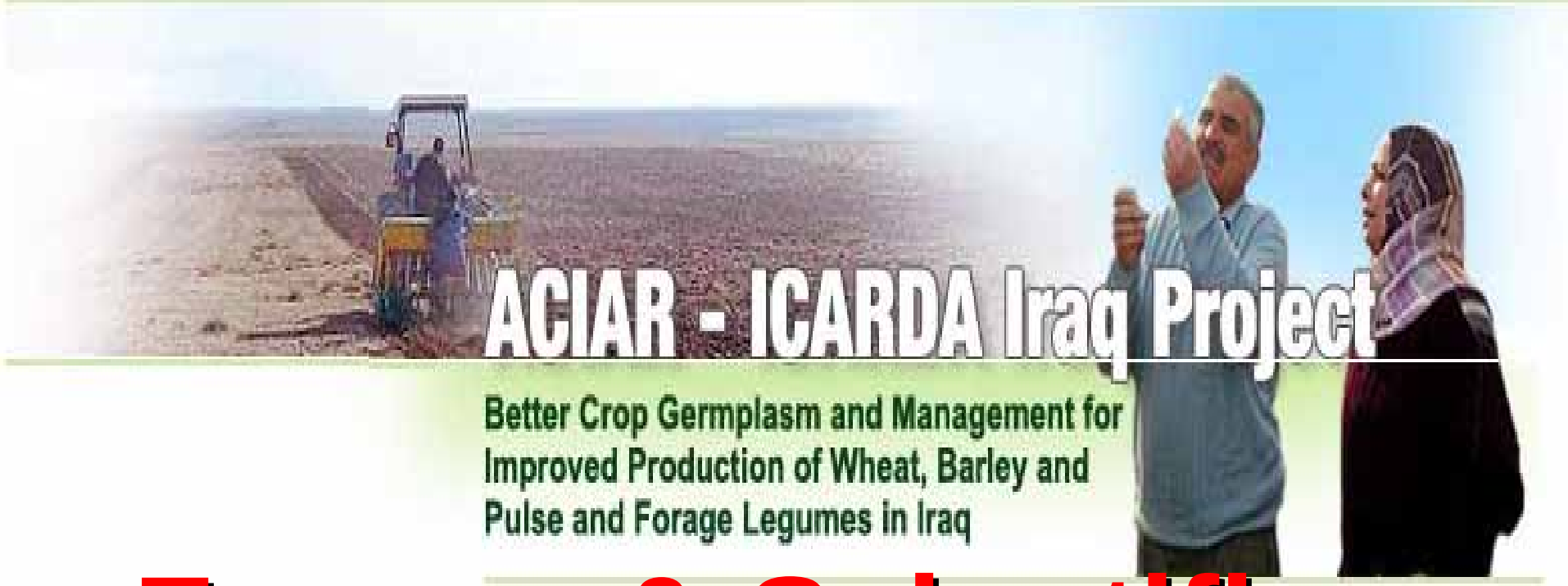


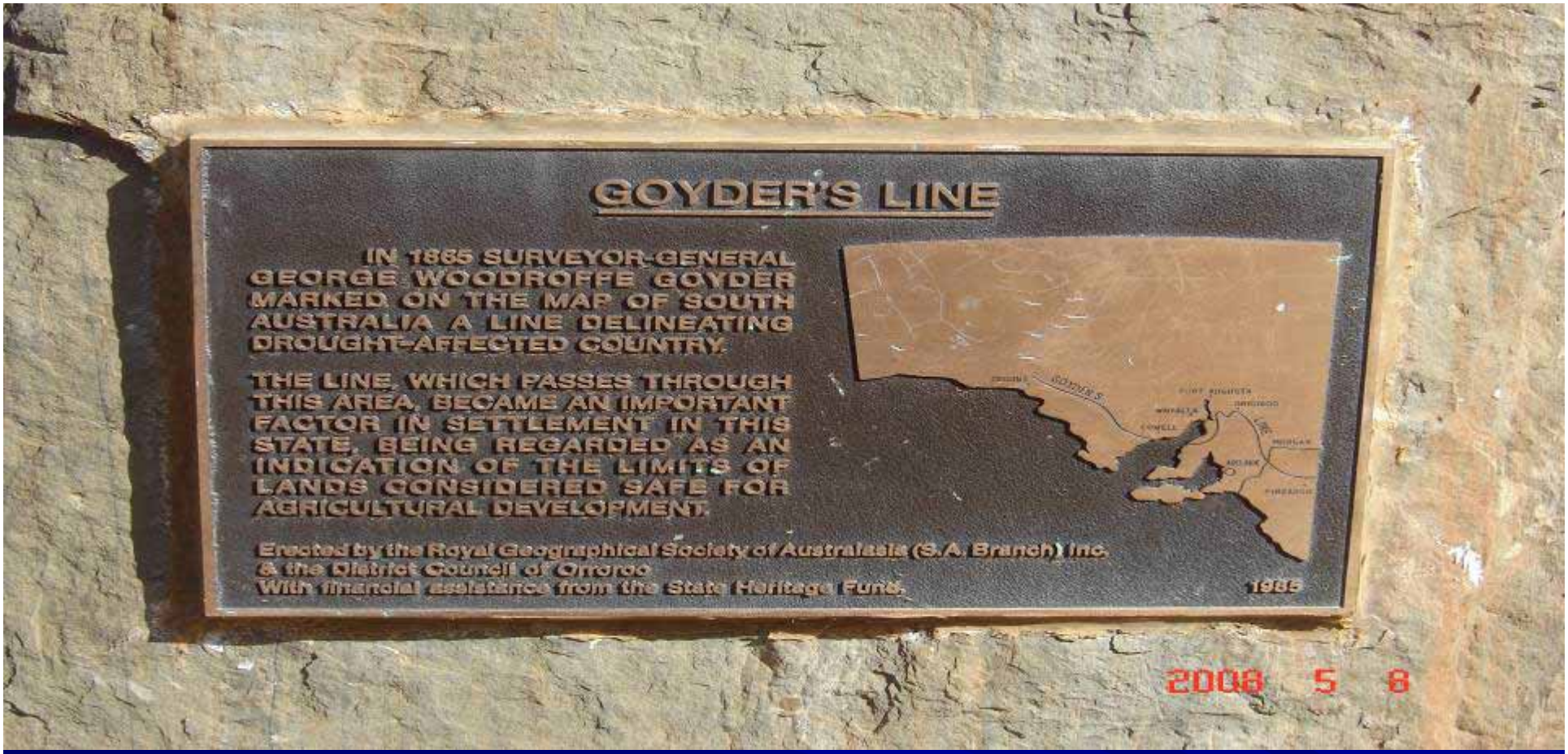
Farmer & Scientific visits to Australia

Farmer visits

- Farmer name :Cooper ,Leith David
- Date : 6/5/2008
- Location :jamestone area HRA Rainfall (300-400mm)
- Soil texture :sandy
- Planting system :Z.T.
- Why Z.T.? :Much benefits and less fuel
- Crop & c.v : Bread wheat
- Crop rotation : W-W-B-Hay-Canola
- Sowing rate :90 kg/ha Wheat
- Sowing depth: 1.5 cm
- Fertilizer dose :Just P2O5 mixed with seed
- Time of add fertilizer :In sowing date
- Weed control :Ground up , triflan
- Other notes: 1-see the press wheel for the 1st time.
- 2-controlled tractor by satellite
- 3-see canola stubble

Farmer name: Trevor
Date:7/5/2008
Location :HRA
Rainfall (mm):
Soil texture :sandy
Planting system :Z.T.
Why Z.T.? Add organic matter :
Crop & c.v.: Oat (Hay)
Crop rotation: W-pasture legume or Hay-W
Sowing rate: 95 kg/ha Wheat
Sowing depth: 2 cm
Fertilizer dose: 16 kg P_2O_5+19 kg N+ few S/ha
Time of add fertilizer: Mixed with seed at sowing date
Weed control: Ground up , triflan
Other notes: press wheel after each seed row

- Farmer name :Niel sleep
- Date8/5/2008
- Location: jamestone LRA & pasture land Rainfall(150mm)
- Soil texture: sandy
- Planting system: Z.T. & C.T.
- Why Z.T.? :Z.T. rows 30-40 cm to keep perennial grass and bush between rows ,and C.T. for prepare land for Wheat (separate field).
- Crop & c.v. :Medic
- Crop rotation :Medic-Medic-fallow-wheat
- Fertilizer dose :Just P_2O_5 mixed with seed
- Time of add fertilizer: In sowing date
- Other notes 1-Goats breeder& sheep's owner
- 2- salt bush grower using special planting machine (photos)
- 3- used intercropping system


