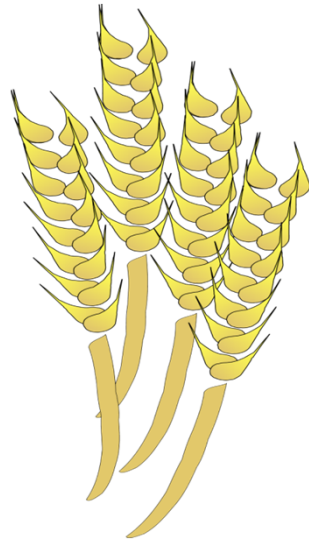


Teagasc Crops Forum 2016



Shay Phelan
07/9/2016



Agenda

- **Quick review 2016 harvest**
- **Planning for 2017**
- **Autumn Agronomy**
 - Rotations
 - Seed rates
 - Autumn diseases

Winter Crops 2016

- **Many challenges**

- Waterlogging
- Late applications of fertiliser
- Cold spring
- Grass weeds
- Wet weather at flowering
- BYDV
- Fusarium
- Take-all

Winter Barley

- **Reduced tiller numbers**
- **Reduced grain numbers**
- **Lower yield**



Crop margins 2016

Yield T/ha	Wheat	Barley	Oats	OSR	Yield T/Ha
6.5	-366	-269	-177	-153	3.0
7.5	-231	-144	-57	197	4.0
8.0	-164	-81	3	372	4.5
9.0	-29	44*	123*	547	5.0
10.0	106*	169	243		
11.0	241	294			
12.0	376	419			
Breakeven yield T/ha	9.9	9.8	8.8	3.4	

- * Average yield 2016
- Margins based on current grain prices & incl. straw sales (Barley €125/t, Wheat €135/t)
- Land rental excluded

Crop planning for 2017

- **Potential margin**
- **5 year averages**
- **Place in rotation**
- **Soil suitability**
- **Workload**
- **Three crop rule/greening**



Outlook for 2017 harvest

Reasons to be optimistic

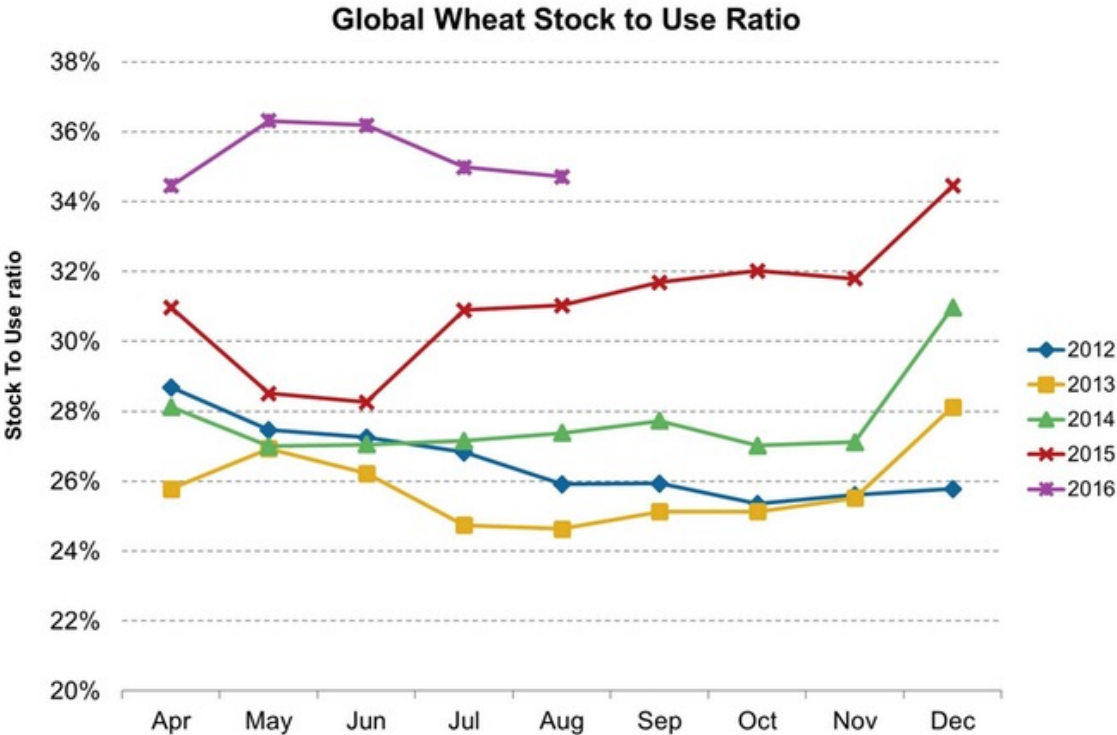
- Fertilizer price drop
- Energy costs
- Increasing demand
 - Global use up 3.2 m tonnes
- High yield potential
- Possible reduced area

