

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

Subdivision of Water Resources

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

Allocation from the University Funds

Design and water management of micro irrigation

Allocation from the University Funds

Estimation of crop consumptive use of water

Allocation from the University Funds

Establishment of soil moisture measurement methods

Allocation from the University Funds

Soil and water properties for effective water management

Allocation from the University Funds

Development of technology for rehabilitation of salt accumulated soils

Allocation from the University Funds

Land and agricultural system in West African small watershed

Monbusho Grant-in-Aid for Scientific Research A(2)

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)

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 response of soybean to salt stress

Allocation from the University Funds, Since April 1996
Differences in drought tolerance among wheat and sorghum varieties
Allocation from the University Funds, Since April 1996
Characterization of photoautotrophic plant cells adapted to salt stress
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

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
Damage alleviating effects of several substances on plants under drought and salt stresses
Allocation from the University Funds, Since April 1998
Studies on utilization of drought tolerant leguminous plants
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, Since April 1999
Ecological characteristics of salt tolerant plants and soil improvement in salt accumulated areas along the Yellow river
Nippon Life Insurance Foundation, Since October 1999
Studies on the effect of aridity gradient on vegetation in eastern China
Nippon Life Insurance Foundation, Since October 2000

Subdivision of Land Conservation

Discussion on soil degradation mechanism and efficient irrigation schedules in irrigated arid land
Monbusho Grant-in-Aid for Scientific Research B(2), From April 1998 to March 2001
Soil improvement by using recycling materials in irrigated fields of arid region
Monbusho Grant-in-Aid for Scientific Research of JSPS Fellows, From April 1999 to March 2001

Research Projects

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

Ministry of Agriculture, Forestry and Fisheries, Forestry and Fisheries, Since October 1992

Soil salinity improvement using artificial zeolite

Research of Requisition, From April 1996 to March 2001

Simultaneous movement of water flow and solute 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