

VETIVER SYSTEM APPLICATIONS IN SPAIN AND PORTUGAL



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SPAIN – INFRASTRUCTURE PROTECTION

An EU funded project costing over USD1.1M, using *Atriplex alimus* to stabilise section of highway between Murcia and Cartagena



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The plant failed to establish one year after planting despite intensive irrigation



Vetiver Grass Demonstration Trial In Lorca

Due to the failure of *Atriplex alimus* on the highway between Murcia and Cartagena, in 1993 the EU funded a demonstration trial using Vetiver grass to stabilise the batter of an access road leading to a industrial complex near LORCA

LORCA site in 1997, 3 YEARS AFTER PLANTING

Diego Frutos, Murcia Agriculture and Water Conservation Officer

VETIVER

CONTROL

VETIVER

CONTROL



Three years after planting at LORCA in 1997, Vetiver established well with drip irrigation during establishment phase (the first summer) and no further irrigation



Excellent growth with no irrigation after 3 years



CONTROL PLOT Very little natural colonisation of native plants despite initial irrigation





**Very few natural
colonisation of
native plants in
control plot**

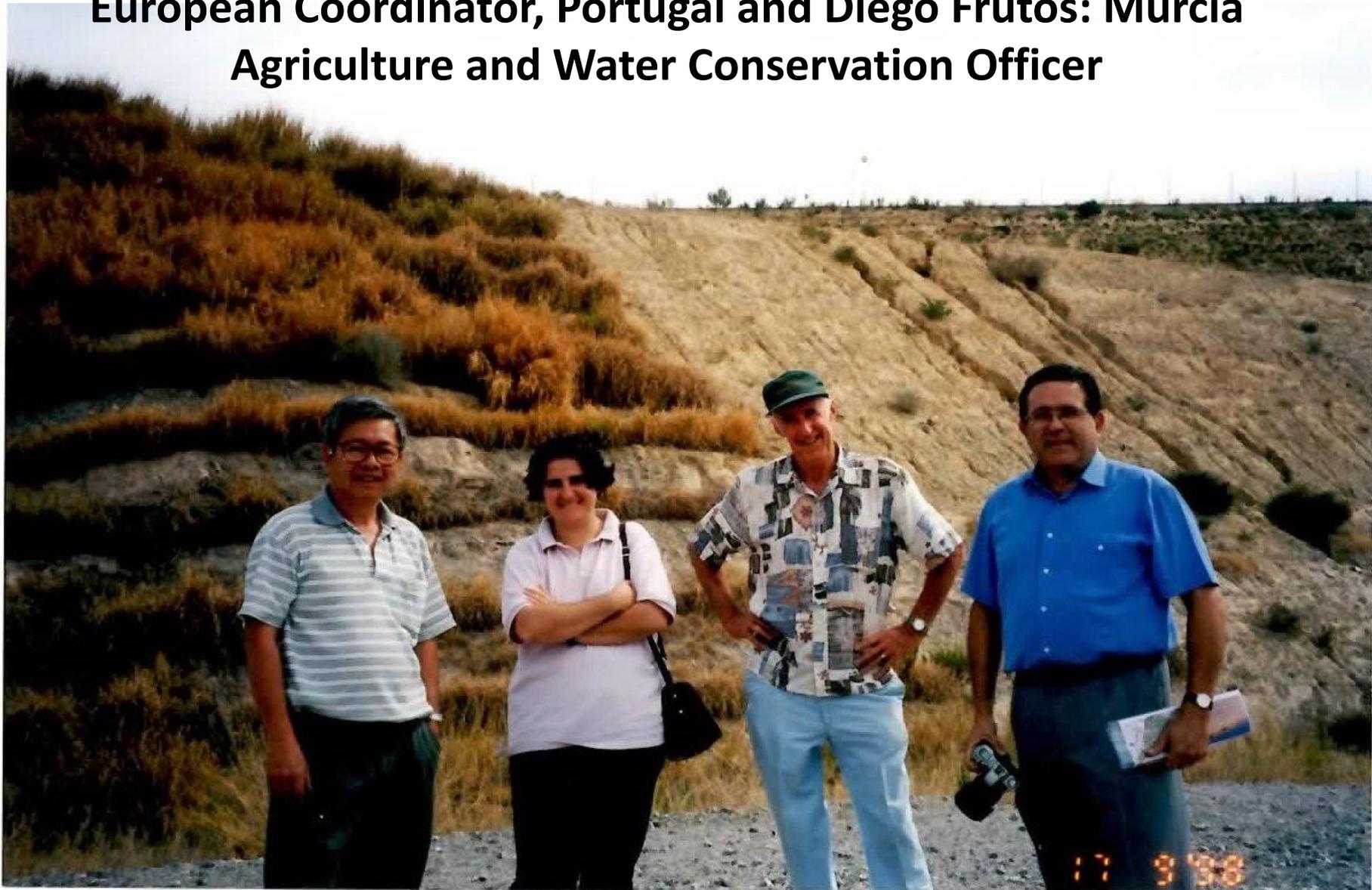
Excellent growth with no irrigation after 3 years on the drain at foot of the slope



