

1 **INTERVIEW TRANSCRIPT**

2 INTERVIEWERS: Dolores Rey (Cranfield University) (phone)

3 DATE: 14TH MAR 2016

4 FARM LOCATION (NUTS3): UKH13 (Norfolk)

5 ***Interviewers (I)***

6 *Grower (G)*

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8 **I: We will stick to the biggest farm that you manage, OK?**

9 G: The crops we grow are maincrop potatoes, salad potatoes...then vegetables it
10 varies between carrots, parsnips and onions and we don't always grow them every
11 year but we grow some of those, but for that year (2014) that was roughly the area.

12 **I: I have seen that you have both summer and winter licenses for this farm**

13 G: Yes

14 **I: I think we can go to Q9 to focus on the impact of droughts on your
15 production**

16 G: First, I needed to have a better memory than I have, and secondly looking at our
17 summer rainfall is not always a good guide because it varies so much around the
18 farm and in the year, and depending on the crop growth stage. So some years we
19 might have the feeling that carrots really struggled with the weather but potatoes it
20 was easy because they were mature...or it could be the other way around. So I am
21 trying to answer some of this but I admit that some of it is going to be from my
22 memory I am afraid...

23 **I: Yes, that is exactly what I want, your memories from past droughts...**

24 G: The years that you chose are interesting because they are not particularly the
25 ones that I remember as being challenging here. So 1976 I was not at this farm. I
26 didn't come until 1992. I have seen the records for this farm. 1976 was a
27 phenomenal drought for every crop everywhere. I was farming with my father in
28 Lincolnshire on strong land with good water holding capacity and it ruined most of
29 our crops. Here on this farm with the light land some cereals crops weren't even
30 hardly worth harvesting. But in 1976 they were not growing so many vegetables and
31 the irrigation was not as developed, so did 1976 have a massive impact? Yes. I do
32 know some people with water that has been cautious in how many hectares they
33 planted have phenomenal yields in 1976 but they used a phenomenal amount of
34 water doing it and as a consequence they made a serious, serious amount of
35 money. And that drove behaviour wrongly for many years in my opinion because
36 everybody thought another one of those will happen. And when they were taking
37 bad prices for potatoes they kept remembering that phenomenal drought year.

38 And we had a phenomenally good year here in 1995, when again not as good as
39 1976 but our potato yields were above budget, we had used a lot of water and
40 prices were exceptionally high, and we made 4-5 times more than budget from the
41 fields. And that tended to clear our thinking, but that thinking is no longer true
42 because when we came to 1998 it was another difficult potato year but the
43 supermarkets and processors have reorganized the way they bought and the way
44 they reacted to the market and that sort of price rises can't happen anymore. They
45 got different sort of contracts and if they see a potato drought coming they are going
46 to buy from somewhere else or they are going to change the offering in the
47 supermarket. So in a dry year I can't afford to underperform so I have got to make
48 sure I have enough water because I am committed to a contract and the customer
49 doesn't take no for an answer. And I am not gonna benefit from those phenomenal
50 prices anymore because that was very difficult for the supermarkets and the
51 customers and they have made sure that is not going to happen again.

52 The winter of 2011 was very dry and we all panic for 2012 so we all agreed to
53 voluntary restrictions and reductions on our summer licenses. And it was all a waste
54 of time because we had a really wet summer and everybody in the industry had
55 more than enough water. But that was management, you know? Because if we had
56 had a really dry summer it was right to make those plans and have voluntary
57 restrictions because we can't afford to suddenly be told by the EA that we cannot
58 have our water. I want to know what I am guaranteed as far as possible and then I
59 make cautious decisions about what to plant. So if I thought half my license was at
60 risk in a drought, I would just plan accordingly. I wouldn't take the risk, because the
61 risk of not delivering crops that I am contracted to deliver is just ridiculous risk.

