

# **The Author** (Vaughan Jones)

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## **GrazingInfo Aims**

To help improve soils, pastures and crops, make animals healthier, happier and more productive, make farming easier and more pleasurable, using education and natural methods where possible, and to help people enjoy life for maximum profits.

Some of the 70 chapters are long and all the information may not apply to you, but some is likely to, so scroll down looking at the headings to find the information that will help you.

## **Our farms**

1955 to 1984, Piako Road, Gordonton, Waikato, New Zealand of 89 hectares (220 acres).



Our farm is across the centre, from left to right, with a lane down the middle of 50, 1.6 hectare (4 acre) paddocks. It is badly shaped being 2,000 metres from front to back and only 277 metres wide, with an addition jutting out to one side (out of view). Our pastures were better than neighbours. Paddocks close to square meant no foot paths or pugging as seen on neighbours.



Our front left paddock with the neighbour's rush and weed covered farm behind it.

On the left of the tanker track is our front right paddock and on the right is our neighbour's. Our farm got five times more lime than the neighbours and was well farmed for 50 years,



producing almost double the neighbours' per hectare figures. It was two metre deep peat in 1955 and about 1.5 metres deep in 2006. The back peat is 10 metres deep.

The number of cows milked each year, as well as replacements, was 28, 45, 54, 65, 63, 74, 81, 79, 96, 125, 140, up to 220 when we sold in 1984.

In the 11th year we leased it with a purchase clause to a partnership who used a



Morrinsville consulting company to manage it. In two years they were broke. We then put on a 50% sharemilker who did a good job for 12 years, and then bought his own farm. The advertisement that attracted him read, "Wanted 50% sharemilker with 140 cows. Must improve the farm." Lynton Simmons was the only one to apply and improved it to 220 cows. This photo of the left neighbour and ours above it was taken in 2007. It

shows identical draining, but thinner weedier pastures.

### **Trials**

From the first farming days in South Africa I enjoyed doing on-farm comparative trials, and still have dozens going on clients' farms and in our garden.

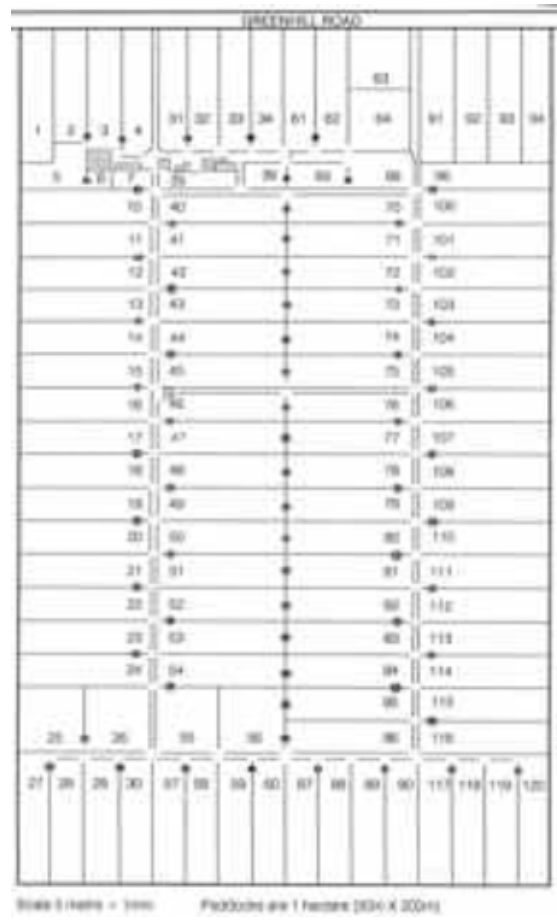
Everything needs to be compared, and I encouraged clients to do comparisons so they see the results on their farms. It was the much better pasture growth where lime and/or fertiliser were spilt that showed that more was required - up to 17,000kg/ha (15,000 lb/a) chisel ploughed in to raw peat. Neighbours asked if I had shares in the lime company, but, after we grew twice as much pasture per hectare as they did, some followed our example - but some still don't, so they have to mow rushes and weeds, suffer selective grazing and have to re-cultivate and resow after a few years, all far more expensive than what later became known as capital dressings of lime and

fertilisers.

