

The Regional Pulse Crop Diagnostic Laboratory Services

**New Reduced Prices and Services Effective from 15 July 2018!!!
More tests for less price!**

1. Ascochyta-Plus: \$180/sample (Chickpea, Lentil, and Pea)

In this package, we test for Ascochyta (now *Didymella*) pathogens and five other fungal pathogens of economic importance, as listed below:

Pathogens	Disease
<i>Ascochyta</i> (now <i>Didymella</i>) spp	Leaf, stem, & pod blight
<i>Botrytis</i> spp.	Grey mold
<i>Collectotrichum</i> spp.	Anthraco nose
<i>Fusarium</i> spp.	Wilt and root rot
<i>Sclerotinia</i> spp.	White mold
<i>Stemphylium</i> spp.	Leaf blight

Price: \$180/sample.

Quantity of Seeds for test: ½ lb. for lentil, 1lb. for dry pea, 2 lbs. for chickpea.

Test Time: It usually takes 7-10 days, after we have received the sample.

Rush Fee: \$100 per sample per Ascochyta-Plus test only. We discourage Rush; so, send your samples ahead of time! Rush means your sample will be placed ahead of other non-rush samples on the queue.

Method: Chickpea, dry pea, and lentil: 400 seeds are plated in potato dextrose agar (PDA).

% Infection: 100*(Number of seeds from with a fungal pathogen /Total number of seeds)

2. Smart-B: Costs: \$350 (Chickpea, Lentil, and Pea)

The package includes Ascochyta-Plus and bacterial blight agents. This is a good choice if you are only concerned about fungal and bacterial blight diseases.

Pathogens	Disease
<i>Ascochyta</i> (now <i>Didymella</i>) spp	Leaf, stem, & pod blight
<i>Botrytis</i> spp.	Grey mold
<i>Collectotrichum</i> spp.	Anthraco nose
<i>Fusarium</i> spp.	Wilt and root rot
<i>Sclerotinia</i> spp.	White mold
<i>Stemphylium</i> spp.	Leaf blight
<i>Psuedomonas syringae</i> pv <i>psis</i> & pv <i>syringae</i>	Bacterial blight

Price: \$350/sample

Quantity of Seeds for test: 1.5 lb. for lentil, 2.5 lb. for dry pea and chickpea.

Test Time: It usually takes 10-12 days, after we have received the sample.

Rush Fee: \$100 per sample per Ascochyta-Plus test only. We discourage Rush; so, send your samples ahead of time! Rush means your sample will be placed ahead of other non-rush samples on the queue.

Methods

Fungi: Chickpea, dry pea, and lentil: 400 seeds are plated in potato dextrose agar (PDA).

% Infection: $100 \times (\text{Number of seeds from with Ascochyta} / \text{Total number of seeds})$

Bacterial blight test: Five subsamples of 1000 seeds each are test for the presence of *Pseudomonas syringae* pathovars *pisi* and *syringae*, and maximum likelihood method is used to estimate infection rate (%).

3. Smart-V: Costs: \$330 (Chickpea, Lentil, and Pea)

The package includes Ascochyta-Plus and *Pea seedborne mosaic virus* (PSbMV) tests. We are no longer testing for *Pea enation mosaic virus* (PEMV) because its seed transmissibility is in doubt. This is a good choice if you are only concerned about fungal diseases and Pea seedborne mosaic virus.

Pathogens	Disease
<i>Ascochyta</i> (now <i>Didymella</i>) spp	Leaf, stem, & pod blight
<i>Botrytis</i> spp.	Grey mold
<i>Collectotrichum</i> spp.	Anthracnose
<i>Fusarium</i> spp.	Wilt and root rot
<i>Sclerotinia</i> spp.	White mold
<i>Stemphylium</i> spp.	Leaf blight
<i>Pea seedborne mosaic virus</i> (PSbMV)	Empty pods, seed blemishes, reduced seed yield

Price: \$320/sample

Quantity of Seeds for test: 1.5 lb. for lentil, 2.5 lb. for dry pea and chickpea.

Test Time: It usually takes 10-12 days, after we have received the sample.

Rush Fee: \$100 per sample per Ascochyta-Plus test only. We discourage Rush; so, send your samples ahead of time! Rush means your sample will be placed ahead of other non-rush samples on the queue.

Methods

Fungi: Chickpea, dry pea, and lentil: 400 seeds are plated in potato dextrose agar (PDA).

% Infection: $100 \times (\text{Number of seeds from with Ascochyta} / \text{Total number of seeds})$

Virus: Twenty subsamples of 100 seeds each are test for the presence of the virus in Enzyme immunosorbent assay (ELISA), and maximum likelihood method is used to estimate infection rate (%).

4. Comprehensive (\$450) (Chickpea, Lentil, and Pea)

This package includes tests for AscochytaPlus, *Pea seedborne mosaic virus* (PSbMV), and bacterial blight agents (*Psuedomonas syringae* pv *pisi* and pv *syringae*).

We recommend this package the most!

