'Waratah' Peak Hill – Ray and Judi Unger

Organic and Biodynamic Producers and Regenerative Farming Practices

Topic	Discussion Points
1 Title page	Aerial photo of our farms
2 Overview	Index – 26 PowerPoint pages
3 Our Journey	• Conventional farming until 1994 • 'Cold Turkey' on chemicals and synthetic fertilizers in 1994 • Complete change of mindset and sense of freedom to be in charge of our own destiny and be responsible for our own decisions • Certified ACO organic status by 1997 and biodynamic by 2000 • Purchased another farm in 1997 and in conversion until 2000 and gained organic and biodynamic certification in same year. • BD practices influenced by BAA conferences, Arthur Dakin, Hamish McKay, Cheryl Kemp, Lloyd Charles, John Priestly, Hugh Lovel, Alan Johnson, John Hodgkinson, Brian Keats and Shane Joyce and BAA field day presenters • Hosted Farm Field Days for BAA every couple of years for the past 20 years • We both hold a Diploma of Organic Farming • Ray was Chairperson of the BAA from 2010-14 and Judi is currently a Director on the Board of the BAA. • Judi has studied Permaculture Intensive Design with Milkwood and is currently working for RuralBiz as a trainer and assessor for a course in Organic and Biodynamic Production • Ray manages the properties with the help of Judi's brother, now son • Touch wood – we have never had any illness (except hayfever/occasional cold), not on any medication, healthy lifestyle
4 Properties	• We have two properties 'Waratah' and 'Marylyn' totalling 1400 ha (3,500 acres) which complement each other beautifully. • 'Waratah' has a red ironstone ridge and gentle sloping land, which has been contoured and dip ripped once/twice over a 30-year period, with a Yeoman's plough. It dries off quickly in dry spells and ideal for stock at these times. • "Marylyn' is flat country grey clay loam soil and with dry creek bed which takes 1,000 acres under water in flood periods • Dryland farming mixed enterprise, running sheep, cattle, growing cereal grain crops -wheat, oats, lupins and cut hay • All paddocks have ground water dams • Average 21 inches (450mm) per year • Temperate weather zone • Temperature ranges -3 to 46 degrees through winter and summer
5 Waratah	• 1600 acres • Red iron stone soil and gently sloping country • Water run-off, but contained by contour banks and fenced water ways • Very flat country – drain into an old Lagoon Swamp bed which floods over half of the property if rain events are over 240mm (ie half our yearly rainfall)
6 Marylyn	• 2000 acres • Sodic grey clay loam poorly drained soils, but gutsy soil in which to grow crops and pastures