GOYDER'S LINE
IN 1865 SURVEYOR-GENERAL GEORGE WOODROFFE GOYDER MARKED ON THE MAP OF SOUTH AUSTRALIA A LINE DELINEATING DROUGHT-AFFECTED COUNTRY.
THE LINE, WHICH PASSES THROUGH THIS AREA, BECAME AN IMPORTANT FACTOR IN SETTLEMENT IN THIS STATE, BEING REGARDED AS AN INDICATION OF THE LIMITS OF LANDS CONSIDERED SAFE FOR AGRICULTURAL DEVELOPMENT.
Erected by the Royal Geographical Society of Australasia (S.A. Branch) Inc.
& the District Council of Orroroo
With financial assistance from the State Heritage Fund.
1985
2008 5 8


2008 5 8

- Farmer name: Ian Ellery
- Date: 8/5/2008
- Location: LRA Rainfall(118mm)
- Soil texture: sandy
- Planting system: Z.T
- .Why Z.T.?: Stubble make yield double
- Crop & c.v.: Wheat
- Crop rotation: W-pasture legume or Hay-W
- Fertilizer dose: Just P_2O_5 mixed with seed
- Time of add fertilizer: Mixed with seed at sowing date
- Other notes: See old sowing machine in photo comparing with new Z.T. machine

- Farmer name: Chris McDonald
- Date:9/5/2008
- Location: East whydown station-pasture land
- Marino sheep owner (4000)sheep.
- Natural pasture see silver bush and black bush then salt bush
- Used solar energy and wind energy

- Farmer name :Michael frith and son
- Date:10/5/2008
- Planting system: direct drilling
- Benefits: early sowing –less fuel-less weed.
- Crop rotation :pasture(vitch50%+barley50%)-W –W or B-B.
- Soil texture: loam.
- Sowing rate:75 kg/ha. Barley.
- Sowing depth: 3 cm
- Fert. Dose: 80 kg P/ha.
- Weed control: round up-triflan- boxer gold-against Rye grass. And logran –amicide-625.
- Other notes: 1- grain yield=2-3 ton/ha.

2-Rows distance=20-22cm.

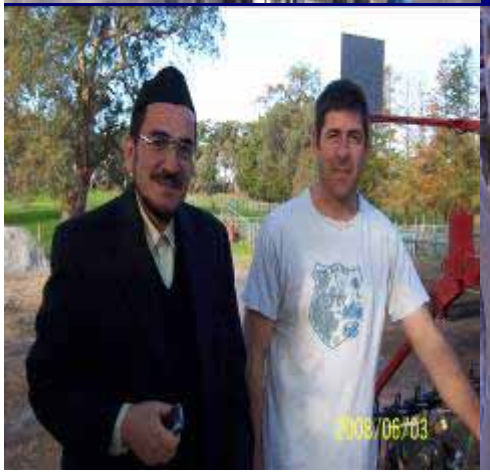
3-See the wide press wheel and effect in farm

- Farmer name: Theo kaesler
- Location: LRA (190mm).
- Planting method: Z.T.
- Why Z.T.: reduce wind erosion –less fuel.
- Crop rotation : W –W----------8 years.
- Sowing rate: 45 kg/ha and rarely 50 kg/ha.
- Sowing depth : 2-2.5 cm.
- Distance between rows: 23 cm.
- Soil texture : sandy.
- Fert. Dose : 65 kg/ha Dap.
- Grain yield : 1.6 ton/ha.
- Weed control : triflan – logran.

- Farmer name: Daniel Linklater
- Location : LRA (280mm).
- Planting method :Z.T.
- Why Z.T.?: in the old planting method there is no yield in drought seasons but with Z. T. there is yield under all situations.
- Soil texture : sandy.
- Seeding rate : 26 kg/ha wheat.
- Sowing depth : 3 cm.
- Distance between rows : 30 cm
- Crop rotation : W-W-W-W----- continuous with changing in cultivars each 7 years.
- Fertilizer dose ; he didn't use fertilizer and instead of it he used the gas of the tractor after cooling (from 1000 to 80 C) by big fans and injected the gas in soil with fertilizer hose. (co2xchange comp.).




- Farmer name: Chris Stienert
- The important think in this visit is the TRIPLE DISC which is very suitable to Iraqi soil .we try to manufacture such model in Iraq or Syria.



Farmer Name: Craig Haga

- See Hay making .
- Z.T machines.
- Hay making.

- Farmer name:Peter Irish and Son
- Location: LRA
- Crop rotation: Legume- Durum wheat-B-W-B.
- Sowing rate: Wheat(95/ha) – Barley(70-75kg/ha).
- Sowing depth: 5 cm.
- See the board kind of press wheel.