**Second Peat Farm (1984 to 1987)**

In 1984 we swapped our first 89 hectare farm for a larger very run-down 107 ha one on Greenhill Road, Puketaha, near Hamilton. Within three years, Ian and Sue Dobbs (our son-in-law and daughter) and Auriel fencing and picking up stumps, made it the best farm on the road, which it still is.

The photo below of our second farm when bought shows no planning, large paddocks and very few drains - 36 ha (90 acres) of flat wet peat without a drain! The diagram on the right shows the fencing we installed with shallow spinner drains along most of them.



Below left was the front paddock when we swapped our first farm for this one in 1984, and below right was a few years later. The previous owner asked how we grew such good pasture in this paddock in which he could only grow weeds. It was wet from a wet-weather spring. The

spinner drain on an angle near the top left of the right photo above, installed in a few hours at the foot of the hill was the main solution. The same house can be seen at the top right of both photos.

The things we did to improve our farms are described in the following chapters. Both our farms became referred to by locals as the best on the road. Many farmers and agricultural scientists came and asked how we did it, but when our son-in-law Ian Dobbs, was developing our second farm with a chisel plough, a neighbour told him that, "On this road we all disc plough." The neighbour didn't know that I was the first peat farmer in New Zealand to use a disc plough decades before, after which Frank van der Elst of the Department of Agriculture bought one. After doing comparative trials in 1960 we changed to a chisel plough. Most peat farmers now chisel plough because it goes deeper, mixes in reactive phosphate, boron and other elements that are not water soluble, so don't move down in soils. This mixing applies to all soil types. Chisel ploughing also deepens soils without bringing up too much subsoil. See Cultivation for the incredible results.

## **My life**

I was born in South Africa in 1931, and from the age of six wanted to dairy farm. My parents' one hectare near Durban, growing flowers and vegetables also had a few cows. They impressed me, in that grass went in, milk, cream and fertiliser came out and every year another was born.

At my mother's insistence, in 1946 I took a two-year commercial (economics) course (she was married to a farmer so knew that financial budgeting was necessary). After it, I won a two-year scholarship (bursary with keep) to Weston Agricultural College, Mooi River, Natal, on its 1,000 ha mixed farm, consisting of dairy, including butter making, beef, sheep, pigs, poultry, general farming, including silage, hay, cropping, growing vegetables for students and staff, and blacksmith work, including painting, carpentry, building, etc. I gained honours (99%) in dairying which was my favourite subject. These two courses (Economics and Farming) helped develop profit-oriented and practical attitudes to farming. At Weston we students did all the work, which was not the norm in South Africa, where there was a surplus of low-cost staff. There was a waiting list for Weston's graduated students to work on farms.

In June 1954 I sailed (no flying then) to New Zealand and met Auriel Lowen on the boat. She was from England and going to Tauranga with her parents, and I to Katikati, half an hour apart. We married in October 1955 and she became an equal partner in our farming and in our other businesses.

Life was wonderful in New Zealand in those days (not that it isn't now). I arrived in Wellington without having to get a visa or immigration permit. Entering through customs took only a stamp in my passport from a man at the bottom of the gang plank, who asked no questions and hardly looked up as he allowed in thousands of immigrants each year. All he said was, "Please get your car steam cleaned across the road and then come back for your passport."

Frank Reynolds, a friend from Weston Agricultural College, who encouraged me to come to New Zealand (so gets the credit for my meeting Auriel), met me and drove me to Katikati in the Ford Anglia I'd brought. It was mid winter, and my eyes couldn't believe the green everywhere, after most of South Africa's brown from March to September every year.

Frank was managing an 80 cow dairy farm on his own, which would have taken half a dozen in SA. I asked him about getting work. He suggested I try the farmer next door, so the next morning I put on my gumboots, and with references and exam results, walked across the

paddocks to meet Allan and Nell Yeoman, who within ten minutes offered me employment, to start the next day at eleven pounds (NZ\$22) a week - five times the salary I earned in SA. The 20% increase I was given two weeks later was even more amazing. I saved more in NZ in a year than in SA in six years.

I was most fortunate that Allan had been a Major in the NZ Army in North Africa and Europe, so knew how to handle people, which is a failing with some employers.

Allan taught me a tremendous amount and never growled at me, except when, after working for him for a few weeks, I called him Mr Yeoman. "Allan is the name", he said firmly. Being used to South Africa's 'Mister' for everyone, I didn't call him anything for a long time.

