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Dryland Water Management and Organic Farming

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[Presentation Report]

The main areas discussed in this presentation were the water cycle, soil fertility and crop establishment, and methods developed by Harry Whittington, a Brookton farmer. WISALTS Inc (Whittington Interceptor Salt Affected Land Treatment Society) was formed in 1978 – the aim of the society is to retain and promote the theory of salt encroachment and the method used to control it.

The Water Cycle: Rain falls onto the earth and is used by the plants and micro organisms, some evaporation is lost from the soil, the rest sinks into aquifers, and the overload goes into the rivers for fresh running water all year.

Water harvesting: Four-sided dams retain water the most effectively, with clay from beneath the dug-out soil being used to seal the dam. If necessary, plastic sheeting is put beneath the clay-soil to retain the water. Humus is important in the water cycle to help soak up moisture.

Soil Fertility: The aim is to grow healthy food for the community. Green manure crops, such as lupin and barley, are planted between December and February, not too soon. They are ploughed in in May to add nitrogen to the soil; the food crops are sown in June.

Soils need to be re-mineralised after years of superphosphate application; dolomite and gypsum or magnetite are added. Oxygen aeration (by earthworms and animals) improve the soil.

Much time is necessary to observe and examine the soil.

Crop Establishment: If a high clover content is evident then a crop can be sown in. However, if there are weeds they can be grazed. There is usually a three year rotation. Plough in the weeds after germination, apply the rock minerals, then seed. Harrow the weeds if necessary, then harvest.

On leaving Agricultural College and returning to the family farm, Peter became interested in water control. The opportunity arose to attend a WISALTS course. This led him into becoming a senior consultant with the organisation. The work helped to increase his awareness. He realised that by changing the water-oxygen balance in the soil, one can significantly change the entire ecosystem of the soil.