

FRIDAY 20TH AUGUST

FOCUS FARM WINTER FIELD DAY

RADFIELD FARM

David and Hilary Ward

12.00pm Welcome & Introductions Nicky Hyslop & Peter Bradley, David & Hilary Ward

12.10pm **Property Tour**
Integration of Venison, Cropping, Lamb Finishing David Ward
Intensive Land Use & Gross Margins Nicky Hyslop
Integrated supply chain - Breeder/Finisher/Meat Processor David Ward

2.30pm **Afternoon Tea at Fairton Hall – Provided by Rabobank & ATS**

3.00pm **Fairton Hall “The Future of Venison Finishing”**

Two strong debating teams chaired by Tony Pearse, DINZ
Foothills & Venison Plains & Venison

▪ Ross Stevens	▪ David Ward
▪ Collier Issac	▪ Peter Swinburn
▪ Paddy Boyd	▪ David Stevens

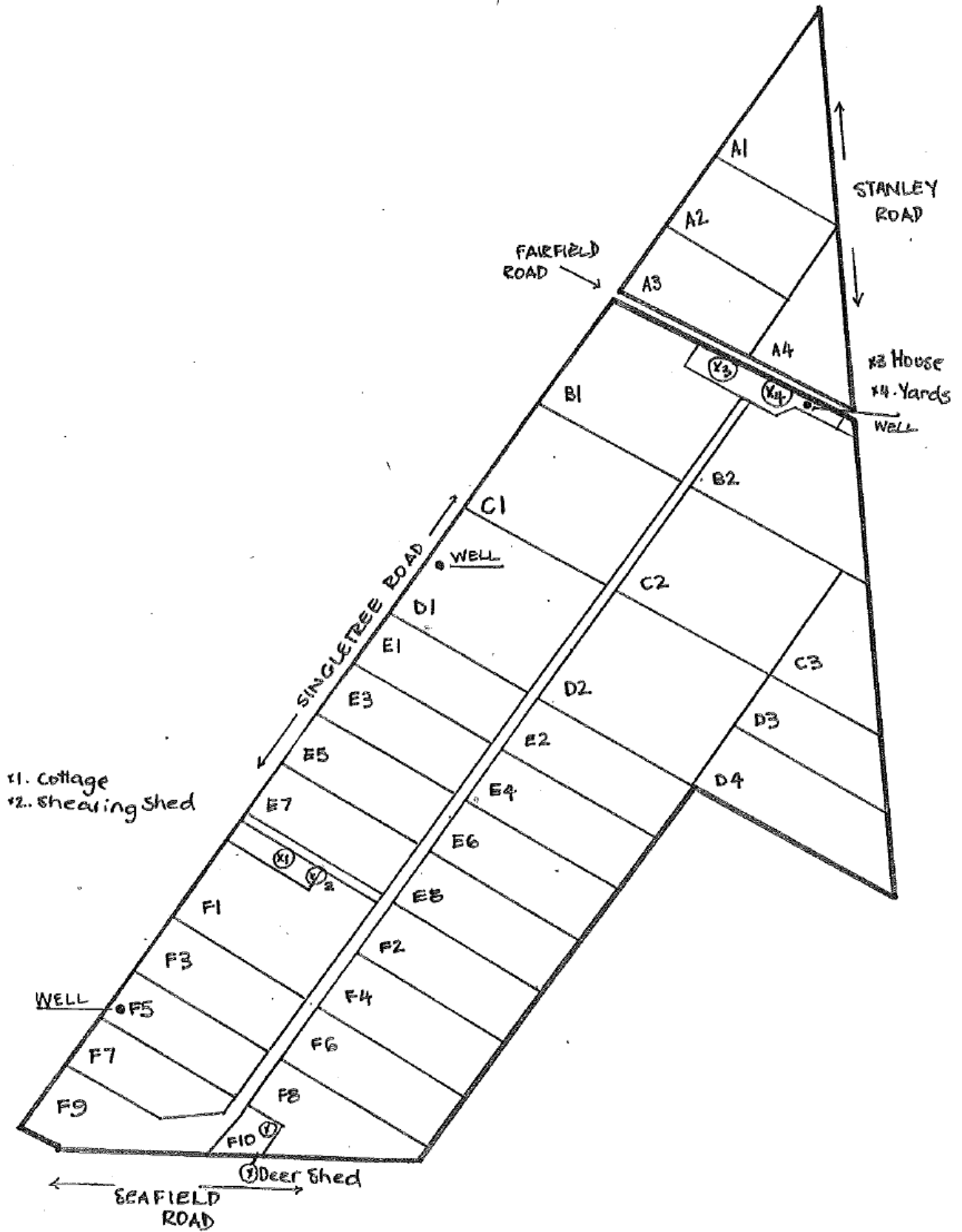
Sum Up: Andy Macfarlane, Macfarlane Rural Business