Outlook for 2017 harvest

Reasons to be worried

- Record world harvest
- Poor quality in Europe
- Brexit
- Exchange rate
- Expensive land leases
- Outlook for alternatives
- Russian exports

World Markets

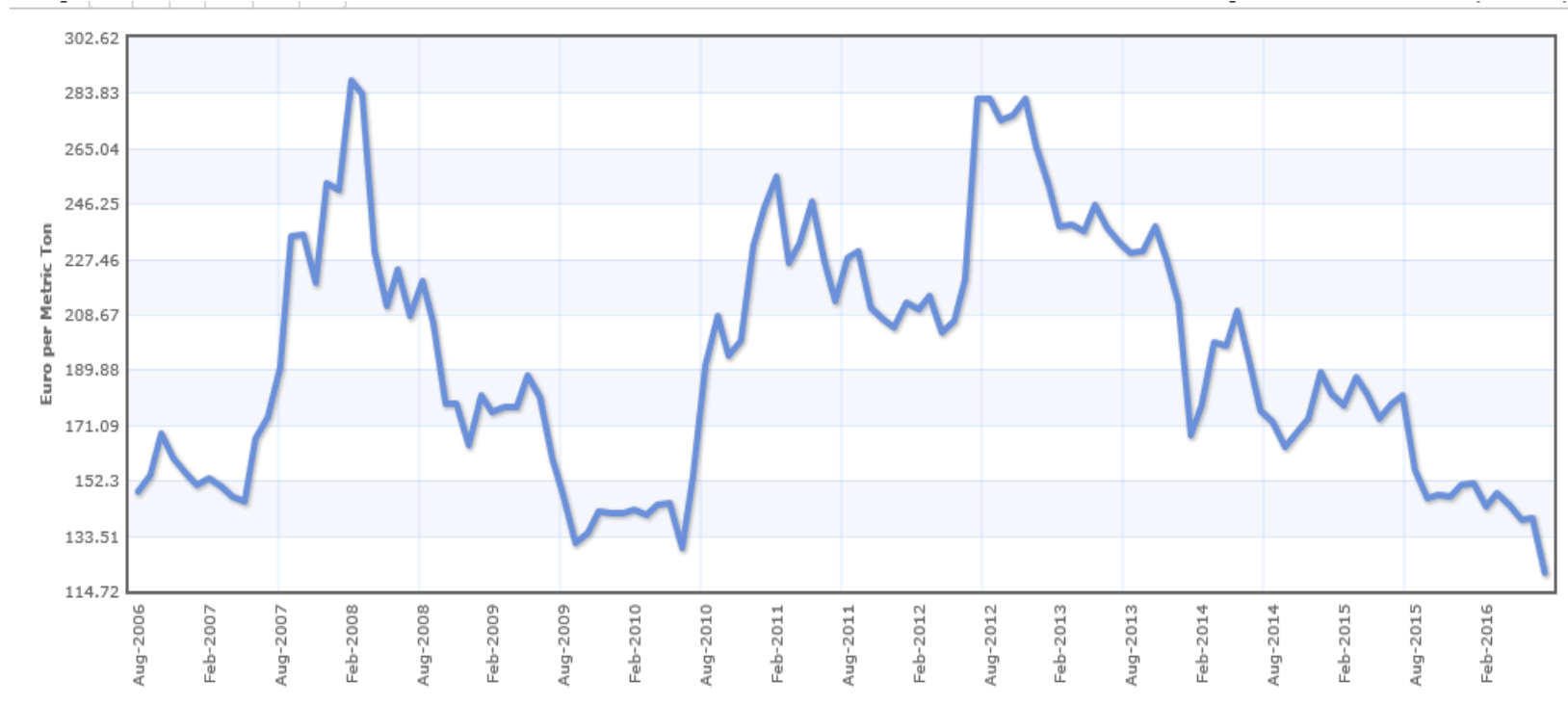


Source USDA



The Irish Agriculture and Food Development Authority

World Wheat prices since 2006



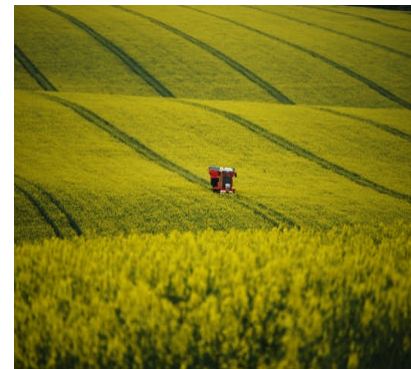
Crop margins 2017

Tonnes per ha	Winter Wheat	Winter Barley	Winter Oats	Winter OSR	Tonnes per ha