62 **I: In terms of yield reduction during the last drought, 2010-12, can you tell me**
63 **more or less what was the yield reduction for the most important crops that**
64 **you grow?**

65 G: I think 2010-12 didn't present us with any particular problems rather than in 2012
66 because of the national picture and groundwater we got nervous that there might be
67 restrictions. So 2012 had an impact on us in that we had to go to our people in that
68 rent land on the farm and say: we are nervous of this situation, we are agreeing to a
69 20-30% cutback in area and the land we rent you we can only guarantee...you can
70 either rent less land or you must be aware that your water might be restricted. Some
71 of the potatoes and vegetables, we rent the land to other people and we use some
72 water for some of our crops that we are growing for ourselves. But when we rent the
73 land we guarantee them a maximum amount of water. In 2012 I had to reduce that
74 by saying: I believe we happen to agree on a voluntary restriction within the industry
75 and therefore this is the most water I can guarantee you, and if you wish to rent less
76 land and grow less vegetables here we understand that. And some of them did and
77 some of them just took the risk. And it happened that taking the risk was fine, but
78 that gave them a problem because if they had produce a thousand tonnes last year
79 for a supermarket and suddenly they could see that the land we are going to rent
80 them would only produce 700 tonnes this year, where were they going to get the
81 other 300? Because the supermarket was not at all sympathetic to a request to
82 produce less. They just said: well if you can't produce the 1000 tonnes we will go

83 somewhere else and they might have lost all of the business. And that was the
84 difficulty.

85 In this farm, the droughts that we remember are the ones back in the mid-1990s.
86 That is when we had voluntary restrictions but we made a lot of money. But in 1998
87 similar conditions applied but we didn't make as much money because
88 supermarkets were managing it better. Then for the next 10 years it was generally
89 wet here. But if we say reserve 150 mm for a crop and you only use 30-40, these
90 30-40 are still imperative to produce a profitable and budget crop...But in 1998 or
91 whatever we used it all, so...And each year the timing of when the drought comes,
92 the crop mix we have can all affect this so much. So our neighbour might have a
93 shortage of water, I am way much comfortable because of our crop mix. Something
94 that can be happening generally in East Anglian doesn't need to happen in our
95 patch, and the farm we manage is relatively close together but it is amazing how
96 much variation we get, so there has to be a rain gage in every field, somebody has
97 to go and look at these crops because soil condition, organic matter...they all
98 interact and can massively affect how much water we want and clearly 1976, it
99 doesn't matter whether there was a good or a bad situation, the reason why we
100 didn't have enough water is we haven't had any of those then. And there is no
101 reason why we didn't have one. If we have the weather conditions of 1976, we have
102 to have systems that guarantee us a crop. And I think everybody understands we
103 won't have full crop nationally, but for us we want very close to full crop in 1976
104 conditions. So we want the machinery, the staff, and the license and the availability
105 and everything in place. And that means that in 2012 we use 5-10% of our license,
106 and in 1976 we probably go to prison because we took more than our license
107 but...that is the difficulty. If you are in Spain, it is very hot every year and license use
108 might be more even, but here as summer rainfall can be so variable, temperature
109 can be so variable, I don't know whether I am gonna have 1 mm of transpiration or
110 7mm per day. What I do know is, if I have a potato crop that I want to grow or a
111 carrot crop and the temperature is 30 degrees I have got to make sure I can give it
112 7mm of water a day. Once crops switch off, that's it, they don't...they never recover.
113 I mean, we grow sugar beet and we can go through a drought and then apply water
114 later in the season and still get a good response to it. But it doesn't happen with
115 potatoes, it is not the right shape or quality and the customer doesn't want it.

116 **I: I have seen that you have been affected by section 57 restriction in previous**
117 **droughts and I was wondering...**

118 G: I can't actually remember getting a S57. The threat was always there but I think
119 we have always done it by farmers cooperating in the catchment and doing it
120 voluntarily. It is the same thing because of the back of the conversation well if you
121 guys work together we can avoid S57 and when the EA tells you that you all need to
122 reduce your abstraction by 50% voluntarily, you know you are only 24 hours away
123 from S57. But I don't think in this catchment we have had actually...It is the same
124 thing. And we did it in 2012 and I don't know exactly, maybe you know better what
125 was that call, but the industry consulted and we agreed to a % reduction and we
126 then reduced our planted area. In the 1990s, in our own catchments we had two
127 occasions when the EA became concerned about river flows. The river is over-
128 licensed but not over-abstracted the most of the time. But in those drought

129 conditions they asked us all to reduce our abstraction by 50% and we all did. What
130 we did was to do all our irrigation at night because it was the best use of the water...