4.30pm Informal BBQ – kindly provided by Mountain River Processors
Refreshments kindly provided by: Canterbury, Sth Canterbury and Nth Otago DFA Branches

“THE GREAT DEBATE”

In the spirit of the OCCUPATION, HEALTH AND SAFETY ACT the Owners have taken all reasonable care in making your visit to the property as safe as possible, they clearly point out, you enter the property at your own risk.

The Owners will accept no responsibility for any incident or injury to any person or property that takes place while you are visiting the property.



RADFIELD FARMING POLICY:

“To farm as profitably and as efficiently as possible, using sustainable practices and techniques, to improve soil quality, and therefore increasing moisture and nutrient retention.”

1.0. PROPERTY DETAILS

- 1.1. Location** 362 Fairfield Rd, Newlands
- Within 10 Kms of Ashburton a large rural servicing town with a high degree of educational, cultural and agricultural servicing. These services include processing, marketing, technical and maintenance companies.
- It is only 1 hour from the main city in the south island, with an international airport and sea port. Also agricultural research centers, plant breeding facilities and an Agricultural University.
- 1.2. Area** 425 hectares (including 40 hectares leased)
385 Ha Owned 40 Ha Leased
390 hectares are cropped 90%
- 1.3. Soils** Medium to Light - Lismore and Eyre Stony Silt Loams
Free draining, with a stony top soil of around 180 to 200 mm, on a sub soil of a light gritty clay in shingle to a further 150 to 200 mm on running stony shingle. The moisture holding capacity of these soils is around 60 to 80 mm.
- Although it is a fixed resource, how it is treated can greatly alter its characteristics, mainly by altering the structure of the soil (its organic matter content) and its water holding ability.**
- 1.4. Rainfall** 638mm (25.5")
400 to 875 range (over 50 years)
Effective summer rainfall 220mls
Prevailing winds South Westerly/Easterly,
Northwesterly winds are more significant in terms of impact on irrigation and evaporation.
Hard Frosts from May to September (with some falling a month either way).
- The main ways we can economically alter the climatic affects are by irrigation and shelter.**
- 1.5. Labour** Owners plus two fulltime permanent employees make up the team. An additional labour unit is employed to cover additional demands of finishing large stock numbers, usually May through September.
- 1.6. Irrigation** 1 bore at 65meters 1 bore at 95 meters
1 bore at 102 meters
Total water take of 230 lts/sec. 5mm per hectare per day
Application by 2x 510m Lateral Irrigators, 2 Roto Rainers and 2 Briggs Linears

1.9. Soil Fertility

	1995	2007	2010	Range
pH	6.0	5.9	6.0	5.8 - 6.2
Olsen P	19	32	34	30 - 40
Potash	11	8	10	5 - 10
Sulphate Sulhur	6	12	12	10 - 20

Note: no capital fertiliser applied in 2009/10

2.0. STOCK & CROP ENTERPRISES:

2.1. Stock Flexible policy - ALL finishing
500 – 800 Weaner Deer
6000 – 14000 Lambs

2.2. Deer Fenced Area & Land Use

Area	60ha
Winter Land Use:	
Seed	10ha
Winter Feed Crop	10ha for deer
Pasture	40ha for deer
Stock Wintered:	
R1 Mixed Sex Weaners	748hd @ 15hd/ha @ 22su/ha
Purchase 65kgLW @ \$4.85/kg = \$267/hd	Gross Margin = 30c/kgDM
Sell 57kgCW @ \$8.00/kg = \$456/hd	Gross Margin = \$2835/ha over 8 months
Margin = \$189/hd	
Trade Lambs February – 1 st November	6000 -14000hd @ \$20/hd net of costs

2.2. Crops Wheat (feed and milling& seed), Barley Seed, Ryegrass, Cocksfoot, Clover, Borage, Process peas and Sweet Corn, Vegetable seed (Carrots, Beet, Radish, Pac Choi and Spinach), Brassica, also Maize and Grass Silage.

