds from Mitsubishi Heavy Industries, Ltd., Since September 2002
Identification and characterization of Plant indicators of desertification
Core University Program Funds from JSPS, Since April 2001

Subdivision of Plant Production

Studies on crop tolerance to water deficiency and salinity
Allocation from the University Funds, Since April 1996
Utilization of Xerophytes and Halophytes
Allocation from the University Funds, Since April 1999
Studies on utilization of drought tolerant leguminous plants
Allocation from the University Funds, Since April 1998
Alleviating effects of several substances on plants under drought and salt stresses
Allocation from the University Funds, Since April 1998

3) Division of Afforestation and Land Conservation

Subdivision of Revegetation and Grassland Development

Dynamics of Pine trees on sand dunes
Allocation from the University Funds, Since April 1994
Tree growth, and nutrient and water dynamics of trees and in the soil
Allocation from the University Funds, Since April 1994
Growth and reproductive characteristics of woody plants
Allocation from the University Funds, Since April 1995
Ecological studies on sand dune vegetation
Allocation from the University Funds, Since April 1995
Maintenance mechanisms of plant communities in arid areas
Allocation from the University Funds, Since April 1996
Studies on salt tolerance of woody plants
Allocation from the University Funds, Since April 1999
Impacts of climate change on agricultural production in arid areas
Research Institute for Humanity and Nature, From April 2001
Studies on the ecosystem rehabilitation in the loess plateau, China
21st Century COE Program Funds from Monbukagakusho, Since October 2002

Subdivision of Land Conservation

Assessment of water and solute transport characteristics during salt accumulation and leaching, and establishment of proper soil management for sustainable agricultural production in arid and semi-arid regions
Monbukagakusho Grant-in-Aid for Scientific Research B(2) , Since April 2001
Evaluation and standardization of in situ measurements of soil hydraulic and solute transport properties
Monbukagakusho Grant-in-Aid for Scientific Research B(1) , Since April 2001
Effect of water pollution on clogging of emitters and filters of micro-irrigation system in the Tohoku irrigation project
Ministry of Agriculture, Forestry and Fisheries, Since October 1992
Preventing of soil erosion by water for revegetation soil beds with sedum plant
Research of Requisition, Since April 2002
Improvement of high permeable soils using artificial zeolite
Research of Requisition, Since April 2003

Research Projects

Effect of water quality on drip irrigation schedules

Allocation from the University Funds, Since April 2000

Simultaneous movement of water flow and salt transport in unsaturated sand

Allocation from the University Funds, Since April 1997

Estimation of hydraulic properties using inverse method

Allocation from the University Funds, Since April 1997

Measure to prevent soil degradation and irrigation schedules for saving water in arid area

Allocation from the University Funds, Since April 2001

Measurement and numerical simulation of water flow and salt transport in unsaturated soil

Allocation from the University Funds, Since April 2001