Margin per hectare					
6.5	-236	-153	-44		2.5
7.5	-96	-23	86	-93	3.0
8.0	-26	42	151	257	4.0
9.0	114	172	281	432	4.5
10.0	254	302	411	607	5.0
11.0	394	432			5.5
12.0	534	562			
Cost per tonne					
6.5	190	175	152		2.5
7.5	165	152	132	381	3.0
8.0	155	142	124	286	4.0
9.0	137	126	110	254	4.5
10.0	124	114	99	229	5.0
11.0	112	103	90		5.5
12.0	103	95			

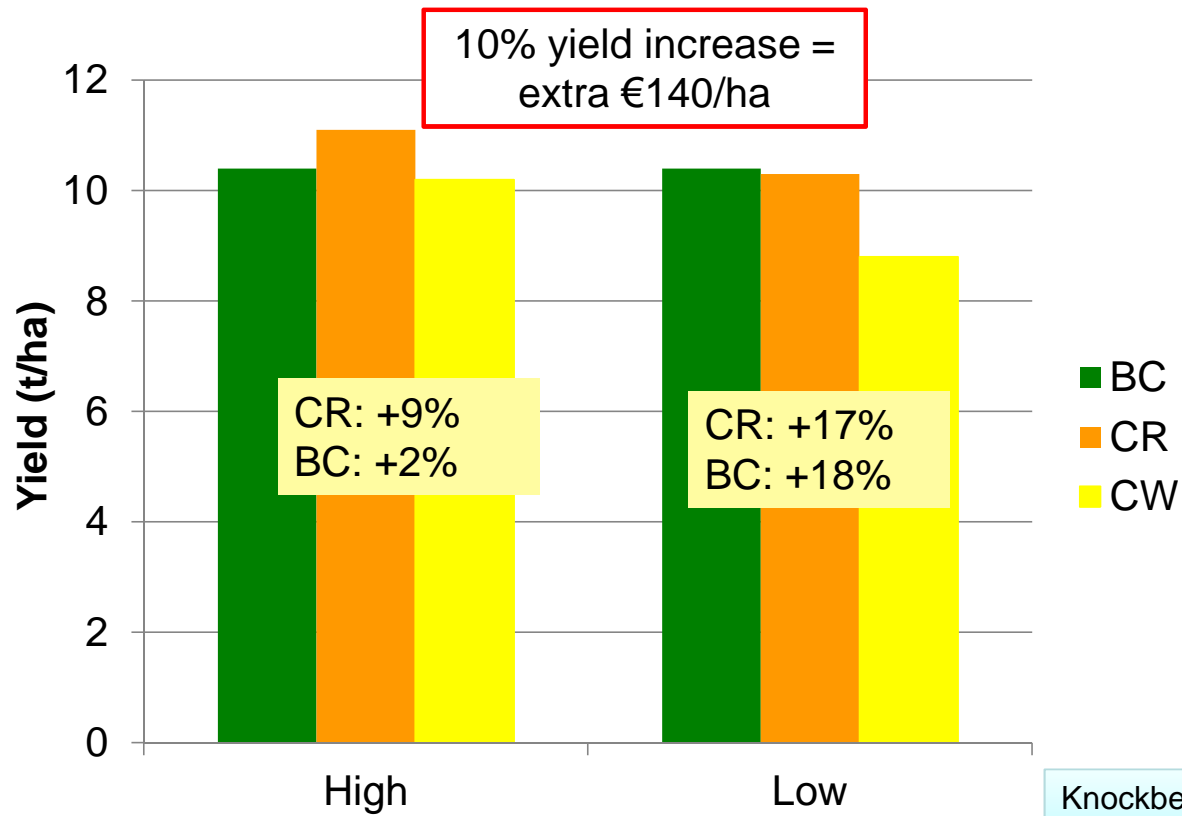
Prices Nov 2017: Green wheat €140, Green Barley €130, OSR €350