7 Gardening and self-sufficiency	• All contained within the large house yard • Managed organically and biodynamically • Make own potting mix to do cuttings and grow seedlings • Low input costs • 15 x 3 metre mounded vegetable beds where vegetable crops are rotated each year • Plantings flow the moon cycles using advice from Brian Keates Astrological Calendar • Recycle septic and grey water on the lawn area • Fruit trees interspersed in the garden eg apricot, orange, pear, pomegranate, lemondade, apple, grapes, passionfruit and nectarine. • Preserve and make jam from fruit trees and mainly eat the vegetables fresh • Add lime, gypsum, dolomite, boron, other trace elements and composted manures, seasol, biodynamic lifter, green manure and mulch onto the vegetable beds • Compost in open mesh bins at the end of the vegetable beds • Hand weed all garden beds – vegetable and flower/succulent/shrubs • Grow healthy plants to eliminate disease and pest • Trickle irrigation to conserve water • Plants attrack birds and bees and beneficial insects into the garden • Natural measures used to eliminate fruit fly, imbalance of bugs/insects, fungal outbreaks eg fruit fly traps, lemon rinds, milk spray, companion planting and insecticide plants eg marigold/calendulas • Follow permaculture principles: care of earth, care of people, fair share; zoning; work with nature; and understanding your site eg water flows, microclimates, soil, vegetation and wildlife
8 Organic farming	• Haven't used chemicals, herbicides, pesticides, insecticides or synthetic fertilizers since 1994 • Use natural fertilizers such as neutrog, guano, rock phosphate, dynamic lifter, terra firma to which we add trace elements • Don't make compost large scale due to cost of inputs and bringing outside materials onto our farm for biosecurity reasons. We add compost teas to our BD preps
9 Biodynamic farming	• Make our own BD500 using a sausage machine and put down 700 horns each year and also make cow pat pit with BD502-508 preps • Spray out the BD and preps over our farm each year and when the season allows • In 2020 we trialed inoculating the cereal grain and pasture seeds prior to planting and the crops/plants look extremely healthy with the promise of high yields • Use a 450L stirring machine and seven tier flow form to mix and aerate our BD 500 and preps prior to application over the land. We follow the traditional methods of preparing and spraying out BD ie stirring for an hour, straining the preps to stop nozzle blockage and spraying after 3.00pm after a recent rain event. Achieving 100% ground coverage application. • The BD500, cow pit pat are stored in a stainless steal lined, peat moss and wooden box 4 x 4 in an old shed away from powerlines • Do peppering of weeds eg cathead, by burning and spreading the ash • Use the astrological calendar as a guide to help with moving stock, planting crops/seeds and influence of the moon

10 Biodiversity	• Wildlife corridor through the middle of 'Waratah' when we were involved with a landcare group • 12 km of fenced tree lines 3 tiered canopy of gum, myall/wilga (native shrubs) – fodder trees and saltbush understory • Encourage native flora and fauna – bird life, lizards, native mice (antechinus)
11 Soils	• In any give paddock the soil may vary considerably, so soil tests are on rough guides to show what trace elements need to be added – we add lime, gypsum and natural fertilizers and trace elements – zinc boron • Better to watch what grows there eg weeds as indicators of deficiency or high level of elements • Aim to maintain 90% ground cover across both farms
12 Weed Control	• Flame weeding • Rotational grazing • Slashing, mulching, hay cut, • Mechanical cultivation • Green manuring
13 Documentation	• ACO documentation and audit report • Stock husbandry records for the sheep and cattle • BOM rainfall records back to the 1960's • Machinery services recorded • Cropping maps and applications and crop rotations • Financial planning – us and our accountant • Transport declarations
14 Certification Process	• Three years in conversion at the beginning • Yearly audits – organic farm management plan, stock and grain transport documentation, premium prices for stock/ grain can vary • Allows us to use the Bud logo brand on our products, attracts premium prices • Paddocks numbered on our farms and records kept for paddock's application each year • COVID – desk top audit
15 Pastures Improvement and cropping	• Undersow pastures to crops eg Lucerne, medics, clover, balansa, plantain, chickory and direct drill into native grasses • We crop paddocks 2 in ten years and sow down to pastures and bring into fallow through grazing and ploughing prior to cropping • Add lime/gypsum prior to cropping on a rotational basis and when finances allow • Add other trace elements to natural fertilizers if soil tests show up any deficiencies • Use BD to improve the soil biology and increase the microbial activity in our crops and pastures
16 Benefits of BD500 and preparations as a seed dressing/inoculent	• Saves time for mixing as using smaller quantities • Inoculates seed at point of planting • BD500 bacteria/microbes on seed and point of germination • Less input costs eg fuel, spray unit, stirring machine, flow forms, compaction of soil from tractor and spray unit • Saves time sitting on the tractor when spraying out BD500 and preps • Drizzle BD500 and preps onto the grain as it is being augered into the grouper ready to transfer into the air seeder to plant out on the same day as application