2.3. Crop Performance

Crop	Performance	Gross Margin \$/ha
Milling Wheat	8.5 – 9 T/ha	\$1516/ha
Feed Wheat	10 – 11 T/ha	\$1859/ha
Feed Barley	9 – 10 T/ha	
Maize	18 T/ha	\$1760/ha
Ryegrass Seed	2000 - 2400kg/ha	\$1640/ha
Cocksfoot	1000-1200kg/ha	
White Clover	600- 800kg/ha	\$2000/ha
Sweet Corn	16-17 T/ha	
Carrots		\$3000 - \$10000/ha
Peas		\$2060/ha
Winter Feed		
- Ex Ryegrass	4,000kgDM/ha	
- G Feed Oats	3,500kgDM/ha	
- Kale	14,000kgDM/ha	
- Swedes	12,000kgDM/ha	
- Fodder Beet	15,000kgDM/ha	

3.0. No Tillage

- Fully no tillage since 1995, excluding some surface cultivation for Vegetable seed production.
- Better technology for direct drilling of these crops is currently being researched. (Maize direct drilled with good results)
- All harvest crop residues are returned except for Pea Vine and some Ryegrass and except where the value of the Straw royalty greatly exceeds the fertility value of the straw returned.

LISMORE STONY SILT LOAMS in pasture have	60 to 80mm	Soil Moisture Holding Capacity
- In 1992 in pasture	4.2% – 4.9%	Organic Matter (OM)
- In 1992 after 20 yrs. Conventional cropping	3.06%	Organic Matter (drop of 30%)
- In 2001 the same paddock after 8 to 9 yrs NoTill (Barley W/C W/C BAR W/C)	5.44%	Organic Matter (increase of 80%)
- In 2007 now after 15 to 20 years No Till and increased crop residue retention	5.6% to 6.1%	(increase of 8%)

- In the early stages of irrigation a good crop of Barley under water monitoring required 8 to 10 day return when getting up to 6mm Trans-evaporation.
- **In the last couple of years the improvement in the soil is allowing to stretch the return time out by around 2 days, now 10 to 12 days is more realistic, if this is the case and this is observation not research, then the soil must be holding another 10 to 12 mm of moisture than previously.**

4.0. Stock Integration

4.1. Feed:

- Typically at least one area (up to 10ha) of winter feed (Kale/Swedese/FodderBeet) is grown in the Deer fenced area. These winter feed crops need to compete with the alternatives of growing autumn sown cash crops.
- These crops have to perform, at least 10,000 KgDM/ha, preferably up to 15,000kgDM/ha
- White clover and ryegrass areas are important feed crop contributors in late winter/early spring (prior to being locked up for harvest) and then post harvest in the autumn to enable early purchase of trading stock.
- Green feed crops are sown between cash crops in the autumn to provide 2500 – 3000 kgDM/ha over winter.
- A feed assessment is done in March and May to finalise winter numbers.
- Growth rates and feed requirement is assessed based on purchase weight and required finish kgCW.
- We target the deer at 55-60kgCW/hd in early spring to co-incide with peak schedules and to free up areas to then go into spring cash crops. The deer require 500-550kgDM/hd of high ME feed from weaning to finishing to achieve this.
- Lambs are often wintered at maintenance LWG and maximum LWG in the early spring and then finished at high contract prices. The require 130 – 150kgDM/hd of average to high ME feed.
- A requirement is to have sufficient stock on hand in the spring to cope with the high production of both Ryegrass and White Clover till November.

ECONOMICS:

- The target is to clear \$ 750 per hectare **that is stock sales less stock purchases**, for each hectare on the property.
- Radfield Farm generates an **E.B.I.T. of \$1880/ha (2010)**

5.0 DEER PERFORMANCE

Radfield Stock Purchases:	Date	Nos	Av \$/kg	kgLW	Av \$/hd
	10/04/2010	198	\$4.7	67	\$315
	24/04/2010	120	\$5.0	73.75	\$369
	29/05/2010	16	\$5.0	67.3	\$337
	25/04/2010	250	\$5.0	66.9	\$335
	26/04/2010	164	\$5.0	56.6	\$283
		748	\$4.9	\$65.8	\$323.6

Radfield Weaner Weights	Nos	23/04/2010	25/07/2010	LWG	Management
			Av kgLW	gms/day	
Hybrids M. Sex	184		100.3		On 30ha grass paddocks + peavine/barley
	74		87.3		
	76		76.7		
	334	69	92	250	
Hybrids M. Sex		Nos	26/04/2010	27/07/2010	LWG
				Av kgLW	
	108		91.5		On 10ha grass paddock + peavine + barley
	142		72.3		
250	67	81	149		
Red Stags		Nos	26/04/2010	16/08/2010	LWG
	164		57	79.5	204
20ha grass + peavine/barley					
Radfield Weaner Weights	Nos		Av kgLW	LWG	
				gms/day	
Total	748	66	85	215	