131 **I: Other farmers that I have talked to recall going for voluntary restrictions in**
132 **the 2010-12 to avoid mandatory ones.**

133 G: Voluntary is always going to be best, rather than somebody in an office saying
134 you shouldn't do this. The whole industry is focusing on that because everyone is
135 different, we need an element of flexibility and that is because weather is localized
136 and crop development and stage and impacts of droughts and everything affects us
137 all. We will all understand that one farmer might be irrigating flat out and we don't for
138 a while...but what I don't want is him taking my water. So I long as we can
139 voluntarily arrive at a reasonable position it might be I can give up irrigating this
140 month and carry out as normal next month and he might give up irrigating next
141 month. And that might be better for both of us and gives the EA the same effect.
142 And it is sensible to have in place those facilities to be able to talk. And obviously
143 with surface water abstraction that is really applicable within a catchment whereas
144 groundwater needs a more complex understanding.

145 **I: Regarding S57, would you say that the information you get from the EA is**
146 **enough so you can understand or more or less know when S57 can be**
147 **applied and whether you get the right amount of notice.**

148 G: I am not sure how others might feel but the EA goes through a lot of change and
149 government impacts, but I have always found them excellent to work with. You
150 make sure you have relationships in place. We make sure we have people like
151 UKIA and NFU talking to them. I have always thought the amount of notice is
152 fantastic and at our local catchment level they sent us letters saying we are
153 concerned about the levels, they are low for that time of the year or whatever. And
154 that starts the discussions. And I have always found them adequate. If anybody
155 rang me up on Monday morning and say please turn your irrigation off, there would
156 be riots. And it has never been like that in my experience, and it has developed over
157 the years. If 1976 comes along there is no a proper solution so there will be a lot of
158 conflicts because there is no enough resource to go around. And the EA has to play
159 God and they are gonna upset somebody, if not anybody...In my experience we
160 have moved positions to give ourselves more comfort in that, whether is storage or
161 whatever. As a whole in the industry we all applied for excessive licenses because
162 resources coming under pressure. They are going to gradually take some of
163 unused...you know, really large licenses are gonna be reduced where there is no
164 need...it seems fair enough to me. What I am worried about is if I have 10 years of
165 only using 50 mm because there is plenty of rainfall and then the year I need
166 150mm somebody has reduced my license. It can vary enormously how much water
167 I need, and if that is not acceptable it will be difficult for us to manage.

168 **I: I have seen in question 16 that after the last drought episode you did some**
169 **changes in your business. Can you tell me a little bit more about it and if you**
170 **think your attitude towards drought risk has evolved over time?**

171 G: I've been here 20 years and everything has taken us phenomenal amount of time
172 to develop. So to get summer licenses changed into winter ones and then to find the
173 capital to build the facilities... Basically we were growing potatoes ourselves in the
174 1990s and during that period I have been applying to turn a small summer river
175 abstraction into a large winter one and build a reservoir. And I gradually convinced
176 the EA to do that and got the licence granted the potato and vegetable sector went
177 into poorer returns and the financial case for building reservoirs and improve the
178 infrastructure was undermined by our profitability. Then we looked for grant aid and
179 during the 2000-10 government grants started to appear and involved a lot of
180 bureaucracy and then disappeared before you get it done. So we decided to create
181 a reservoir by selling gravel, so that was a big planning process. We managed to
182 get a grant to replace all our infrastructure so we now have a very efficient system
183 and a small reservoir. And within the next couple of years gravel will have been
184 removed leaving a big hole to be used as a reservoir and having provided the
185 finance to pay for the linen and everything. So in the next couple of years we will be
186 able to abstract using the license we have been granted in full and we have the
187 system to be able to cope with this. So this moment in time is not actually
188 operational at the bigger scale but we are putting everything in place and we are
189 nearly there. And this has taken me a phenomenal amount of time and I would
190 probably never invest in something like this if I knew what was involved. But I guess
191 somebody will thank me one day when we will have double our license but also
192 modernized our pumping system so we now have state of the art pumping systems
193 to every part of the farm with much reduced power and labour costs, which will be
194 important because many of the systems in England were put in in the 60s and 70s
195 when there were big government grants to do it and many of them are out of date,
196 use too much power and nearly went out. So gradually we all have been trying to
197 work on that. So answering your question, you never quite fit it but as our license is
198 available we have invested in distribution and we are nearly there with our reservoir.
199 We mix our crops and opportunities to try and reduce high demand of any one point,
200 so we have tried to do make it with carrots, onions, parsnips and potatoes as it is
201 unlikely that all those crops have massive demand at any one phase in the season
202 because of when they are likely to be harvested and when they are mature. If you
203 get a drought in early June with high temperatures every crop will have a high
204 demand and we will be very challenged. But that hasn't happened very often