He had to train me to what was a new way of dairying, compared to what I had learned in South Africa. I learned that the New Zealand "She's right" saying, meant don't waste time doing any more than is necessary. In South Africa we had plenty of staff, who, as some farmers put it, "Have to be employed." So they would spend more time doing little things, but in New Zealand there was a desperate shortage of labour, with only two people running 150 cow farms. Now (2008) it's two per 320 or more cows. Allan, and my subsequent employers, taught me to do only what was going to give a return for the effort expended, and to look for short cuts - in other words, be efficient. So it is not surprising NZ has invented and developed so many things.

Back in 1950, I had been told, and had read, that New Zealand dairy farmers were the most efficient in the world, as indeed they were, and still are - up to the farm gate. After this point, most farmers claim that they should not have to worry about their produce, that our then Producer Boards should sell at the best price. Fortunately there were then, and still are, a few farmers who put more into product marketing than into their own farms, so the produce gets sold, although not at the prices it could with better marketing. A New Zealand poultry farmer sells his organic free-range eggs in USA at twice the price of local ones. A beef farmer sells his beef in his name in USA, while our dairy products are the same price or cheaper. Until the UK joined the European Common Market, almost all produce went to the UK on a "buy what we supply" basis. That changed completely, and marketing skills had to improve, and they did, but could still be improved, as I saw when overseas for three or four months each year, consulting.

### **Kind employers**

I worked for three dairy farmers in New Zealand to gain experience in dairying, which was decades ahead of that in South Africa, and other countries too, I discovered later.

Although working for Allan Yeoman in Katikati for only six months, Dolf Jensen and George Yarrall near Tatanui for only three months each, we became good friends. Sadly all have passed away.

After buying our farm, they gave us old equipment (mower, fertiliser spreader), a hut I slept in until moving a house on, and an electric oven (we had a coal burning range). We patched up some and used them for years, saving us money at that critical time.

### **Peat**

In 1955, when looking at farms for sale, with our limited capital, the only ones I could afford were peat farms, so I researched peat. At that stage government research was very basic, but superior to current peat research, in that the peat researcher, Frank van der Elst, had two peat farms, where he ran a variety of trials on drainage, liming, fertilising, pasture types, etc. Since 1990 no research has been done on peat, despite there being 260,000 hectares of peat in New

Zealand, and more than 2,000 peat farmers. As always in New Zealand, agricultural research finance was limited, despite agriculture earning half the country's overseas exchange annually then and now, and in the foreseeable.

By 1955 Frank van der Elst knew that peat had to have plenty of lime and be thoroughly cultivated, so, with his limited budget, he did a ten metres by ten metres plot thoroughly. When I visited it in the dry March of 1955, I saw how well this plot was growing, and Frank explained that it was what could be done with peat. I was most impressed, because it was greener and growing faster than a lot in supposedly better soils of the then dry Waikato.

I asked Frank (everyone is known by Christian names in New Zealand) if there were good peats and bad peats and he said that there were, and that the deeper the peat the worse it was, and that the best peat at that time was on Piako Road, Gordonton, but, "Don't overdrain it."

A month later I bought a 40 ha (100 acre) block of two metre deep, mostly raw, peat that was rush and ragwort covered, on Piako Road, from Alan Matthews for £4,500 (NZ\$9,000). Inflation adjusted, it is in 2009, NZ\$450,000. It was his runoff for grazing dry cows and young stock. The only building on it was a pump shed to provide drinking water for the stock. Alan was incredibly kind and required only a £700 deposit. My parents lent me a few thousand pounds at no interest for a year.

Interest rates on both loans were 6%, which was high at that time, because those borrowing from State Advances, the government lending institution, were paying only 4.25%.

### **Peat's bad name**

Peat was a soil that at that time had a very bad name, and Dolf in particular was disappointed that I had bought such poor land, and feared I would go broke. The belief in those days was that peat was so slow and expensive to develop that the first three owners went broke. I was the third owner. He asked how many cows I would be able to milk on the 40 ha. I expected to milk 60 (the national average herd size in 1955) within 20 years. That satisfied Dolf, but we milked 65 in the fourth year, and, with more land, milked 220 on 87 ha when we sold.

Auriel and her father were a great help in getting the three bail doubled up (6 cows) internal race milking farm dairy built, and painting the small Ministry of Works cottage moved on for £300. It had a bedroom, living room and kitchen, each 2.7 (9') by 3.4 metres (11'), with a laundry/bathroom stuck on one side. See Peat Part 1 for more on our years of farming it.