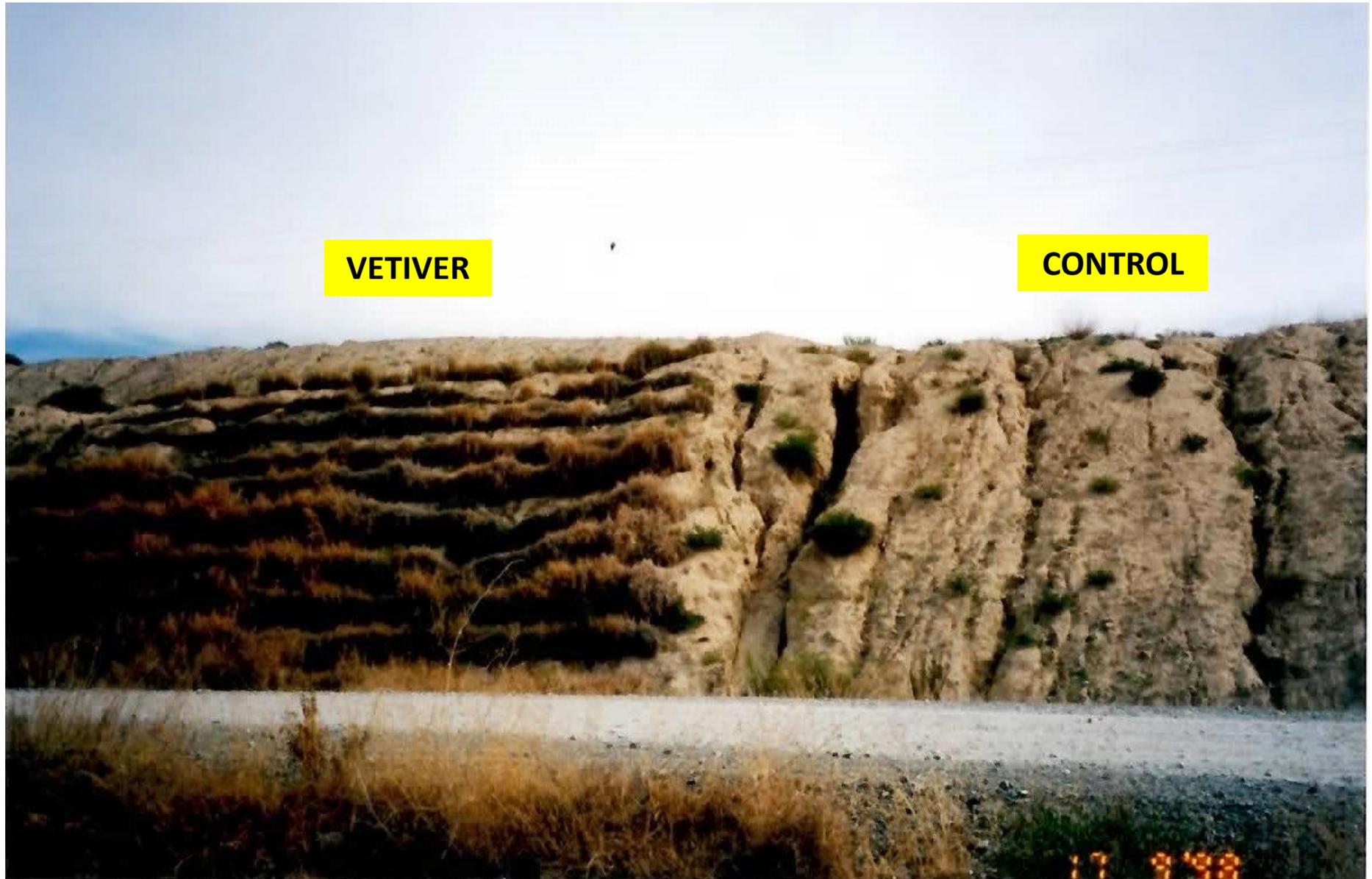
General view of Lorca site in 1998, 4 years after planting.



