

HUSBANDRY GUIDELINES

INTRODUCTION

Zero4 is a totally new concept in pea growing. The variety has many attractive agronomic characteristics – very early maturity, short straw, excellent standing ability and good downy mildew resistance. It has performed well in commercial situations throughout the UK.

Zero4 produced excellent yields in the dry conditions of 2006 where its early maturity meant it was ready for harvest well before winter wheat.

The variety has been evaluated in trials since 2004 and grown commercially from 2005. There is now sufficient agronomic information to produce these guidelines for growing Zero4. They are not intended as a rigorous blueprint but aim to provide sufficient technical support to enable growers to realise the genetic potential offered by this new and exciting variety.

MARKET POSITION

Zero4 typically has a thousand seed weight (tsw) of 180 – 220 gms making it a true small blue variety. It is potentially suitable for a number of markets depending on the actual tsw of the grain: smaller sized samples are likely to be accepted for the pigeon trade; medium samples for on-farm feeding or export and the larger samples going for micronising.

ZERO4 SUMMARY

	Yield (% site mean)	Straw Length (cms)	Standing at Harvest (1 – 9*)	Maturity (days from sowing)	Downy Mildew Resistance (1 – 9*)	Pea Wilt
Zero4	103	54	8	124	8	Resistant
Nitouche	104	77	7	132	8	Susceptible

Source: Nickerson analysis of BSPB trials 2004 & 2005.*1 – 9 scale where 9 = good standing or disease resistance.

AGRONOMY OF ZERO4

Rotation: Combining peas, such as Zero4, along with field beans, green beans, vetches, oilseed rape and linseed should not be grown on any field more than once in every five years. A four-year break is considered to be the minimum required between these crops to avoid the build up of persistent soil borne pests and diseases.

Sowing date: Zero4 should be sown as early in the spring as practical, provided soil conditions are suitable. Soil conditions at drilling, and the avoidance of compaction in the seedbed, are more important than sowing date.

Seed rate: Trials have established that Zero4 requires a higher seed rate than most other types of peas to give optimum yields. Zero4 should be sown to achieve a plant population of 110 plants/m² and the seed rate calculated using the following formula:

$$\text{Seed rate (kgs/ha)} = \frac{\text{Thousand seed weight (gms)} \times 110 \text{ (target plant population)}}{\% \text{ germination}} \times \frac{100}{(100 - \text{field loss})}$$

Thousand seed weight and germination will be available from the seed supplier. Expected field losses for small blue peas are likely to be higher on heavier and poorly drained soils.

Sowing date	Expected field loss %
Very early (February)	18
Early (March)	13
Mid-season (April)	7

Source: PGRO Agronomy Guide 2006.

Seed dressing: All Zero4 seed should be treated with a fungicide dressing (e.g. thiram) to provide protection against seedbed losses caused by damping off diseases and with thiabendazole where control of *Aschochyta* is required. Zero4 has a similar level of resistance to downy mildew as Nitouche and is unlikely to require a routine seed treatment against this disease, unless previous local experience suggests otherwise. Pea crops grown in Scotland and the north of England can be more prone to downy mildew than those grown further south.

Fertiliser: Like all pulses, Zero4 does not require any nitrogen and has only a small demand for P, K and Mg. Applications should be based on soil analysis and, where necessary, fertiliser needs to be placed deep enough in the seedbed to be used by the crop. Rates of P, K and Mg required are:

Soil index (ADAS classification)	P ₂ O ₅ (kgs/ha)	K ₂ O (kgs/ha)	MgO (kgs/ha)
0	85	90	100
1	60	65	50
2	35M	40M	0
>2	0	20M	0

Source: DEFRA Booklet RB 209. M = maintenance. Where there is no policy of building up P and K at index 0 or 1 reductions may be possible.

Trace elements: On the lighter soil types peas can suffer from sulphur deficiency and an application of 25 – 35 kg/ha of SO₃ as a pre drilling treatment may be necessary. Where soil pH exceeds 6.8, particularly on alkaline or organic soils, manganese deficiency can occur and crops should be treated to avoid marsh spot affecting seed quality.

Weed Control: Zero4 is a short strawed variety and offers less in the way of competition than taller varieties. Where soil type permits, a pre-emergence herbicide is advised for the early removal of broad-leaved weeds. Grass weeds and volunteer cereals should be controlled with a post emergence graminicide.

Pest and Disease Control: Zero4 does not differ from other combining pea varieties in its requirements for good pest and disease control. The development of the common pea pests – pea weevil, thrips and pea aphid – should be monitored and treated once thresholds are reached. Treatment of pea moth is unlikely to be required for crops being grown for animal feed.

The need for disease control will depend on weather conditions during flowering: in wet or damp conditions a fungicide, with activity against *Botrytis* and *Mycosphaerella*, applied at early pod set and repeated 10 – 14 days later may be needed. Fungicides are likely to be less economic in dry settled conditions.

Harvesting: Zero4 is an early maturing variety and will be ready for harvest 10 – 14 days before most other combining pea varieties, avoiding the likelihood of a clash with wheat harvest and making direct combining a possibility. In weedy or uneven crops a desiccant can be used to aid combining - it will not hasten crop maturity and a number of products are available.



Rothwell,
Market Rasen,
Lincs.
LN7 6DT

Tel: 01472 371471 Fax 01472 371 386

Email: enquiries@nickerson.co.uk

Website: www.nickerson.co.uk/zero4.html