Rotations

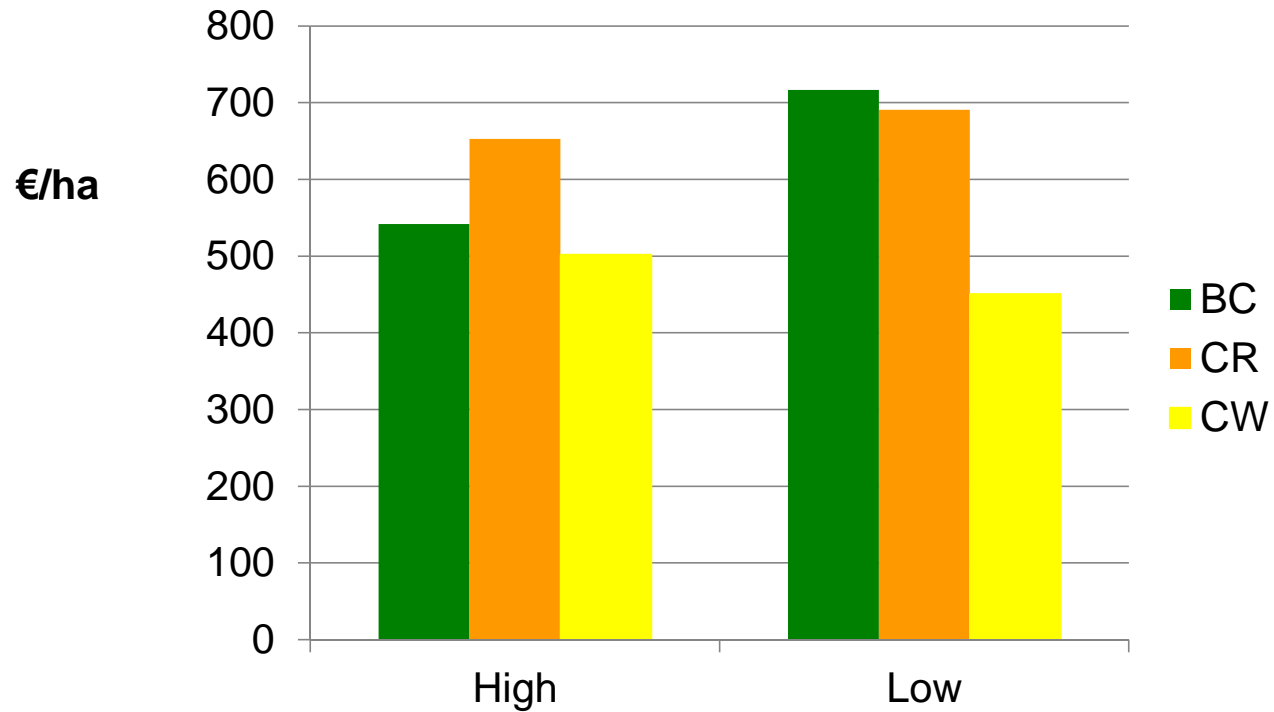
- **Three crop rule**
- **Advantages**
 - Disease control
 - Weed control
 - Alternative markets
 - Workload
 - First cereals (Wheat yields 11% higher)
 - Legumes fix nitrogen
- **Disadvantages**
 - Profitability of break crop
 - Pests
 - Over supply
- **Options**
 - Oats
 - Oilseed rape??
 - Winter beans



