



Chickpea Variety Report 2015/16

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The major objectives of the chickpea breeding program at the University of Saskatchewan's Crop Development Centre (CDC) are to achieve high yield potential with acceptable seed quality characteristics, reduce production risk through improved resistance to *Ascochyta* blight and early maturing varieties, and develop plant characteristics for better crop management, says plant breeder Dr. Bunyamin Tar'an. In addition, cooking quality for Kabuli chickpeas and dehulling/milling efficiency for Desi-type chickpeas are becoming increasingly important criteria in the final assessment of the new cultivars.

Introgression of the imidazolinone (IMI) herbicide tolerance into new breeding lines is in full swing. In the next few years, more IMI-tolerant chickpeas should become available. Tar'an continues to explore genomic and molecular techniques for use in selection programs whenever feasible. He provides the following information on new CDC chickpea varieties.

Market Class: Kabuli Chickpea

CDC Orion was the most widely grown variety in 2015 in Saskatchewan followed by CDC Leader. CDC Palmer is a new variety released in 2014 and certified seed may be available in limited amounts by 2016.

CDC Leader and CDC Orion Kabuli Chickpea

Key Features

- High yielding Kabuli cultivars
- Predominantly 9-10 mm seed size (larger than CDC Frontier)
- CDC Leader matures one week earlier than CDC Frontier on average
- CDC Orion flowers early and is a few days earlier maturing than CDC Frontier

Main Advantages and Area of Adaptation of CDC Leader and CDC Orion

- Among the highest yielding Kabuli chickpea cultivars with medium-to-large seed size
- Light cream-beige seed colour with typical ram-head Kabuli seed shape
- Moderately resistant to *Ascochyta* blight
- Earlier maturity than CDC Frontier and Amit
- Well adapted to all current chickpea growing regions of Brown and Dark Brown soil zones of Southern Saskatchewan and South Eastern Alberta

CDC Palmer Kabuli Chickpea

Key Features

- High yielding Kabuli cultivar
- Large seed size (predominantly 9-10 mm) similar to CDC Orion





- Earlier maturing than CDC Orion

Main Advantages and Area of Adaptation of CDC Palmer

- High yielding Kabuli chickpea cultivar
- Medium large (9-10 mm) seed size
- Light cream-beige colour with typical ram-head Kabuli seed shape
- Earlier maturing than CDC Orion
- Moderately resistant to Ascochyta blight
- Well adapted to all current chickpea growing regions of Brown and Dark Brown soil zones of Southern Saskatchewan and South Eastern Alberta

Market Class: Desi Chickpea

CDC Consul Desi Chickpea

Key Features

- High yielding Desi cultivar
- Improved Ascochyta blight resistance
- Plump, medium seed size with a light tan seed coat colour suitable for whole, dehulled/split seed markets and milling

Main Advantages and Area of Adaptation of CDC Consul

- High yielding Desi chickpea alternative to the production of small Kabuli chickpea types
- Good resistance to Ascochyta blight
- Suited to all current chickpea growing regions of Brown (Area 1) and Dark Brown (Area 2) soil zones of Southern Saskatchewan and South Eastern Alberta

Ascochyta Blight Disease Management

Growers are strongly advised that an initial fungicide application is needed for all chickpea cultivars at the seedling to pre-flowering stage in order to limit early Ascochyta spore development and spread. Growers are required to monitor their fields diligently for disease and spray if necessary. Within the CDC chickpea breeding program disease has been managed with a maximum of two fungicide applications in all of their nurseries. Timing for the first spray is very critical, routinely recommended at the 7-10 node stage. It is recommended that chickpea is planted on lighter soil, so avoid heavy clay soil that retains moisture, and avoid lower lying or poorly drained fields. It is also recommended that chickpea is planted on stubble, especially in wet years.