205 **I: Now talking about drought management in the UK, you selected as the**
206 **things that could be done: removal of S57, encouragement of water trading...**

207 G: Well, removal of S57... I mean, ultimately it has to be there in my opinion
208 because people are more important. But when I ticked it I just wanted to keep the
209 pressure on the EA and the industry to keep communicating as they currently do but
210 keep improving it so that we all understand but the implementation of S57 on me as
211 a surprise will be enormous.

212 A national crop insurance system I wouldn't rule it out by definition but I think it
213 would be good for the insurers... I work in the industry to have a pros protection
214 insurance for the sugar beet crop. We are trying to extent the harvesting, some like
215 to harvest early some like to harvest late. But the latest you harvest the bigger risk
216 you are taking with the frost damaging the crop and we do now have a national frost

217 insurance system for the sugar beet crop. To do it on irrigation to understand the
218 risk for my own farm... I think it is a nice idea that practically could never be
219 implemented...

220 **I: Is there anything else that you would like to talk about before finishing the**
221 **interview?**

222 G: No I don't think so...This will not go away, the pressure of water will only get
223 more. What I would really like is to take it out the government hands, to make the
224 EA more autonomous to take long term views. During the last 20 years we all have
225 been encouraged to build reservoirs, make small on-farm changes...and frankly is
226 not a good use of our investment or the government's. If we have been made to
227 work with water companies and build bigger storage reservoir and local distribution
228 systems it would have served the country better. And it is not too late to start that
229 work, because it will be needed. A lot of thoughts going in how to get gas from
230 Scotland to London, it is a shame there is not some thought about how to get some
231 water from there as well. And I understand why building is gonna happen itself. I
232 leave climate change to scientists and fortune tellers...But if weather conditions are
233 going to improve in England, warmer, this is an opportunity for we should be
234 planning. Give me better weather and enough water and I can definitely increase
235 my production and change what I grow. But don't make it hotter and reduce my
236 water license...I am gonna have some areas of desert or unfarmed. I don't know
237 how you start that. First of all it is in the hand of politicians who are only worried
238 about the next election...

239 **I: Yes, I think that is the problem with climate change**

240 G: We have built a reservoir system and an irrigation system that is for really the
241 benefit of my owners' grandchildren. I got a grant to build a reservoir and the total
242 cost per cubic meter compared to a big locality scheme is massively more
243 expensive, so...I am sure some of the rivers could be managed in a better way.
244 Someone from Spain could be better qualified to teach us...In this country generally
245 we could go 10 years with very low water demand so everybody think it is not a
246 problem but it is hard to make the investment. If we get another 1976 then it will get
247 to the top of the agenda.

248 **I: Yes, it is a matter of priorities**

249 G: If we get 1976 this year we will still have a 90% crop I believe. We have been
250 cautious, we have done our analysis about what would be the implications of
251 another 1976 and we will be OK. That is what every business has to do. Then if we
252 want to grow more, we need to think about more water availability and how to make
253 it safe. And those people that plant based on the water they needed last year if
254 1976 comes they will not be in business. And in 1976 I can think of some people
255 that made a lot of money, but they weren't the people who run out of water half way
256 through. They had a crop grown with a high water demand, high tuber numbers
257 under the potato crop then run out of water and the crop was nearly unmarketable.
258 We all have heard about the ones that made a lot of money in 1976 but there were
259 plenty that were bust or lost lots of money. And I see some of that now, some of my

260 colleagues in the industry very too optimistic about what can be achieved with
261 water, and that depends on whether you are an optimistic or a pessimistic. I like to
262 think I am realistic but on the pessimistic side. As a manager of a business I cannot
263 play with somebody else's livelihood. If you have a drought, instead of making a lot
264 of money like the people that has been cautious, you are losing a lot of money
265 because you have been very ambitious.

266