PREDICTA B
DNA Soilborne disease tests

Know before you sow

SOUTH AUSTRALIAN RESEARCH & DEVELOPMENT INSTITUTE
PIRSA

Cereal root diseases cost grain growers in excess of $200 million annually in lost production. Much of this loss can be prevented.

Using PREDICTA® B soil tests and advice from your local accredited agronomist, these diseases can be detected and managed before losses occur.

PREDICTA® B is a DNA based soil testing service to assist growers in identifying soil borne diseases that pose a significant risk, before sowing the crop.

Potential high risk paddocks

- Bare patches, uneven growth, whiteheads in previous crop
- Paddocks with unexplained poor yield from the previous year
- Newly purchased or leased land
- Cereals on cereals
- Cereal following grassy pastures
- Durum crops (crown rot)

PREDICTA® B is delivered to growers via accredited agronomists who interpret the results and provide recommendations.

Enquire with your local agronomist for more information or visit www.pir.sa.gov.au/predictab

PREDICTA® B tests for most of the soil borne diseases of cereals and some pulse crops:

- Crown Rot (cereals)
- Rhizoctonia root rot
- Take-all - including oat strain
- *Pratylenchus thornei*
- *Pratylenchus neglectus*
- Cereal Cyst Nematode (CCN)
- Stem nematode
- Blackspot (field peas)

A national GRDC project is working to broaden the range of tests with some of these interim results given in the "Tests under evaluation" section of the report. Current tests are:

- Yellow leaf spot
- Common root rot
- *Pythium* clade f
- Eyespot
- *Pratylenchus penetrans*
- *Pratylenchus quasitereoides*
- Charcoal rot
- Ascochyta blight of chickpea
- White grain disorder

PREMIUM FOOD AND WINE FROM OUR CLEAN ENVIRONMENT

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

SOUTH AUSTRALIA

Government of South Australia
Primary Industries and Regions SA

SARDI SOUTH AUSTRALIAN RESEARCH AND DEVELOPMENT INSTITUTE

Paddock history

This information is provided with the sample and is critical for interpreting the results in the context of planned crops.

Disease risk

Results are presented as both a value and an associated risk category.

Pathogen comments

Potential yield loss and management options are presented, according to the result of the sample submitted.

Tests under evaluation

DNA tests have been developed. Risk categories are currently being defined. In the interim results are reported with population density categories.

PREDICTA B
DNA Soilborne disease tests

SARDI Plant & Soil Health
Gate 2B, Hartley Gr. P 08 8303 9360
URRBRAE SA 5064 F 08 8303 9393

Sample: XXX0000

Report date: 16/11/2017

Paddock:

Grower:

Nearest town: **WIDGELLI**

Region: **Southern**

Sampling strategy: **Random**

Stubble added: **No**

Paddock history	2 years ago	Last year	This year
Crop / variety	Wheat	Durum	Fallow

TEST	RESULT		DISEASE RISK*
			Not Detected / Low / Med / High
CCN	<0.05	eggs /g soil	Not Detected
Stem nematode	<0.5	nematodes/100 g soil	Not Detected
Take-all	1.45	log(pg DNA/g soil)	Med
Take-all - Oat Strain	<0.8	log(pg DNA/g soil)	Not Detected
Rhizoctonia	<0.48	log(pg DNA/g soil)	Not Detected
Crown Rot	<0.6	log(pg DNA/g soil)	Not Detected
Pratylenchus neglectus	<0.1	nematodes /g soil	Not Detected
Pratylenchus thornei	18.9	nematodes/g soil	Med
Blackspot	<1.2	log(pg DNA/g soil)	Not Detected
Blackspot (Phoma koolunga)	<1.2	log(pg DNA/g soil)	Not Detected

*Risk categories should be used as a guide only, may be subject to regional and seasonal differences, and may be revised over time.

UNDER EVALUATION

TEST	RESULT		POPULATION DENSITY**
			Not Detected / Low / Med / High
Bipolaris	<0.6	log(pg DNA/g soil)	Not Detected
Pythium clade f	1.69	log(pg DNA/g soil)	Med
Yellow leaf spot	1.88	log(kDNA copies/g soil)	Low
Eyespot	<0.3	log(kDNA copies/g soil)	Not Detected
White Grain Disorder	<0.3	log(kDNA copies/g soil)	Not Detected
Pratylenchus penetrans	<0.1	nematodes /g soil	Not Detected
Pratylenchus quasitereoides	<0.1	nematodes/g soil	Not Detected
Charcoal rot	0.75	log(kDNA copies/g soil)	Low
Phoma rabiei	<0.05	log(kDNA copies/g soil)	Not Detected

**Population densities are based on the distribution of pathogen levels detected in PreDicta samples over several years. These are not disease risk categories.