- Farmer name: verner John---Neville sharpe
- Location: MRA (416mm)
- Crop rotation :W - B -Leg(Faba bean- Lentil- chickpea)
- Sowing rate: 100kg- 70 kg - 150 kg - 60kg- 100kg
- Sowing depth: 2.5 cm
- Planting method: Z.T.
- Why Z.T.? :less fuel, less time, rain harvested
- See TRIPLE DISC Z.T.



- Farmer name: Joe Keynes
- Location: LRA (350 mm)
- Crop rotation :W –W-B-V-Oat.
- Sowing rate: 100kg /B- 80 kg/W
- Sowing depth: 5 cm
- Planting method: Z.T.
- Why Z.T.? :less fuel, less time, less soil erosion.
- Distances between rows: 22 cm.




Farm of Nick Partridge

- Mr Partridge

- Farmer name: Mike vowles and brothers
- Location : LRA
- Date :15/5/2008
- Planting method : Z .T.
- Why Z.T.? : get yield yearly- good soil condition- less weed.
- Crop rotation : pasture (medic +grass)- W-B- Triticale- W.

Or W-W-W-W----------.

Sowing rate: 50 kg Wheat.

Sowing depth: 2 cm.

Fert. Dose : 60kg Dap.

Notes:1- the farmer used new certified cultivars (0.5ton) with (1200 Aus$) per ton but most farmers used own seeds for more than 6-8 years.

2- speed counter connected with tiers.

3- farmer planted Rye sometime because its high tolerance to drought and frost and the stubble unpalatable for sheep's.

- Farmer name: Nathan Criag & Penny.
- Location: HRA (416mm)
- Crop rotation :Canola- Lupin-W-B-Oat-Triticale
- Sowing rate: 100kg/ha Wheat
- Planting method: Z.T.
- Why Z.T.? :less fuel, less time ,good yield
- See weed control sprayer in front of Z.T. seeder , the farmer used Triflan for 3 years with excellent results and yield.

Scientific visits

- 1- Peter Hooper-researcher (HART station)-- the benefits of controlled Traffic in sowing : less fuel , fast driving and less compacting to soil.
- 2- Michael Wurst (Rural solution SA)- we can used sprayer in front of seeder or tractor for sowing seeds and weed control in the same time, and we can used Triflan mixed with Avadex (tri-allet).
- 2-the picture is with my dear friend Dr Nick paltridge.
- 3-Ashley Lipman-researcher- direct soil salinity and moisture testing by using probes connected with small station working with solar energy and all data shifted wireless to lab. Or by phone. See photos next page.
- See hybrid car

- 1- see probe for salinity and moisture testing.
- 2- see small wireless station .
- 3- gypsum tester.
- Mist irrigation system under salinity condition
- drainage hall.
- Evaporation lake.

- Ashley lipman and Mark skewes (SARDI).
- Marry river.
- Marry river
- Historical flooding in marry river .

- Researcher: Richard Saunders :important information about (NVT)
- What is the National Variety Trail (NVT) program?
- The NVT is anew approach to variety evaluation, generating independent and credible information for grower about newly varieties.
- NVT was established by the Grain Research and Development Corporation (GRDC) and include the most advanced lines from all plant breeding in trails across Australia.
- Under the NVT system ,breeders will be expected to make their release and NVT data more relevant to growers.

- What is the main purpose of NVT ?
- NVT aims to provide growers and their advisers with independent and sound information on the performance and characteristics of grain crop varieties, so that they can make valid comparisons between available varieties , including performance information from nearby regional evaluation traits.

- **Dr Jason Eglinton (Barley program leader) –Univ of Adelaide said that its not necessary to the breeder to check his cultivar in NVT, but the farmers trusted in NVT results , so he will loose the farmer trust if he try to sell the cultivar by himself.**
- **I asked Dr Jason do you think that the program of breeding must be depend on usual planting method such as Z.T. ? He said yes because there is deference's between planting methods in sowing depth and there is deference's between cultivars in coleoptiles length.**
- **I asked the same question to Dr Haydn Kuchel (wheat breeder) from Roseworthy he said yes it could be some cultivars gives good result under Z.T. more than under another planting methods.**
- **When I asked Dr Jason Eglinton about the best cultivars in drought tolerance ? Dr Jason advised to test tow new cultivars of barley (Bar Que & Keel) and Wheat cultivar (Axe) because they are very drought tolerance cultivars.**

