



Knowledge grows

# Are you prepared to gamble up to 2t/ha?

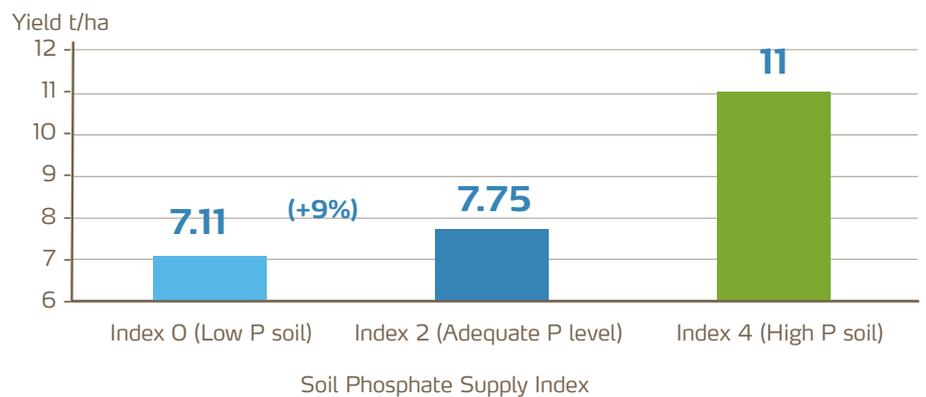


By taking a PK holiday you are gambling with up to 2t/ha of yield, here's why:

- P and K are essential plant nutrients requiring a consistent supply from the soil during the critical spring growth period
- P is the 'fuel' of the plant, converting energy from the sun into energy for metabolic processes
- K is associated with many processes including nutrient movement and redistribution around the plant and water management

Research has shown that having an 'adequate' soil P & K supply brings yield resilience with 0.65 – 2 t/ha being attributed to such 'built in' fertility. The Yield Enhancement Network have also associated high yields with fresh phosphate applications. Yield penalties can be severe if the soil supply is insufficient.

Winter wheat yield response to soil phosphate levels.

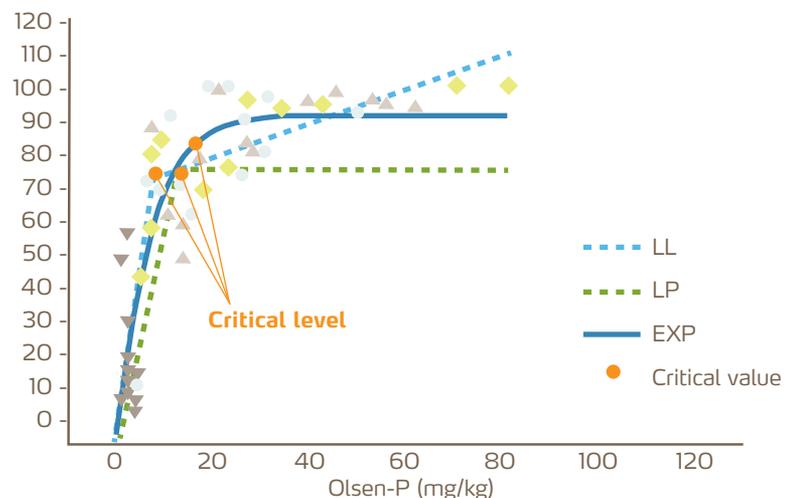


Source: Research Centre Hanninghof, 2012

**"...crops responded by ~2 t ha<sup>-1</sup> grain as soil P increased to Index 2."**

AHDB Target P Report (Nov 2016)

Relative wheat yield (%)



Source: Mallarino, 2008; Meille et al., 2012



## Increase your odds of maximum yields

Take the risk out of your nutrition strategy with two simple approaches:

This table shows the benefits and risks to the four options outlined, showing how risky taking a PK holiday or applying at the less optimal timing can be.



Table 1. The values behind each product option, benefits versus risks

Crop Program	Nutrients kg / ha				Cost (nutrient + application costs) £/ha	Risk value of depleting soil nutrient levels (average) £	Yield Benefit of Spring PKS T/ha	Yield Value (Wheat @ £177) (Nov 22 Budget value) £/ha	Margin Over PKS Fertilizer Cost (including risk value) £
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	SO <sub>3</sub>					
PK Holiday	225	0	0	0	265	<b>-230</b>	0	0	<b>-230</b>
Autumn 0-24-24 + PRILLED N in Spring	225	48	48	0	376	0	0	0	<b>-111</b>
YaraMila 52S/YaraBela AXAN/YaraBela EXTRAN	225	29	41	50	349	0	1.21	214.17	<b>130.17</b>
YaraMila EXTRAGRASS	225	42	42	50	339	0	1.21	214.17	<b>140.17</b>

The yield response to optimal sulphur management ranges from 0.43 – 1.4 t/ha (Median = 0.9 t/ha). YaraMila P-Extend / spring PK yield increase average = 0.31 t/ha

### Worked example – ‘The PK holiday’

#### Field A – mid Index 2 (20 ppm)

##### Winter Wheat

Basic Crop Nutrition (N Only)	£277 / ha
Crop Yield	8 t/ha
Crop Value	£177 / t
Total Revenue	£1416
<b>Revenue minus fertilizer cost</b>	<b>£1239</b>

#### Field A – mid Index 2 (20 ppm)

##### Winter Wheat

Yara Complete Crop Nutrition Plan (NPKS)	£349 / ha
Crop Yield (incl. PKS response)	10.5 t/ha
Crop Value	£177 / t
Total Revenue	£1859
<b>Revenue minus fertilizer cost</b>	<b>£1510</b>

**Yara Crop Nutrition Benefit = £271/ha**

### The benefits of spring NPKS

- Fresh P & K in the spring gives a yield benefit of 0.31t/ha on average
- Reduced costs from labour, time and fuel with no extra passes required
- Nutrients are together in one prill/granule therefore where ever each one lands receives the desired analysis
- Uniform nutrient application from a compound fertilizer, meaning a more uniform crop
- Best value for money from P and K