

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 heat balance in the subtropical plant fields

Monbusho Grant-in-Aid for Scientific Research, Since April 2001

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

Land and agricultural system in West African small watershed

Monbusho Grant-in-Aid for Scientific Research A(2), Since April 1999

Salt behavior in soil affected by groundwater management and reuse of drainage water using subsurface drainage system

Monbusho Grant-in-Aid for Scientific Research C(2), Since April 2000

2) Division of Biological Production

Subdivision of Plant Ecophysiology

Development of plant production system using sea water

Allocation from the University Funds, Since April 1992

Physiological responses of soybean, tomato and melon to salt stress

Allocation from the University Funds, Since April 1996

Differences in the response to soil moisture depletion among cultivars of wheat and sorghum

Allocation from the University Funds, Since April 1996

Control of parasitic weed by inducing suicidal germination

Monbusho Grant-in-Aid for Scientific Research B, Since April 1999

Physiological responses of cultured plant cells to salinity stress

Allocation from the University Funds, Since April 1996

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

Damage 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

Studies on afforestation of hardwood in Pine forests damaged by pine wilt disease on coastal sand dunes

Monbusho Grant-in-Aid for Scientific Research C, From April 1999 to March 2001

Studies on the effect of aridity gradient on vegetation in eastern China

Nippon Life Insurance Foundation, From October 1999 to Sep. 2000

Subdivision of Land Conservation

Studies on solute dynamic transport during salt accumulation and leaching, and determination of effective soil management method in arid land

Monbukagakusho Grant-in-Aid for Scientific Research B(2) , Since April 2001

Studies on evaluation and standardization of the soil hydraulic and solute transport properties in situ

Monbukagakusho Grant-in-Aid for Scientific Research B(1) , Since April 2001

Studies on water quality of irrigation water resources in the Tohaku irrigation project

Ministry of Agriculture, Forestry and Fisheries, Since October 1992

Soil salinity improvement using artificial zeolite

Research of Requisition, Since April 1996

Dune sand improvement using recycled paper

Allocation from the University Funds, Since April 1997

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

Control of soil degradation and water saving irrigation in arid land

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