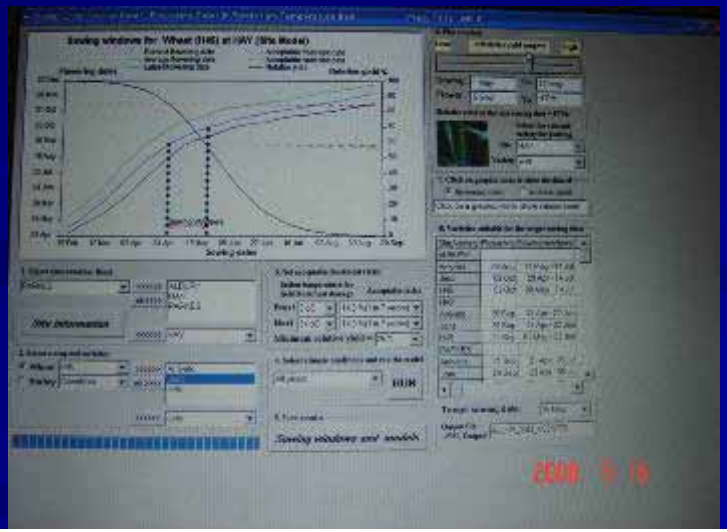
- Visit to SARDI
- **What is the best cultivars of Oat Vetch and annual Medic in drought tolerance?**

- **Dr Palmela Zwer (Oat breeder) said that there are many cultivars such as:**
- **Brusher (early matured).**
- **Wintaroo(suitable for all rainfall zones).**
- **Kangaroo (disease tolerance too).**

- **Mr Rade Matic (vetch breeder) said that the best drought tolerance sp. Of vetch is: *Vicia palastina.***

- **Mr Geoffrey Auricht (principal scientist , pastures sustainable system) said that there are many cultivars of annual Medic such as :**
- **Toreador- Jester- Herald- Caliph- Mogul- Scimitar- Calvalier.**

- Scientific visit to NSW Department of Primary Industries
- Meeting with: Graeme McIntosh –District Agronomist
- Very important and simple project to determine the suitable sowing date for all wheat and barley in the location.
- 50 grains for each cultivars of wheat and barley are sowing in single rows and in different sowing date (2 weeks interval) .
- Results data are taken for important trait for each crop such as 75% flowering.
- This study repeated for 5 years .
- All climate parameters are registered for 5 years.
- All climate and crop traits data are insert in computer program to estimate the best cultivar and best sowing date according to the climate situation in the region in the defined time.



- Graeme McIntosh said that this location is LRA with 300mm rainfall (summer and winter rain) and the farmers in this location prefer to use seeding rate (25kg/ha wheat – 45kg/ha barley) with distance between rows near to (40 cm).

Visit to Department of Primary Industries.- Mr Roy Latta science & location leader.

I see for the first time the modern type of Z.T. notice that the press wheel after each tine directly ,that's modification prevent any overlapping between seed rows even when the tractor turn in any direction .

Visit to Univ. of SA. Dr Jack Desbiolles Agricultural Research Engineer

1- Dr Jack with American type of tine he said that this type is strong but it caused high disturbance to the soil.

2- amazing track for agric. Machines testing , this system allowed to test many kind of agric. Machines in the same place.

3- another shading lab. For test machines activities under X rays scanning.

4- many types of tines and discs and press wheels and springs.

Visit to: Seed Services Australia –Mr Peter Smith (manager).

This functions of this directorate is similar to the IRAQI Directorate for seed testing and certification.

See the simple sucked seed tester.

Many ideas about seed cycle and seed law in AUSTRALIA.

Visit to Roseworthy Mr Chris PenFold

- 1- drilling machine for fine seeds (grasses).
- 2- the mechanism of seedind by free fall of fine seeds between 2 spongy rolls with opposite direction in rolling.
- 3- see the press wheel behind sowing disc.
- 4- grass seeds.

- A1 *Atriplex semibaccatta*

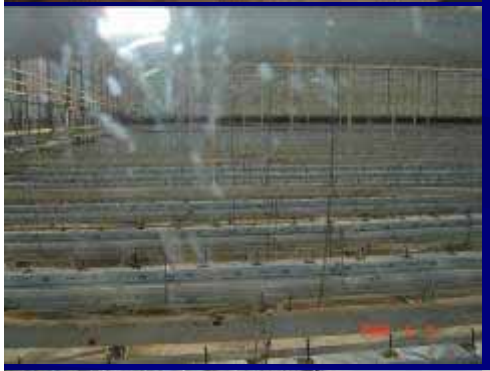
- A2 *Atriplix suberecta*

- A3 *Enchylaena tomentosa*

Visit to ABB comp.