Pathogens	Disease
<i>Ascochyta</i> (now <i>Didymella</i>) spp	Leaf, stem, & pod blight
<i>Botrytis</i> spp.	Grey mold
<i>Collectotrichum</i> spp.	Anthracnose
<i>Fusarium</i> spp.	Wilt and root rot
<i>Sclerotinia</i> spp.	White mold
<i>Stemphylium</i> spp.	Leaf blight
<i>Pea seedborne mosaic virus</i> (PSbMV)	Empty pods, seed blemishes, reduced seed yield
<i>Psuedomonas syringae</i> pv <i>pisi</i> & pv <i>syringae</i>	Bacterial blight

Price: \$500/sample

Quantity of Seeds for test: 2.5 lb. for lentil, 5 lb. for dry pea and chickpea.

Test Time: It usually takes 10-12 days, after we have received the sample.

Rush Fee: \$100 per sample per Ascochyta-Plus test only. We discourage Rush; so, send your samples ahead of time! Rush means your sample will be placed ahead of other non-rush samples on the queue.

Methods

Fungi: Chickpea, dry pea, and lentil: 400 seeds are plated in potato dextrose agar (PDA).

% Infection: $100 \times (\text{Number of seeds from with Ascochyta} / \text{Total number of seeds})$

Virus: Twenty subsamples of 100 seeds each are test for the presence of the virus in Enzyme immunosorbent assay (ELISA), and maximum likelihood method is used to estimate infection rate (%). For bacterial blight test, 5 subsamples of 1000 each are tested for the presence of *Psuedomonas syringae* pathovars *pisi* and *syringae*.

Bacterial blight test: Five subsamples of 1000 seeds each are test for the presence of *Psuedomonas syringae* pathovars *pisi* and *syringae*, and maximum likelihood method is used to estimate infection rate (%).

5. Nematode tests (\$35) (all crops)

We offer test for seedborne or contaminated nematodes of *Ditylenchus* and *Heterdoera* spp.

Test	Seed Quantity	Price/sample
<i>Ditylenchus</i> spp (stem and bulb nematodes) and <i>Heterodera</i> spp.(pea cyst nematodes)	1 pound	\$35

Note: Test Time: It usually takes 2 days from the date of receipt to complete test.

Rush Fee: \$35 per sample for nematode test. We discourage Rush, so send your samples ahead of time! Rush means your sample will be placed ahead of other non-rush samples on the queue

6. Blackleg Testing (\$150) (Canola)

Pathogens	Disease
<i>Leptosphaeria maculans</i> (<i>Phoma lingam</i>)	Aggressive blackleg (phoma stem canker)
<i>Leptosphaeria biglobosa</i> (<i>Phoma herbarum</i>)	Non-aggressive blackleg (phoma stem canker)

Price: \$150/sample

Quantity of Seeds for test: 1lb of canola seeds

Test Time: It usually takes 12-14 days, after we have received the sample.

Rush Fee: \$100 per sample per test. We discourage Rush; so, send your samples ahead of time! Rush means your sample will be placed ahead of other non-rush samples on the queue.

Method

Fungi: Canola: 1000 seeds treated with 0.2% 2,4-Dichlorophenoxyacetate (2,4D) to prevent seed germination. Seeds will be placed on moistened blotters in petri plate; 50 seeds/plate

% Infection: $100 \times (\text{Number of seeds from with each blackleg pathogen} / \text{Total number of seeds})$ and incubated at 20°C for 11 days.

Differentiation: *Leptosphaeria maculans* versus *Leptosphaeria biglobosa*

Morphology: Size of pycnidia, presence of papilla, and the color of pycnidia exudate
ISTA 7-004. Detection of *Phoma lignam*.

7. Other Individual Pathogen Tests (Chickpea, lentil, and dry peas)

We also offer individual pathogen test included in the Price list below:

Test for Individual Fungal Agent(s) of:	
<i>Ascochyta/Mycosphaarella</i> spp	\$180 for <u>one</u> <u>or more</u> of these fungal pathogen tests.
<i>Aspergillus</i> spp.	
<i>Botrytis</i> spp.	
<i>Collectotrichum</i> spp.	
<i>Fusarium</i> spp.	
<i>Rhizoctonia solani</i>	
<i>Sclerotinia</i> spp.	
<i>Stemphylium</i>	
Individual Virus Tests	
<i>Pea seed-borne mosaic virus</i> (PSbMV)	\$180
<i>Pea enation mosaic virus</i> (PEMV)	\$150
<i>Alfalfa mosaic virus</i> (AMV)	\$150
<i>Cucumber mosaic virus</i> (CMV)	\$150
<i>Bean yellow mosaic virus</i> (BYMV)	\$150
<i>Barley stripe mosaic virus</i> (BSMV)	\$100
Bacterial Test	
<i>Pseudomonas syringae</i> pv <i>lisi</i>	\$200
<i>Pseudomonas syringae</i> pv <i>syringae</i>	
Phytoplasma Test	
Aster yellows phytoplasma	\$150