Wheat Yield (t/ha): all years



Wheat Margin (€/ha): all years



Sowing and Varieties

Fertilisers

Weeds

Insects and Pests

Diseases

Sowing and Varieties



The current Winter Cereal Recommended Variety lists are available from the DAFM website: [DAFM](#)

[Winter Cereal Variety List](#)

The Teagasc current recommended seeding rates see below:

[Winter Cereal Seeding Rate Calculator 2016 \(.xlsx file\)](#)

Winter Barley seed rates 2016/2017

Sowing date (week)	Sept- 3 rd Week	Sept – Week	Oct – 1 st Week	Oct – 2 nd Week	Oct – 3 rd Week	Oct – 4 rd Week
Target plants m2	260	270	280	300	300	320
...Sowing seeds m2	289	318	329	373	400	457
% Establishment	90%	85%	85%	85%	75%	70%

	TGW	Kg/ha					
KWS Tower	60.6	175	192	200	214	242	268
KWS Cassia	57	165	181	188	200	228	252
Leibniz	51.7	149	164	170	190	207	229
KWS Infinity	58.8	170	187	194	227	235	260
Volume *	43.7	87	87	96	106	105	105
Quadra*	48.8	98	98	107	107	117	117

	st/ac						
KWS Tower	60.6	11.2	12.3	12.7	13.9	15.4	17.1
KWS Cassia	57	10.5	11.5	12.0	13.0	14.5	16.1
Leibniz	51.7	9.5	10.5	10.8	12.7	13.2	14.6
KWS Infinity	58.8	10.8	11.9	12.3	13.5	15.0	16.6
Volume *	43.7	5.6	5.6	6.1	6.1	6.7	6.7
Quadra*	48.8	6.2	6.2	6.8	6.8	7.5	7.5

- Available on <https://www.teagasc.ie/crops/crops/cereal-crops/winter-cereals/sowing-and-varieties/>

Winter Wheat 2016/2017

		Sept- 3 rd Week	Sept – 4 th Week	Oct – 1 st Week	Oct – 2 nd Week	Oct – 3 rd Week	Oct – 4 rd Week	Nov – 1 st Week	Nov – 2 nd Week	Nov – 3 rd Week
Sowing date (week)										
Target plants m2		230	240	250	260	270	280	290	300	310
...Sowing Seeds m2		256	282	313	347	360	400	446	500	517
% Establishment		90%	85%	80%	75%	75%	70%	65%	60%	60%
TGW*		Kg/ha								
JB Diego	52.8	135	149	165	183	190	211	236	264	273
Avitar	50.9	130	144	159	176	183	204	227	255	263
Dunmore	48.6	124	137	152	168	175	194	217	243	251
KWS Lumos	46.1	118	130	144	160	166	184	206	231	238
Leeds	46.7	119	132	146	162	168	187	208	234	241
Weaver	52.2	133	147	163	181	188	209	233	261	270
Monterery	47.9	122	135	150	166	172	192	214	240	247
Garrus	48.9	125	138	153	170	176	196	218	245	253
KWS Lilli	46.5	119	131	145	161	167	186	207	233	240
Rockefeller	49.2	126	139	154	171	177	197	220	246	254
		st/ac								
JB Diego	52.8	8.6	9.5	10.5	11.7	12.1	13.5	15.0	16.8	17.4
Avitar	50.9	8.3	9.2	10.1	11.2	11.7	13.0	14.5	16.2	16.8
Dunmore	48.6	7.9	8.7	9.7	10.7	11.1	12.4	13.8	15.5	16.0
KWS Lumos	46.1	7.5	8.3	9.2	10.2	10.6	11.7	13.1	14.7	15.2
Leeds	46.7	7.6	8.4	9.3	10.3	10.7	11.9	13.3	14.9	15.4
Weaver	52.2	8.5	9.4	10.4	11.5	12.0	13.3	14.8	16.6	17.2
Monterery	47.9	7.8	8.6	9.5	10.6	11.0	12.2	13.6	15.3	15.8
Garrus	48.9	8.0	8.8	9.7	10.8	11.2	12.5	13.9	15.6	16.1
KWS Lilli	46.5	7.6	8.4	9.3	10.3	10.7	11.8	13.2	14.8	15.3
Rockefeller	49.2	8.0	8.8	9.8	10.9	11.3	12.5	14.0	15.7	16.2