Lorca site in 1998 Note no natural colonisation of native plants. Paul Truong, Tiscar Espigares: Madid University, Mike Pease: TVNI European Coordinator, Portugal and Diego Frutos: Murcia Agriculture and Water Conservation Officer



Contrast between vetiver and control plots at Lorca site, 4 years after planting.



Contrast between vetiver and control plots at Lorca site with serious rill erosion in control plot.



VETIVER

CONTROL

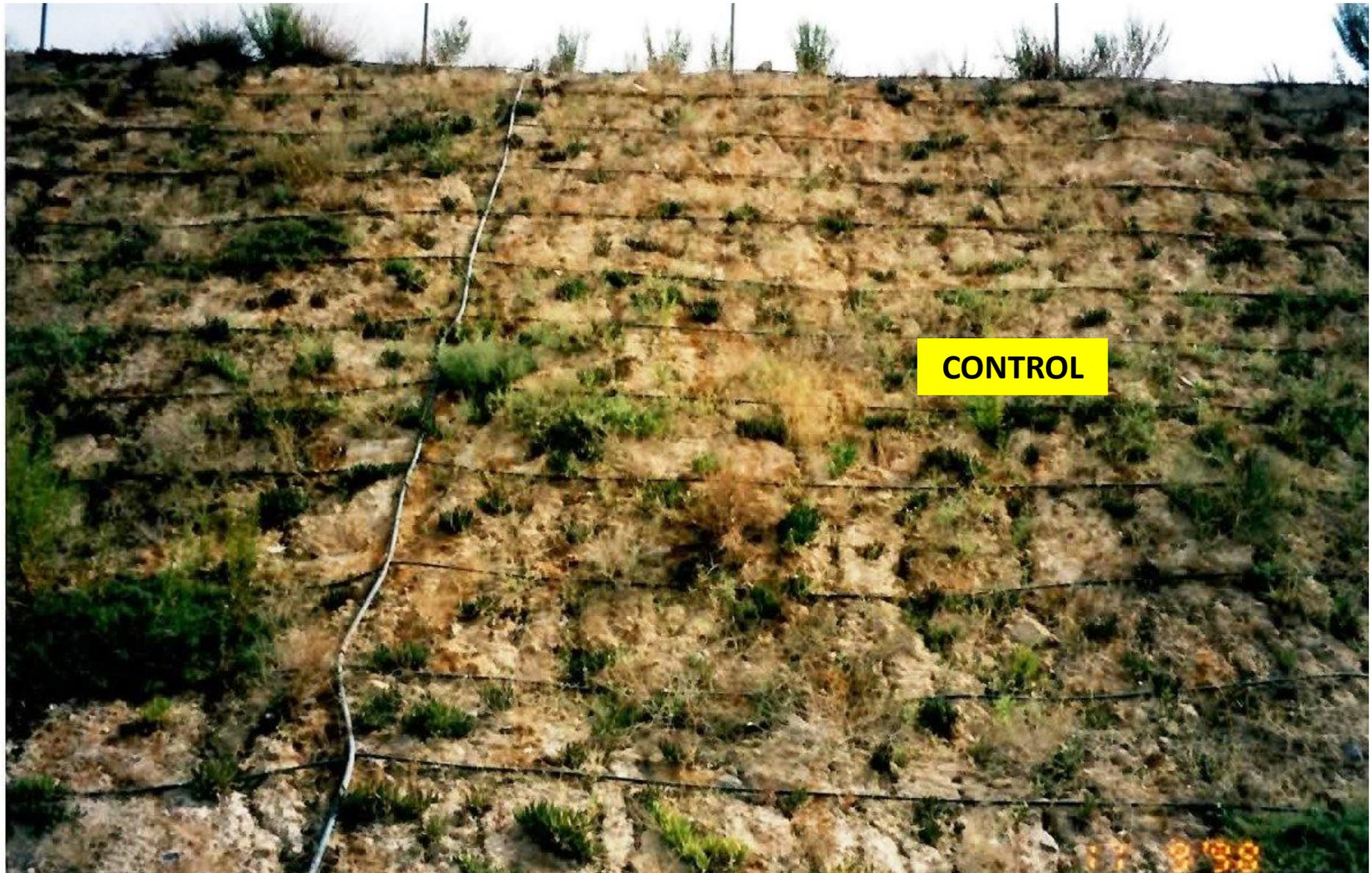
**Excellent vetiver growth with no irrigation at Lorca site,
4 years after planting.**



