

Request for Release of 'Windham' Winter Feed Pea

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Development Team: K.E. McPhee, C. Chen, D. Wichman and F.J. Muehlbauer

Team Members/Agencies Cooperating in Development Work:

USDA-Agricultural Research Service
Washington State University
Montana State University

Identification:

1. Market Class: Winter feed pea
2. Selection Number: PS9830S358 (Cross number: X93P060)
3. Proposed Name: 'Windham'
4. Pedigree: CAH-61/D258-1-3//CAH-61/B686-320-0/3/D258-1-2

General Situation:

1. Unique cultivar characteristics

The unique characteristic of PS9830S358 is its winter growth habit. It has sufficient winter hardiness to survive moderately severe winter temperatures commonly experienced in the Palouse region of eastern Washington, northeastern Oregon and northern Idaho. Evaluations in Montana and Wyoming show that PS9830S358 has sufficient winter hardiness to survive most winters in colder and more harsh environments compared to the Palouse.

2. Need for cultivar

Dry pea production has expanded to over 308,000 hectares across the northern tier states of the US with production in 2005 reaching 626,550 Mt. Current production is predominantly based on spring sown cultivars. Pea has been maintained in crop rotations for its invaluable role in allowing growers the opportunity to control cereal disease, control grassy weeds and improve soil nutritional status. Despite their vital role, yield of traditional spring sown peas are marginally profitable and are highly variable due to environmental fluctuations. Fall sown peas have shown potential to increase yield from 50% to as much as 100% over spring types, depending on annual weather cycles.

Traditional tillage practices for spring pea crops leave soils vulnerable to erosion. Fall sowing winter legumes will require some form of reduced tillage or ideally direct seeding to be practiced since the young seedlings are small and unable to hold soil in place during winter rain events and spring snow melt. Availability of

production as well. The semi-leafless morphology will reduce the incidence of foliar diseases such as Sclerotinia white mold and the Ascochyta complex of foliar diseases.

Other Agronomic Traits:

1. Flowering Date: PS9830S358 flowers at the 18th node and approximately 21 days earlier than traditional spring varieties.
2. Plant Height: PS9830S358 has a semi-dwarf plant stature and an average vine length of 78 cm, but an average plant height index (canopy height at maturity/total vine length) of 0.45. A value of 1.00 indicates perfectly erect plant habit.
3. Seed Size: 100-seed weight averages 15.0 gm.
4. End-use Quality: Seed of PS9830S358 is expected to be limited to animal feed and green manure or forage production. Presence of "ghost mottling" in the seed coat coupled with relatively small seed size and dull hue of the yellow cotyledon make it unsuitable for human food markets, although it could be used to make split yellow peas. Seed integrity and agronomic quality overall is acceptable and hard seed content is typically less than 1.0%.
5. Disease Resistance: PS9830S358 is resistant to Fusarium wilt race 1.
6. Weaknesses: The primary weakness of PS9830S358 is the lack of resistance to pea enation mosaic virus and powdery mildew; however, the early maturity of PS9830S358 due to the winter growth habit should enable the variety to escape infection by these pathogens in most years. In addition, seed quality is unsatisfactory for traditional human food markets, but is suitable for animal feed.

Seed source, Status and Availability:

Two hundred single plants were selected from a strip increase of PS9830S358 grown in the 2004 crop year at the WSU Spillman Research Farm, Pullman, WA. Seed harvested from these plants was sown as microplots in the field for the 2005 crop year as the initial increase of breeder seed. Seed from the microplots which is true to type and uniform was bulked and sown 0.25ac in September 2005 for the 2006 crop year. It is expected that 500 pounds of seed from this increase will be available as breeder seed for further increase to foundation seed during the 2007 crop year.

Probable date for release:

Spring 2006

Provisions for PVP:

Plant Variety Protection will only be sought for PS9830S358 based on industry recommendation.