- 1% Deaths over winter to date 2010.
- Animal Health: Weaners all receive pour on off the truck + dectomax 30 days later. Smaller weaners get 2nd dectomax in spring. One yersinosis vaccination in autumn.
- Weaners run in breed/property mobs from purchase – sale.
- Top weaner mob wintered on grass, others typically on Swedes/F Beet & Peavine. This year no winterfeed so all on grass.
- In spring all weaners (some already finished) on 30ha of Italian until 20th Oct when Italian locked up for harvest.

5.1 Weaner Performance

	RadField Farm (gms/day)	Northbank (gms/day)	Whiterock (gms/day)	Mendip Hills Finish (gms/day)	Industry Targets (gms/day)
March – April		300 – 400	Wap X 301 Reds 350		300
April – May		200 – 300	Wap X 232 Reds 200	Wap X 87 Reds 134 B11 103	300
May – June		100 – 200	Wap X 148	Wap X 87 Reds 134 B11 103	100
July/Aug		~100	Wap X 140 Reds 50	Wap X 87 Reds 134 B11 103	100
Spring					400
Av To Date	Wap X 150 - 250 Reds 204		Wap X 150 Reds 94		
Post Wean			2009 Av 159	2009 Av 196	

6.0. Gross Margins

	Weaner Venison Fast	Weaner Venison Slow	Velveting Stags	Br Ewes 160%	Winter Store Lamb	2yr Bull - Medium	Wnr Dairy Hfr	Winter Dairy Cows	Feed Barley \$/ha
Start Date	15-Apr-10	15-Apr-10	1-May-10	1-May-10	1-May-10	1-May-10	1-May-10	1-Jun-10	1-May-10
Start Weight (kgLW)	65	54	150		28	400	190	450	
Start Price/kg	\$4.85	\$4.85			\$2.30	\$1.75			
Start Price/hd	\$315.25	\$261.90	\$650.00	\$100.00	\$64.40	\$700.00	\$0.00	\$0.00	
Av Growth Rate kgLW/day	0.23	0.13			0.1	0.8	0.7	0.3	
Replacement Rate				25%					
Death Rate				6%					
Direct Costs	\$8.0	\$8.0	\$30.0	\$11.6	\$1.6	\$10.0			\$1,000 /ha
Holding Costs	\$13.1	\$22.7	\$46.5	\$6.7	\$2.4	\$34.2			
Finish Date	1-Oct-10	1-Apr-11	15-Feb-11	1-May-11	30-Sep-10	15-Nov-10	1-May-11	1-Aug-10	
Finish Weight kgLW	103.9	99.6			43.2	558.4	446	468	
Finish Weight kgCW	58	56	3.5kg/hd	16.5kgCW	19.0	290.4			7 T/ha
Net Finish Price/kg	\$8.00	\$7.00	\$85	\$4.3	\$5.50	\$3.60		\$22.00 /hd/wk	\$300 \$/T
Net Finish Price/hd	\$465	\$391	\$298	\$71	\$105	\$1,045	\$8.50 hd/wk		\$400 Stra
Net Margin/hd	\$129	\$98	\$199	na	\$36	\$301	\$443	\$191.71	\$1,500 /ha
Av Intake kgDM/day	2.6	2.0	4	FarMAX soft	1	11	7	12	
Margin c/kgDM	29.3c	14.0c	17.1c	11.3c	23.8c	13.8c	17.3c	26.2c	
Margin \$/ha @ 10TDM/ha	na	na	na	\$1,130	na	na	\$1,735	\$2,619	\$1,500
Sensitivity c/kgDM									
+/- kg/day	0.05	0.05	+/- 0.5kg/hd	+/- 5% lamb	0.05	0.2	\$0.5 /hd/wk	\$1.0 /hd/wk	1 T/ha
= +/- c/kgDM	6.46c	7.35c	3.66c	0.30c	11.55c	6.55c	1.02c	1.19c	\$300 /ha
+/- Sale Price/kg	\$0.50	\$0.50	\$20.00	+/- \$0.5/kg	\$0.10	\$0.10			\$50 /T
= +/- c/kgDM	6.62c	3.97c	6.03c	1.00c	1.25c	1.33c			\$350 /ha

Note:

- The above figures are GROSS margins not net margins!
- Cost of feed to achieve growth rates needs to be considered. Spring finishing typically requires higher quality winter feed which may come at a significant cost. Dairy cows eating 10000kgDM/ha over 8 weeks can only be achieved with 80-100% fodder crop.
- Policies that can work with some spring animal compensatory liveweight gains have opportunity to minimise expensive winter feed and capitalise on cheaper spring feed.
- Risk management is reflected in sensitivity to prices and production changes.