Four years after planting on drain at foot of the slope

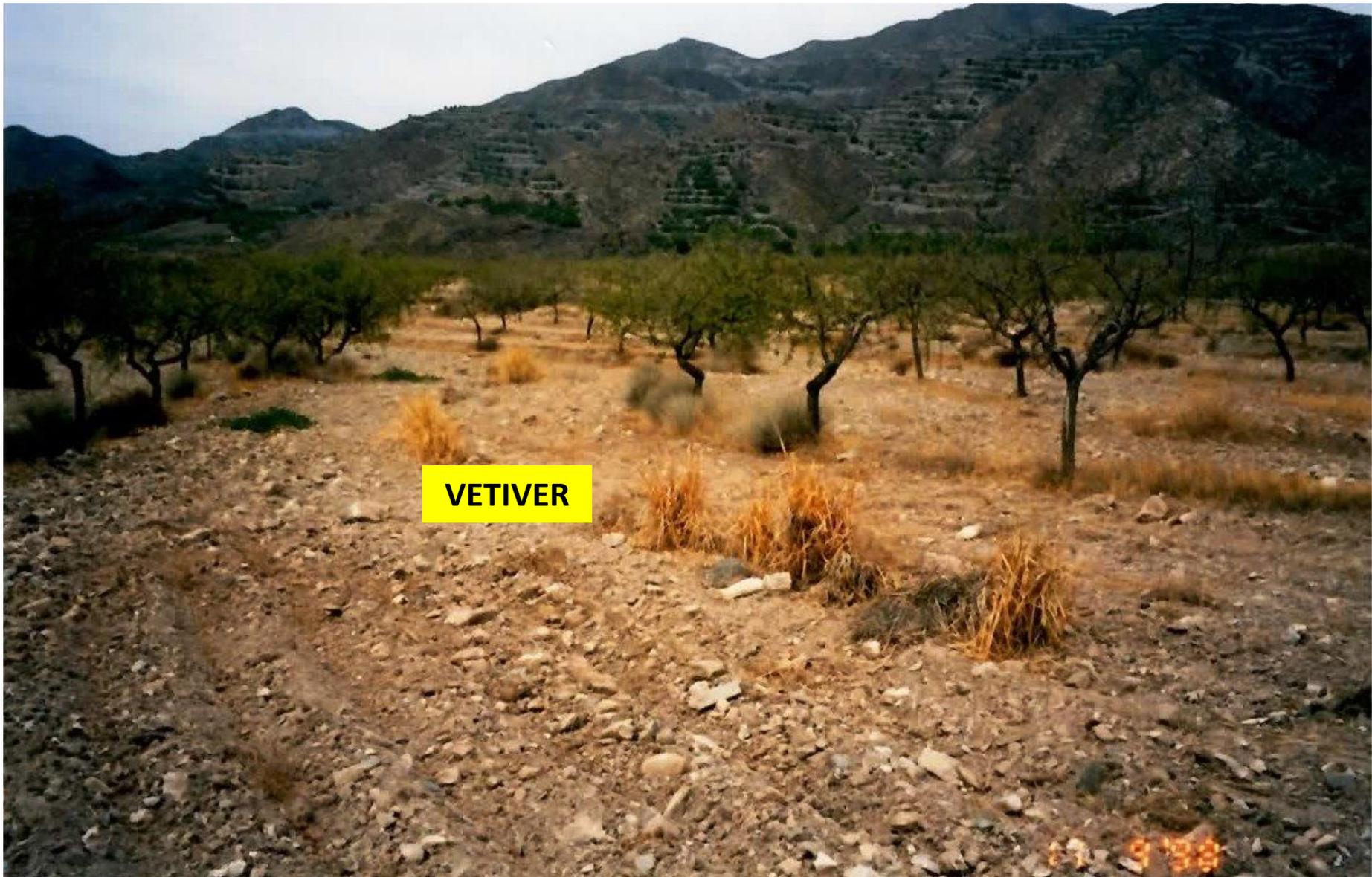


CONTROL PLOT Very little natural colonisation of native plants despite initial irrigation



Soil And Water Conservation In Almond Orchard

Vetiver row was accidentally sprayed with RoundUp



PORTUGAL – VETIVER SYSTEM APPLICATIONS

Antonio de Mello introduced Vetiver from Zimbabwe in 1996 to establish a nursery at Santarein, NE Lisbon for use in soil and water conservation and land stabilisation on his farm.

Subsequently in 1998 a number of trial plots were established by government agencies and private properties throughout the Algarve, Alentejo and Azore

In 1998 Mike Pease, European Coordinator of The Vetiver Network International (TVNI, a NGO), invited Dr Paul Truong, TVNI Technical Director to present a series of Seminars in Odiaxere and Tavira. The seminar were well received by both government agencies and private properties, resulted in some major projects.

Vetiver System has since been used for erosion control, ornamental and pollution control in Portugal.

PORTUGAL – EROSION CONTROL



**Antonio de Mello Vetiver
nursery at Santarein, NE
Lisbon**



Antonio de Mello used vetiver to stabilise Creek bank, dam wall and other erosion control in his farm



Terrace Rehabilitation In Monchique

Ancient terraces at Monchique being used for horticultural production



After centuries of neglect the terraces were collapsing. Vetiver grass was used to reclaim the terraces



Onsite community nursery was established to provide planting materials for terrace restoration project



PORTUGAL – ORNAMENTAL

Vetiver planting as green screen to hind concrete wall and ugly scene in Algarve



Vetiver planting as green screen to hind concrete wall and median strip with Lavender in Algarve



PORTUGAL POLLUTION CONTROL

**Vetiver planting on
back yard to absorb
domestic sewage
effluent form septic
tank in Algarve**



Regrowth after trimming



Vetiver planting on back yard to absorb domestic sewage effluent form septic tank in Algarve



PORTUGAL: AZORE ISLAND

The potential use of Vetiver was also recognised for stabilising highly erodible steep slopes derived from volcanic pumice on Azore island. Frequent life threatening landslides occurred during the rain season





Frequent landslides and mudslides during the rain season





**Vetiver nursery
established by
the Azore
Forestry
Department**

**Two year old plant ready
for planting out next
Spring**