### **Consulting**

I learned useful information on electric fencing from Gallagher, and milking systems from DeLaval, which I was able to use when consulting.

I started a peat group and then five other farm improvement groups, did private consulting around the North Island of New Zealand, and at the peak consulted for 90 farmers and 14 agricultural companies.

I didn't advertise or go looking for consulting. It started by answering questions by telephone. I then found that, even if clients became good at farming, other factors could reduce their profits, so that fixing their farming problems became more difficult through lack of funds. Examples were from overstocking to faulty milking machines. I widened my knowledge to be able to help with most farming problems, even finance. The Spreadsheets and Your Life show the wide variety of topics I covered.

I had a two-year policy, which was that I should be able to teach clients what I knew within

two years. After that I also became bored from walking the same farm and sometimes repeating the same statements. However, some clients became good friends, ran good trials which interested me, and were good farmers to learn from, so I've continued with a few for as long as 30 years.

As a consultant, I learned that farmers want specific advice and recommendations and want names of the best products - at the time. Where necessary this will be done in this book, but allowance must be made for the fact that better products will continue to become available.

I developed 50 farm spreadsheets to help with farming and consulting, and sell them worldwide. Uses of some are described in the book.

I first used electric fencing in 1954 on farms I worked on in New Zealand, and, after buying our farm, fenced it all with electric fencing, using a 12 volt car battery operated "fencer", as they were called in New Zealand then, into 28 permanent paddocks. I had to disconnect power to paddocks not being used, to keep the voltage high enough to control the cows where they were grazing. As soon as mains operated energisers became available, we bought one.

Brian Healy of the National Farming News convinced me to write for them about my findings. This brought in more consulting.

### **Controlled grazing**

Between 1979 and 1984 I worked for Gallagher Electronics and became their Group Marketing Vice President and chairman of their Research and Development Department.

They sold into 100 countries, so I did two or three world trips a year promoting power fencing, and showing farmers at field days and seminars how to use it, and how to profit from controlled grazing using high power fencing. I also learned a lot, but often what not to do.

On my father's farms, in 1948 at Hillcrest, inland from Durban, then in 1950 near Greytown, Natal, South Africa, we gave the milking cows a fresh area of native veld grass each day, by using a herd boy, who would walk up and down in front of the herd with a stick or two, so that the cows kept grazing the area we allocated to them. We would do this by explaining to the young African boy (there was little rural schooling for Africans in those days) to give the cows a quarter or fifth of the paddock each day.

The herd numbered about 40. We all knew every cow's name, and they knew their own names. If one started going too far forward, into tomorrow's area, their name would be called strongly, and they would usually turn back. If they didn't, the herd boy would throw a short stick at them to hit them on the neck, at the same time as repeating their name more aggressively, perhaps with a Zulu adjective. Cows soon learned, as they did when called to come into the 16 cow tie-stall barn group by group, to be fed concentrates and be milked. They each knew their stall and went to it.

This form of rotational grazing improved the natural grasses, which is what large migrating animals did for thousands, perhaps millions, of years. Smaller animals such as goats would just browse brush and not migrate.

Most South African farmers used burning to remove the old dead grasses and improve the grazing for the animals, but we mowed the surplus for hay, or bedding, depending on the quality. Within three years the veld improved, and the old veld that had been set-stocked for ages thickened. The palatable varieties that had been grazed out by repeated selective grazing returned.

To my knowledge there were no South African farmers using electric fencing then, but, when I came to New Zealand in 1954, ninety percent of dairy farmers were using NZ made

temporary electric fencing to give their cows a fresh break of grass after each milking. Farm staff were scarce, so labour-saving devices had to be used. They were made in NZ.

Now in 2008, production per cow has doubled, the average herd size has increased from 60 to 300, and production per farmer has increased by about 500%.

The first essential was drainage, and in the 1950s the draglines (crawler unit with a jib, ropes, winch and a bucket) had to operate on four or five six metre long and one metre wide pads. They would move along gradually dragging the one from behind to in front. They were wonderful machines, and dug thousands of kilometres of drains in the peat around New Zealand.

What amazes immigrants from countries like England and Ireland is that New Zealand is farming peat and growing good pasture on it, while in their countries most of the peat was lying idle or just being burned as fuel.

The original drains across the peat were dug by teams of a dozen people, using shovels, wheelbarrows and boards.