7.0. Cost of Feed

Feed Requirement Weaner Deer in Winter

LWG's gms/day MJME/day minimum % Protein Minimum

Wap X Deer

200

27.5

16%

e.g. @ 10.5MJME = **2.6kgDM/hd/day**

Supplement Feed Costs					
	\$/unit	Yield/unit	c/kgDM	MJME	Protein %
Kale	1000	12000	8.3	12	15%
Fodder Beet	2000	24000	8.3	13	10%
Grain	340	850	40.0	13	13%
Balage Purchase	60	200	30.0	10.5	21%
Silage Made			15.0	10.5	21%

Feed 1	ME	% Protein	kgDM/day	% of kgDM	MJME/day	Protein %/day	Cost c/kgDM
Kale	12	15%	1	40%	12	6.0%	8.3
Fodder Beet	13	10%	1	40%	13	4.0%	8.3
Grain	13	13%	0	0%	0	0.0%	40.0
Balage Purchase	10.5	21%	0.5	20%	5.25	4.2%	30.0
Silage Made	10.5	21%		0%	0	0.0%	15.0
Total			2.5		30.25	14.2%	12.7 c/kgDM

Feed 2	ME	% Protein	kgDM/day	% of kgDM	MJME/day	Protein %/day	Cost c/kgDM
Kale	12	15.0%	1.5	60%	18	9.0%	8.3
Fodder Beet	13	10.0%	0.5	20%	6.5	2.0%	8.3
Grain	13	13.0%	0	0%	0	0.0%	40.0
Balage Purchase	10.5	21.0%	0.5	20%	5.25	4.2%	30.0
Silage Made	0	21%		0%	0	0.0%	15.0
Total			2.5		29.75	15.20%	12.7 c/kgDM

Feed 3	ME	% Protein	kgDM/day	% of kgDM	MJME/day	Protein %/day	Cost c/kgDM
Kale	12	15.0%	0	0%	0	0.0%	8.3
Fodder Beet	13	10.0%	0	0%	0	0.0%	8.3
Grain	13	13.0%	0.2	8%	2.6	1.0%	40.0
Balage Purchase	10.5	21.0%	2.3	92%	24.15	19.3%	30.0
Silage Made	0	21%		0%	0	0.0%	15.0
Total			2.5		26.75	20.36%	30.8 c/kgDM

Feed 4	ME	% Protein	kgDM/day	% of kgDM	MJME/day	Protein %/day	Cost c/kgDM
Kale	12	15.0%	0	0%	0	0.0%	8.3
Fodder Beet	13	10.0%	0	0%	0	0.0%	8.3
Grain	13	13.0%	0.2	8%	2.6	1.0%	40.0
Balage Purchase	10.5	21.0%	0	0%	0	0.0%	30.0
Silage Made	0	21%	2.3	92%	0	19.3%	15.0
Total			2.5		2.6	20.36%	19.1 c/kgDM

The DINZ Focus Farms are funded by Deer Industry New Zealand, New Zealand Deer Farmers' Association, AgResearch and Deer Research.

The Focus Farm would also like to thank the following contributors to this field day.

Host Farmers:

David & Hilary Ward

Speakers:

Tony Pearce	Producer Manager, DINZ
David Ward	Farmer – Radfield Farm
Ross Stevens	DINZ Focus Farmer – Whiterock Station
Collier Issac	National Manager – Corporate Strategy, Landcorp
Peter Swinburn	Farmer/Consultant & Director First Light Foods
Paddy Boyd	Farmer – Haldon Station
David Stevens	AgResearch, Invermay
Andy Macfarlane	Founder of Macfarlane Rural Business & Chairman DINZ

Sponsors:

- Ashburton Trading Society
- Rabobank Ashburton Branch
- Mountain River Processors
- Canterbury DFA Branch
- South Canterbury / North Otago DFA Branch

Any further queries regarding the focus farm program, please do not hesitate to contact either facilitator:

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Peter Bradley	Facilitator Canterbury DINZ Focus Farm	027 649 1107