

Barley

AAC Synergy

1. AAC Synergy (TR09208) is a two-row spring hulled malting barley developed by Agriculture and Agri-Food Canada, Brandon, Manitoba, and marketed by Syngenta Seeds USA.
2. AAC Synergy was developed by a modified bulk method with individual spikes harvested from the F₃ increase bulk plots, and grown as single F₄ hill plots in an irrigated field leaf disease nursery. Early selection was based on agronomic appearance and foliar leaf disease resistance. Lines were further selected based on agronomic characteristics, disease reaction, hull peeling, spouting resistance and malt quality analysis.
3. AAC Synergy was tested at and found to be adapted to multiple Spring Barley growing locations on the Canadian prairies including in Manitoba, Saskatchewan, and Alberta. AAC Synergy will be adapted to production areas suited to AC Metcalfe, and has a desirable malting quality profile.
4. AAC Synergy is resistant to spot-form net blotch; moderately resistant to net-form net blotch and spot blotch; moderately resistant to moderately susceptible to common root rot, covered smut, false loose smut, and stem rust (carries the *Rpg1* gene); moderately susceptible to FHB; and susceptible to scald, loose smut and speckled leaf blotch (*Septoria passerinii* Sacc.).
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Growth Habit:	<u>Spring</u>	16. Plant Height (see below):	<u>74.6</u>
2. Spike:	<u>Two-row</u>	17. Spike Shape:	<u>Strap</u>
3. Coleoptile Color:	<u>White/Green Tip Stripe</u>	18. Spike Density:	<u>Mid-Dense</u>
4. Juvenile Growth Habit:	<u>Erect to Semi-Erect</u>	19. Spike Position at Maturity:	<u>Erect to Semi-Erect</u>
5. Plant Tillering:	<u>Intermediate</u>	20. Hairiness of Rachis Edge:	<u>Covered</u>
6. Leaf Color at Boot:	<u>Green</u>	21. Rachilla Hair Length:	<u>Long</u>
	<u>Erect With Low</u>		
7. Flag Leaf at Boot:	<u>Frequency, Recurved, Waxy, Not Twisted</u>	22. Lemma Awns:	<u>Straight</u>
8. Pubescence on Leaf Blade:	<u>No</u>	23. Length of Lemma Awns:	<u>Long</u>
9. Pubescence on Leaf Sheath:	<u>No</u>	24. Lemma Awn Surface:	<u>Rough</u>
10. Auricle Color:	<u>Purplish</u>	25. Glume Hairiness:	<u>Banded</u>
11. Heading Date (see below):	<u>59.8</u>	26. Glume Awn Surface:	<u>Rough</u>
12. Stem Color:	<u>Medium green</u>	27. Glume/Lemma Adherence:	<u>Covered</u>
13. Neck Shape:	<u>Straight-Slight Curve</u>	28. Texture (if covered):	<u>Slightly wrinkled</u>
	<u>V-Shaped Cup With</u>		
14. Collar Shape:	<u>Half Closed and Half Open Collar Shape</u>	29. Aleurone Color:	<u>Colorless</u>
15. Spike Exertion:	<u>Slight</u>	30. Avg 1,000 Kernel Wt (g):	<u>47.2</u>

Heading date: 59.8 which is: 1.2 days EARLIER than: CDC Copeland

Plant height: 74.6 cm, which is 1.4 cm SHORTER than AC Metcalfe

Physiological or biochemical traits:

(continued on next page)



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Variants and their frequency: No variants were identified when the Breeder Seed of AAC Synergy was developed. When the Breeder Seed plot was rogued, 10 tall plants (off-types) were removed this is the equivalent of 1.0 per 20,000 plants. Also rogued was 1 awnless off-type plant equivalent to 0.1 in 20,000 plants. Frequency of off-types was very low and not a purity concern.

6. Syngenta Seeds, Inc. or AAC maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed as needed. Royalty fees are anticipated.
7. Certified seed will likely be available for commercial malt test production in 2015.
8. Plant Variety Protection is anticipated in 2015 and AAC Synergy may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jan 09, 2015

Date recommended by the VRB: May 04, 2015

