What is a White Wheat?

Zircon is a white wheat with a pale seed coat and very bright, white endosperm. When milled, the kernels produce a lighter flour with the added benefit of having a pale bran colour. The resulting ingredient can be used in a wide range of applications including golden wholemeal breads through to breakfast cereals.

Currently these are primarily imported from Australia and North America. White wheats offer millers a specialist product for use in grists where white flour colour is key. Zircon offers growers and millers the opportunity to produce this ingredient on UK farms for use in domestic products.

Buy-Back Contract Opportunities

Standard spec. -	76 kgs/hl Specific weight, 225 HFN, 11% Protein Max DON 700 ppb
Price -	£30/T over Feed Wheat
Lower spec. -	74 kgs/hl Specific weight, 130 HFN Max DON 700 ppb
Price -	£25/T over Feed Wheat

Openfield are highly delighted to offer the Zircon contract to our farmer customers. **The Benefits...**

- Premium opportunity for what is primarily a feed wheat specification.
- Guaranteed market for the produce
- Ability to grow a variety tailor-made to late season sowings...
- .. ..but also one that is also flexible enough for use into the Spring.
- No yield disadvantage against other market leading varieties

If you require any further information, please contact:

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Zircon is a high quality white wheat, bred and developed by KWS UK.

Zircon offers extremely flexibility of sowing date; and is suitable for sowing from mid-October through to April. Although it is a true Spring wheat, best results are always achieved from Autumn sowings.

Autumn-sown performance

	Zircon	Gallant	Solstice	Paragon	Cordiale	Tybalt	Belvoir	Invicta	Conqueror	Alchemy
Yield (% control)	**100**	104	100	95	101	104	106	108	113	102
Actual Yield T/Ha	**9.00**	9.36	9.00	8.55	9.09	9.36	9.54	9.72	10.17	9.18

Spring-sown performance

HGCA Recommended List - Late Autumn-sown Trial 2012/13

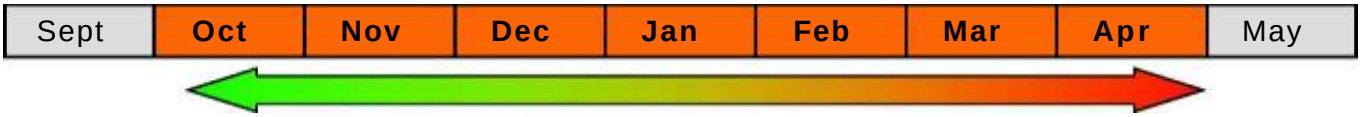
	Zircon	Paragon	Tybalt	Ashby	Belvoir
Yield (% control)	**99**	95	106	99	107
Actual Yield T/Ha	**6.83**	6.55	7.31	6.83	7.38

HGCA Recommended List - Spring Wheat Trial 2012/13

Zircon is ideally suited to the post-roots slot and brings a useful profit opportunity when compared to late-sown winter varieties. It does give the flexibility though, that if drilling is delayed due to weather and/or soil conditions, the seed is still suitable for sowing well into the following year.

Sowing Dates and Seed Rates

As depicted in the HGCA Trials (see above), Zircon delivers its highest potential



when sown in the late Autumn.

An optimum final population of 250 plants per M^2 should be aimed for. The table below gives an indicative seed number/M^2 in order to achieve this.

	Good Seedbed	Average Seedbed	Poor Seedbed
October - November	**320**	**350**	**400**
November - January	**375**	**425**	**450**
January - March	**350**	**400**	**425**
March - April	**325**	**350**	**400**

Nutrition

Although Zircon is a breadmaking wheat, the nature of the contract stipulates no requirement for minimum protein content. Therefore any nitrogen strategy should be designed to deliver a minimum grain protein of 11.4%, levels below this will be indicative of optimum yield not being achieved.

To calculate total nitrogen needs, assume that the crop will require in the region of 20 kg N per tonne of grain (using the figure of 2.0% grain N @ 11.4% Dumas protein, as described in RB209) plus an allowance of an additional 15 - 20% for the N transferred to the straw and root.

Confirmation of the soil nitrogen supply by GrowHow N-Min testing will provide an accurate basis to form the specific recommendation. By subtracting this from the calculated nitrogen requirement, you will gain a total nitrogen requirement figure. The final step is to take account of the soil inefficiency factor which is entirely dependent on the soil texture itself. Once this has been factored, it is possible to calculate the total application figure.

Alternatively, the GrowHow Nitrogen Calculator is a straight forward way of calculating how much Nitrogen your Zircon crop will require. It takes into account the amount of Nitrogen in the soil and a number of crop factors that have an impact on the crop's Nitrogen requirement. Using the tools available from GrowHow Advice, such as N-*Mmn* and Nitrogen Calculator, crop performance can be maximised and environmental minimised.

Nitrogen Timings

From late Autumn sowings, nitrogen timings and amount are likely to be 50% at Growth stage 31/32 and the remaining 50% at GS 37. In low fertility situations, or second wheats, it is advisable to apply upto 50 kgs/Ha at the end of tillering.

Spring sown crops should receive 50% of the total dose at the 2-leaf stage and the balance at stem extension

Tillering Ability & Straw Characteristics

Unusually for a Spring-type, Zircon has excellent tillering potential. When drilled in the Autumn; stem extension, ear emergence and flowering normally coincides with those of winter wheat.

Zircon is a moderately tall variety with excellent straw strength. It is highly responsive to Plant Growth Regulators and a basic chlormequat-based application will normally be satisfactory for lodging control. However, it is always advisable to take the advice of a qualified agronomist to assess any specific crop needs.

Disease Resistance

Mildew	**7**
Yellow Rust	**9**
Brown Rust	**7**
Septoria nodorum	**8**

Harvest Priority

White wheats are an essential harvest priority. Although the Hagberg Falling Number is not entirely critical to the nature of the Weetabix contract, it is still important to ensure the best physical grain sample. It is important to note that there are other open market opportunities for Zircon, in which Hagberg Falling Number is a key requirement.

Final Word

'*The Zircon contract gives growers a tailor-made opportunity to grow a bespoke late-drilled wheat for what is essentially a feed wheat specification, whilst attaining a £30/tonne premium. The added bonus is that there is 'no catch' with Zircon....it competes very ably against the other late-sown wheats for yield, and has no single agronomic weakness'.*