Winter oats 2016/2017

Sowing date (week)		Oct – 1st Week	Oct – 2nd Week	Oct – 3rd Week	Oct – 4rd Week	Nov – 1rd Week	Nov – 2rd Week
Target plants 350 m2		340	350	360	370	380	390
...Sowing Seeds m2		425	467	480	529	585	650
% Establishment		80%	75%	75%	70%	65%	60%

	TGW*	Kg/ha					
Barra	47.5	202	222	228	251	278	309
Huskey	46.8	199	218	225	247	274	304
Vodka	47.8	203	223	229	253	279	311

		st/ac					
Barra	47.5	12.9	14.1	14.5	16.0	17.7	19.7
Huskey	46.8	12.7	13.9	14.3	15.8	17.4	19.4
Vodka	47.8	12.9	14.2	14.6	16.1	17.8	19.8

Diseases/Viruses

- **Fusarium species**
- **Take-all**
- **Septoria**
- **BYDV**

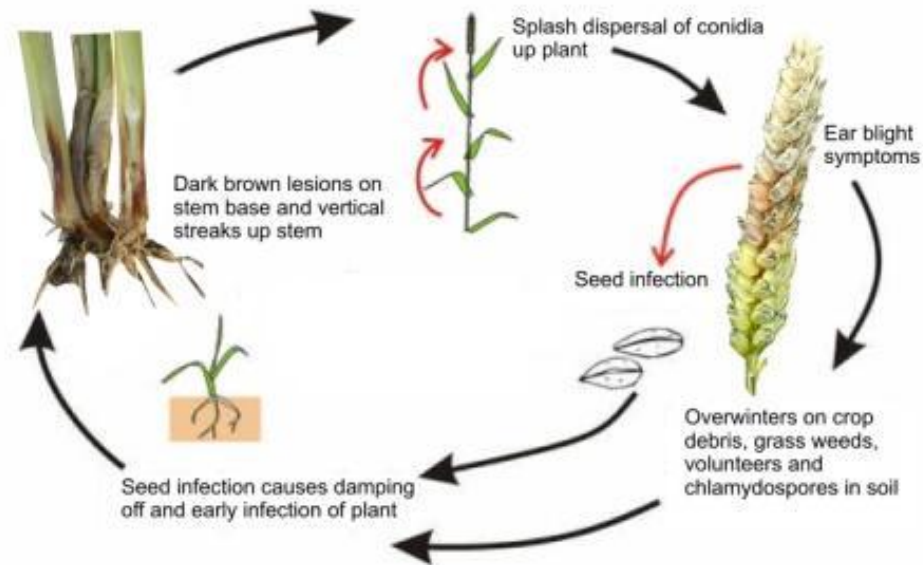


Fusarium

- **Microdochium Nivale – seedling infection**

- Reduced germination
- Reduced vigour

- **Life cycle**



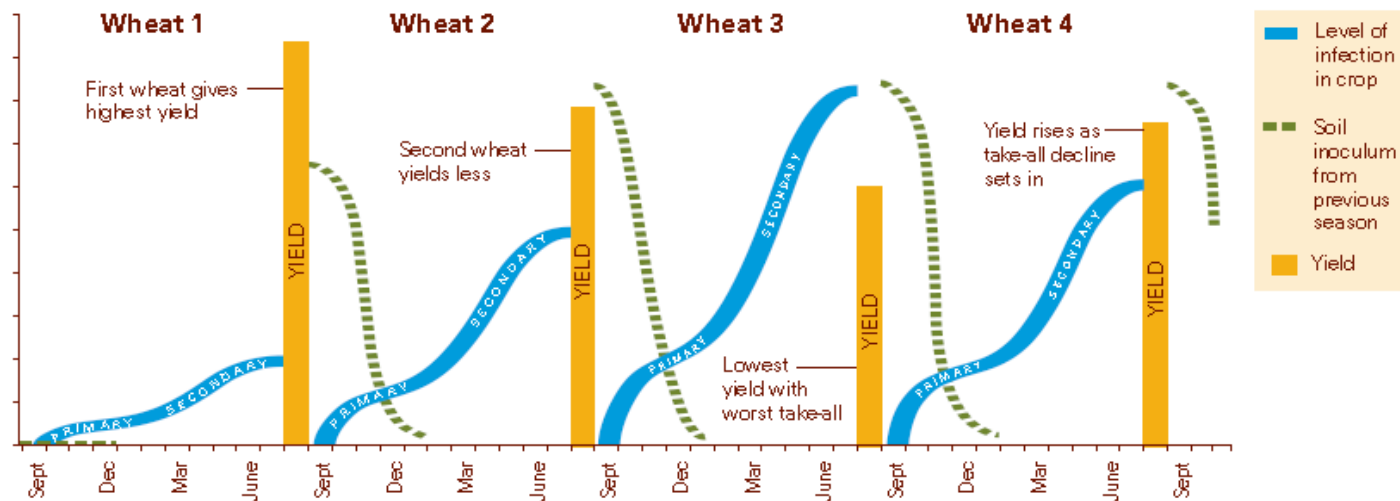
Fusarium

- **Control measures**
 - Use Certified seed
 - Germination tests
 - Seed dressings
 - Rotation
 - Maize