- Aus. Barley Board comp.

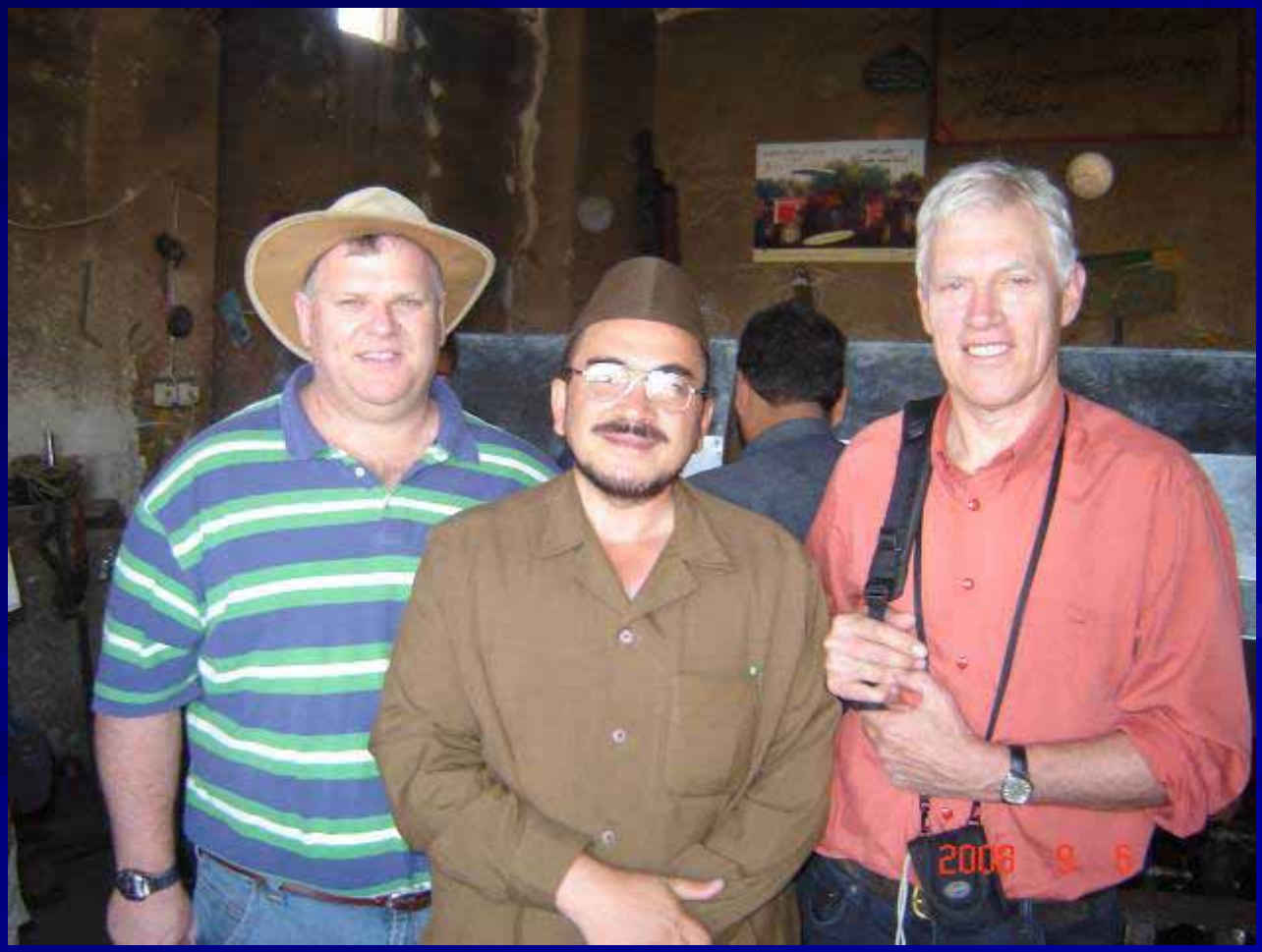
Hydroponics comp. for tomato production



Keith Seed comp.

Keith Seed comp.

Thanks to
Dr David Coventry
Dr Jay Cummins



Thank You