### **Farmer owned farms do the best**

I served on the Government Lands & Survey Peat committee of the government 800 hectare Ruku Peat Block, until I resigned because others on the committee insisted on farming sheep (they don't go with raw wet badly drained peat). They wanted a few deep drains, rather than many shallow ones, as found best by Frank van der Elst decades before, and didn't want to apply sufficient lime when cultivating, and none on top afterwards. The result was that new pastures reverted to rushes and scrub. I influenced the Lands and Survey Department to sell it, and they did to a group of six farmers who divided it up. It is now growing excellent pastures and milking 2,500 cows.

When on the Peat Management Advisory Group it was the same, with few having any practical experience, so I resigned and it folded.

There are nearly 200 pages in GrazingInfo on farming peat. See Soils > Peat.

### **Breeding worth**

In the 1980s New Zealand dairy cows were getting bigger and I was worried about it because I had seen the problems in North America in particular where infertility was also a problem, so on average their cows lasted only about three lactations, while in New Zealand they lasted twice as long.

Selection on production per cow alone was a cause. In 1986 I met and suggested to Dr Brian Wickham and two staff of the NZ Livestock Herd Improvement (LIC) that if the New Zealand selection of high producing cows was not done on a production per kilo of live weight basis, with attention to constitution, our cows would get bigger and less efficient, like North American ones with their large bodies and weak legs.

A spreadsheet I'd written to compare cows' production of milk solids by animal weight showed that the top NZ Jersey cow was more profitable than the top USA Holstein. See GrazingInfo > Spreadsheets > Dairy profits per cow. Enter your cows' production figures and body weights to find the most profitable in your herd.

This became known as Production and Breeding Worth, but in the beginning lacked some of the features I suggested.

It is no good improving the genetics if animals are not better fed.

New Zealand cows are producing more per cow in many countries where they are usually

fed more so produce more than in New Zealand, where production per hectare is aimed for because of the high cost of land - up to NZ\$30,000 per hectare with no buildings.

Most New Zealand farmers are influenced by LIC to milk more cows to produce more milk, without considering profit. The more cows farmers milk the more money LIC make from semen and herd testing. I care about farmers, not those who fleece them. See the Dairy #Cows For Max Profit per farm spreadsheet. Enter your figures for your farm. Also do the Feed Budget annually and you'll find out how many animals (there is one for beef) your farm can feed. Figures tell you what to do for maximum profit on your farm.

Unfortunately LIC gains from more cows by selling more semen, more herd testing, etc. I can say from having checked hundreds, that most dairy farmers in New Zealand are not making the profit they could make, because of the cost of keeping a cow (about NZ\$900 in 2009) and the associated over-grazing, pugging, pasture and lane damage, longer milking time with cows on concrete yards in heat in summer, and the resulting stress of animals and people.

### **Still Consulting**

I've done agricultural consulting in New Zealand since 1960, and internationally from 1979. Two clients in Japan won the Emperor's "Most Profitable Dairy Farmer" awards and one in New Zealand won a provincial "Best Farmer" award. Most clients increase profits at a faster rate than others in their areas. It usually takes two years because their soils are so run down. All appreciate the improved soils, pastures and animal health.

1990 I was invited and paid by the Boston Consulting Group, USA, to visit them and help with marketing New Zealand pasture seeds, which I enjoyed doing.

I pioneered the use of controlled grazing in North America, parts of Eastern and Western Europe and Asia, starting in 1979. I've run hundreds of field days and grazing seminars with slide shows that made the audiences gasp and invite me to their farms, which I did for some until 1996 when I was 65 and suffering from gluten that no one knew was the cause of my ill-health. Eight years later I read an article headed Celiac Disease and realised it was my problem. At 78 (in 2009) I still consult for a few farmers, especially organic ones who need more help, and for companies in New Zealand and other countries.

I enjoy helping people and hate deception, inefficiency, waste, laziness and unnecessary ignorance, which I hate to say, is rampant.

### **Still reading**

I've read only two novels in my whole life and only been to two films (pictures, bioscopes) in the last 55 years, but enjoy learning by reading every agricultural, marketing and health book and magazine I can find, including old ones from second hand bookshops around the world.

New Zealand farmers get the following free; Rural News, Dairying Today, The Dairyman, NZ Dairy Exporter, NZ Farmers Weekly, Countrywide, Farm Equipment News, Straight Furrow, Coast & Country, Growing Today and some smaller ones and InTouch, the AgResearch monthly. I speed read them all. This means concentrating and running eyes down the columns looking for points of interest, and ignoring the fill in words (the, and, was, etc.)