17 Drought	• Images of the 3 year drought, dust storms, feeding stock
18 Drought proofing our farm	• Use native grasses and pastures to keep our soil covered and to reduce weeds. • Planted over 8k trees over the past 30 years; natives – myall, wilga, rosewood, belahs, saltbush and bimble box gums in our tree lines, creating a three-tier canopy to form a windbreak and create species diversity • Collect our own seeds to grow trees seedlings • Fenced treelines provide shelter and fodder for stock and add biodiversity to the native flora and fauna for our property and provide buffer zones between neighbours to enhance biosecurity • Extra bird life and trees help with pollination of crops and reduce insects • Keeping our dams silted during drought periods, fenced waterways to reduce soil erosion and slow down the flow to allow for swaling effect • Contour banks on sloping country allows for swale effect, directing flow of run-off into the dams and reduction of soil erosion • Storage of grain in silos and hay in hayshed to feed our stock in dry periods • Supplementary feeding of stock in dry spells comprises of grain and hay for sheep, hay for cattle, native tree branches for green feed and vitamin A and mineral lick for stock
19 Water, fodder and grain storage	• Ground water dams • Rainwater tanks • Sealed silos and haysheds
20 Stock	• Images of our sheep and cattle
21 Cattle	• Run 100 head of poll Hereford cattle and replace the bull from the Ranch or Gundongs stud every couple of years • Run the cows in calf in the leaner paddocks prior to calving to reduce birthing problems • Poll Hereford can be prone to pink eye – probably our only issue with Herefords • Low maintenance cattle to breed from • Grass fed only • Abundance of dung beetles in cow pats •

22 Merino sheep wool and fat lambs	• Run around 700 head of self-replacing ewes joined to Westray bloodline • preg-test for twins and singles prior to lambing to put the twinners onto the best feed paddocks • Supplementary feed sheep grain, hay and native tree during dry periods • Un-joined ewes to merino rams are joined to white Suffolk rams to produce fat lambs at a ratio 1:4 fat lambs to merino • Cut wool in March each year • Drench the lambs with apple cider vinegar and garlic only when green feed is rich • Don't back line sheep, but do selective breeding and cull out sheep prone to flystrike with yellow wool, poor body confirmation, and swint ratio • Use flockmaster or extinosad if sheep become infected with lice (3 times in the past 20 years • Move fly traps from paddock to paddock when we move the sheep to reduce population •
23 Grain and hay	• Harvesting grain and moving into silos with the auger and truck • Cutting hay and loading onto truck to store in hay sheds • Quality hay and grains
24 Infrastructure	• Well maintained cropping machinery – John Deere tractors, Massey Header, Ryan airseeder, loxton slasher – old to new machinery • Get in contractor to cut hay • 3 hay sheds to store hay, 3 machinery sheds, silos to store 1,000 ton of grain • Good sheep and cattle yards and old reliable historic shearing shed • 4 stand shearing shed • Renovated 115 year old homestead
25 Lifestyle	• Grow own fruit, vegetables, eggs, lamb, beef, grains under permaculture principles – strive to be self-sufficient • Never had an overdraft and operate our business debt free • 100% equity in our farms • Children educated in the state system and very successful careers: pharmacist/uni lecturer, engineer/draftsman, electrician; with a love of our farming operation • Community minded • Low key social life • Enjoy travel, cultural events • Value education • Off-farm income since we were married – Judi (teacher) and a rental property • Live a modest lifestyle
26. Thank you and contact details	• Phone, email and website

Some photos

Early Autumn

Mortlock Oat crop in July 2020

Direct drilling pasture seed mix in June 2020

Fence water-way bordered by a treeline

Mortlock oat with arterial tree lines

Rushes growing around dam banks

Looking south-east from ‘Waratah’ onto ‘Marylyn’

Root system on oat plants in early July 2020

Vegetables picked out of my garden in July 2020

Son and grand daughter in oat crop July 2020

Son and grand daughter in oat crop July 2020

Alpacha helping to move our ewes and lambs

Ray and son in a crop of Janz wheat crop August ‘20

Drone photo of our home and outbuildings – July ‘20