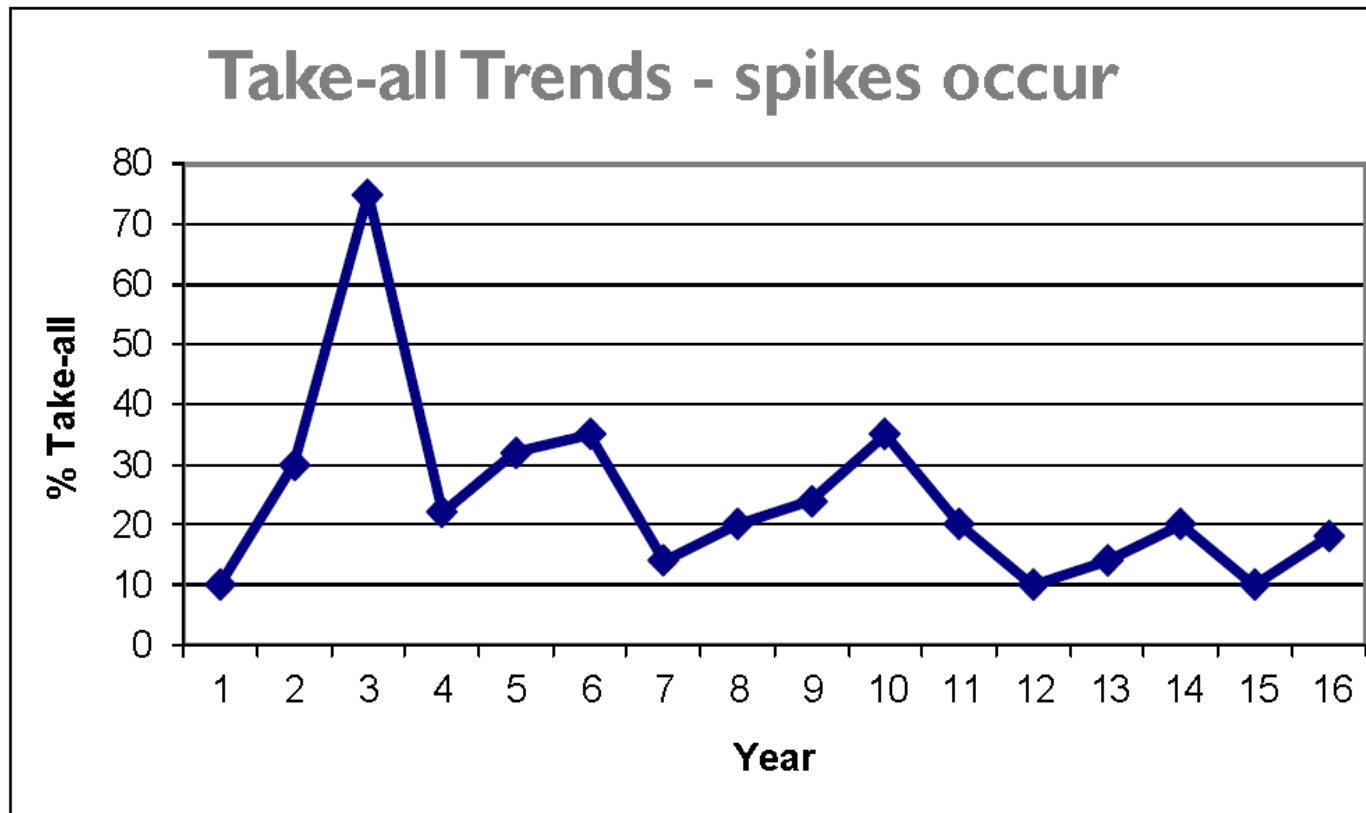
Take-all

- Can cause substantial yield losses in certain years



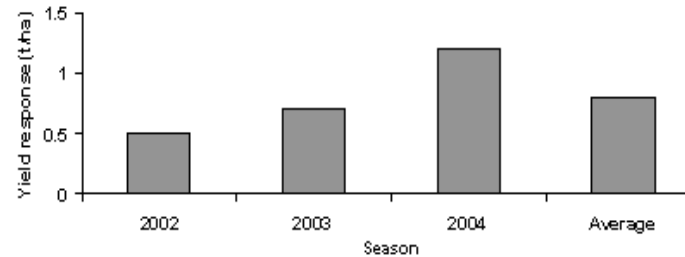
Source AHDB

Take-all



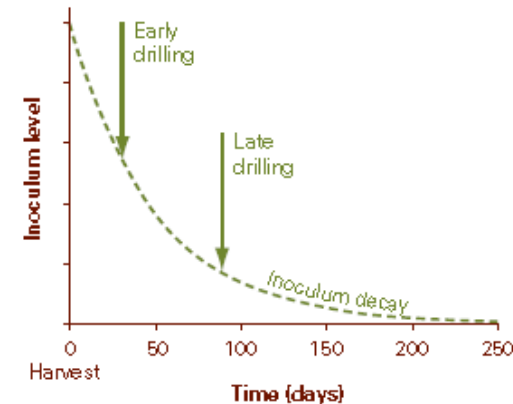
Take-all

- **Chemical control**
 - Seed treatment
 - Highest responses in 2nd Wheat



Effect of Latitude on 2nd wheat in Oak Park

- **Cultural control**
 - Avoid highly susceptible years
 - Crop rotation
 - Destroy volunteers & grasses early
 - Early ploughing – delayed drilling
 - Good seed bed consolidation
 - Early nitrogen in the spring
 - Avoid lighter soils



Septoria

- **Poor stubble hygiene**
 - **Volunteers**
 - **Early drilling**
 - **Susceptible varieties**
-
- **Control options limited!!**
-
- **Avoid planting continuous fields early with very susceptible varieties**



BYDV

- **Grain Aphid (Sitobion Avenae)**
- **Confirmed resistance to pyrethroids in some fields**
- **Need to check crops post application**

Cultural control

- **Clean stubble before preparing seedbed.**
- **Leave at least five weeks between ploughing and sowing the new crop**
- **Consider applying a desiccant herbicide if cultivation to sowing interval is less than five weeks**



BYDV control

BYDV management in 2016

Crop	BYDV risk	Control Actions	Comments
Sept drilled winter cereals	High	1. Seed treatment Or Apply pyrethroid* at 2/3 leaf stage Followed by: 1. Pyrethroid* in early November	Even when aphid and virus occurrence high, NO benefit from extra sprays Late spraying of previously unsprayed crops can be beneficial when virus is widespread
Mid Oct drilled winter cereals	Medium to High	Seed Treatment Or Pyrethroid* 1 st week Nov (no later/second spray needed)	
Winter cereals emerging after end Nov	V. low	No treatment necessary (except in mild winters when aphids are plentiful)	

Summary

- **Good planning for harvest 2017**
- **Decisions made now will have an impact at harvest**
- **Rotations can play an important role in field performance**
- **Disease control starts before the crop is sown**