See Further Reading for a list of good books.

One of the most important and cost saving things I learned was from India. It is that sulphate fertiliser as in Single Superphosphate (9% P and 11% S) leaches and takes other elements with it, and that calcium and salt stop it leaching potassium (K), selenium (Se) etc.,

saving costs and reducing pollution. Ruakura agricultural research centre would not believe it. Massey University (a very good and open minded body) did trials and found it was right. After Ruakura rebuked it saying that it was only one trial, Massey did another trial and again found the same thing. Long before, in 1964, Hogg and Cooper had proved it, but AgResearch and LIC consultants still in 2008, 44 years later, ignore it, costing farmers in buying potash unnecessarily, and Single Superphosphate causing leaching, pollution and bloat, because of applying more K than necessary. Peat and many soils (not all) need potash, but applying optimum amounts of lime if the pasture tissue Ca levels are low, and 50 kg/ha of coarse agricultural salt (where low) annually, reduces the amount of K required.

To show how bad single superphosphate is, it is not even made in USA, but in New Zealand it is still the main fertiliser or base of fertilisers in 2008. Percy Weston's book recorded health problems from superphosphate lowering selenium levels. We never used it. We used Serpentine Super until reactive phosphate became available.

There is still learning to be done, such as why subsoil brought up with chisel ploughs grows more clovers, therefore more grass, and causes less bloat. See Animal Health > Bloat.

### **Acknowledgements**

I really appreciate the help I've had during my life from my parents, from the late Frank Reynolds, who came to New Zealand before me and then encouraged me to come, my wife Auriel and her parents, farming neighbours, my two brothers, Leon and Maurice, who were motor mechanics so taught me a lot so useful on farms, and my sister Olga, who has done all sorts of things for us, such as baby sitting while we were on holiday, to making the brilliant suggestion of cutting out the whole back of the forager hay chute that kept causing blockages, to her husband and me when we were developing what became the Gallagher forage harvester, now also made in USA. Allan and Nell Yeoman, who gave me a job on their Katikati dairy farm the day after I arrived in NZ, taught me New Zealand dairying and took me in like a son, and stood in for my parents at our wedding 15 months later. Then there is Frank van der Elst, who showed me what could be done with peat, all my employers, Roger Hill and John Turner of Hill Laboratories and their staff, for giving me useful advice, and some of the Optimum Pasture Mineral Level figures I've used. There are others I've thanked in appropriate parts of GrazingInfo.

Especially I appreciate the major contribution by Auriel into our farms, properties and into whatever I've chosen to do, such as farming, managing the NZ Agricultural Fieldays (she was its secretary for seven years), consulting for Gallagher, DeLaval, and for farmers, and her editing articles and much of GrazingInfo. Without her, our progress would have been very slow.

From mid 2008 ex nurse, now dairy farmer, Tania Fernyhough helped editing the 100 chapters, which is a massive job that she enjoys, and is extremely good at, for which we're very grateful.

Without Dave Tomlinson, the fifth developer of [www.grazinginfo.com](http://www.grazinginfo.com), I would have gone mad and you would not have this well laid out web page. I started preparing GrazingInfo in 2003 when a contact offered to set it up, but after two years had done nothing. Then a computer genius (?) offered to do it, and again, after two years, I complained about the delay. A third contact said he could do it in a week and he did, but it didn't work properly. A fourth attempt with a professional (?) website developer, got further than the others and more quickly, but after five months he had not finished, and I could see that he was out of his depth. I was then told by Neil Clatworthy, our excellent electrician of 30 years, about Dave Tomlinson, whom he described as

very clever, and he certainly is. I invited him to come and look at what had been developed. He was horrified at the bad layout and made suggestions to improve it, which were exactly the things I'd been asking the then developer to do (larger fonts and fewer words), but who argued and always wanted his own way. I had been dreadfully stressed. Within two weeks of Dave's input I changed to a very happy person. In three weeks he had redone the whole GrazingInfo site with many improvements, always communicating with me with suggestions along the way. His charges were a lot lower and he has been fast at doing whatever I've requested. He has no "can't" in his vocabulary. To see his other work and/or contact him, click his DR icon on [www.grazinginfo.com](http://www.grazinginfo.com)

Thank you all very much indeed.

## Vaughan Jones

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