PEER REVIEWED PUBLICATIONS (Underline=WSU mentored Graduate Student or Post-Doctoral Researcher; Italics=Undergraduate Research Student)

1. Herr AW, Adak A, Carroll ME, Elango D. Kar S, Li C, Jones SE, **Carter AH**, Murray SC, Paterson A, Sankaran S, Singh A, Singh AK (2023) UAS imagery for phenotyping in cotton, maize, soybean, and wheat breeding. Crop Science **Submitted**
2. Montesinos-Lopez OA, Herr AW, Crossa J, **Carter AH** (2023) Genomics combined with UAS data enhances prediction of grain yield in winter wheat. Frontiers in Genetics **Submitted**
3. Tang Z, Wang M, Schirrmann M, Dammer K-H, Li X, Brueggeman R, Sanakaran S, **Carter A**, Pumphrey M, Hu Y, Chen X, Zhang Z (2022) Affordable high throughput field detections of wheat stripe rust using deep learning based with semi-automatic image labeling. **In Revision**
4. Thompson YA, **Carter AH**, Ward BP, Kiszonas AM, Morris CF (2022) Leveraging relatedness: genomic selection of soft white wheat cake quality using a historic database. Crop Science **In Revision**
5. Montesinos-Lopez OA, Carter AH, Sandoval DAB, Cano-Paez B, Montesinos-Lopez A, Crossa J (2023) A comparison between three tuning strategies for Gaussian kernels in the context of univariate genomic prediction. Genes 13(12) doi:10.3390/genes13122282
6. Phipps SN, Burke AB, Balow KA, Murray TD, **Carter AH** (2022) Identification of snow mold tolerance QTL in a landrace winter wheat using linkage mapping. Crop Science 62:1415-1429 doi:10.1002/csc2.20745
7. Aoun M, **Carter AH**, Morris CF (2022) Genetic architecture of end-use quality traits in soft white winter wheat. BMC Genomics 23:440 doi:10.1186/s12864-022-08676-5
8. Running K, Momotaz A, Kariyawasam G, Zurn J, Pozniak C, Acevedo M, **Carter AH**, Liu Z, Faris J (2022) Genomic analysis and delineation of the tan spot susceptibility locus Tsc1 in wheat. Frontiers in Plant Science 13:793925 doi:10.3389/fpls.2022.793925
9. Merrick LF, Herr AW, Sandhu KS, Lozada DN, **Carter AH** (2022) Optimizing plant breeding programs for genomic selection. Agronomy 12:714 doi:10.3390/agronomy12030714
10. Merrick LF, Herr AW, Sandhu KS, Lozada DN, **Carter AH** (2022) Utilizing genomic selection for wheat population development and improvement. Agronomy 12:522 doi:10.3390/agronomy12020522
11. He F, Wang W, Rutter WB, Jordan KW, Ren J, Taagen E, DeWitt N, Sehgal D, Sukumaran S, Driesigacker S, Reynolds M, Liu S, Chen J, Fritz A, Cook J, Brown-Guedira G, Pumphrey M, **Carter A**, Sorrells M, Dubcovsky J, Hayden MJ, Akhunov A, Morrell PL, Szabo L, Rouse M, Akhunov E (2022) The landscape of genetic effects on gene expression levels in allopolyploid wheat reveals the impact of homoeologous gene dysregulation on agronomic traits. Nature Communications 13:826 doi:10.1038/s41467-022-28453-y
12. Merrick LF, Lozada DN, Chen X, **Carter AH** (2022) Classification and regression models for genomic selection of skewed phenotypes: a case for disease resistance in winter wheat (*Triticum aestivum* L.). Frontiers in Genetics 13:835781 doi:10.3389/fgene.2022.835781
13. Merrick LF, Zhang Z, Burke AB, **Carter AH** (2022) Comparison of Single-Trait and Multi-Trait Genome-Wide Association Models and Inclusion of Correlated Traits in the

Dissection of the Genetic Architecture of a Complex Trait in a Breeding Program. Frontiers in Plant Science doi:10.3389/fpls.2021.772907

14. Sandhu KS, Patil S, Aoun M, Morris C, **Carter AH** (2022) Multi-trait multi-environment genomic prediction for end-use quality traits in winter wheat. Frontiers in Genetics 13:831020 doi.org/10.3389/fgene.2022.831020
15. Sandhu KS, Merrick LF, Sankaran S, Zhang Z, **Carter AH** (2022) Prospectus of genomic selection and high throughput phenotyping in cereal, legume, and oilseed breeding programs: a review. Frontiers in Genetics 12:829131 doi.org/10.3389/fgene.2021.829131
16. Jordan KW, Bradury PJ, Miller Z, Nyine M, He F, Fraser M, Anderson J, Mason E, Katz A, Pearce S, **Carter A**, Prather S, Pumphrey M, Chen J, Cook J, Liu S, Rudd J, Wang Z, Chu C, Ibrahim AM, Turkus J, Olson E, Nagarajan R, Yan L, Taagen E, Sorrells M, Ward B, Ren J, Akhunova A, Bowden R, Fiedler J, Faris J, Dubcovsky J, Guttieri M, Brown-Guedira G, Buckler E, Jannink J-L, Akhunov ED (2021) Development of the wheat practical haplotype graph database as a resource for genotyping data storage and genotype imputation. Genes|Genomes|Genetics doi.org/10.1093/g3journal/jkab390
17. Sandhu KS, Mihalyov PD, Lewien MJ, Pumphrey MO, **Carter AH** (2021) Grain protein content stability and genomic selection for predicting grain protein content in wheat. Agronomy 11:2528 doi.org/10.3390/agronomy11122528
18. Merrick LF, **Carter AH** (2021) Comparison of genomic selection models for exploring predictive ability of complex traits in breeding programs. The Plant Genome 14:3 e20158 doi.org/10.1002/tpg2.20158
19. Aoun M, **Carter AH**, Thompson Y, Ward BP, Morris CF (2021) Environment characterization and genomic prediction for end-use quality traits in soft white winter wheat. The Plant Genome 14:3 e20128 doi.org/10.1002/tpg2.20128 **(2,3,6)**
20. Sandhu KS, Patil SS, Pumphrey MO, **Carter AH** (2021) Multi-trait machine and deep learning models for genomic selection using spectral information in a wheat breeding program. The Plant Genome 14:3 e20119 doi.org/10.1002/tpg2.20119 **(2,3,6)**
21. Kumar A, Mir R, Sehgal D, Agarwal P, **Carter A** (2021) Genetics and genomics to enhance crop production, towards food security. Editorial in Frontiers in Genetics 12:798308 doi.org/10.3389/fgene.2021.798308
22. Sandhu KS, Aoun M, Morris CF, **Carter AH** (2021) Genomic selection for end-use quality and processing traits in soft white winter wheat breeding program with machine and deep learning models. Biology 10, 689 doi.org/10.3390/biology10070689 **(3,6)**
23. Aoun M, **Carter AH**, Ward B, Morris CF (2021) Genome-wide association mapping of the 'super soft' kernel texture in white winter wheat. Theoretical and Applied Genetics 134:2547-2559 doi:10.1007/s00122-021-03841-y **(3,6)**
24. Merrick LF, Burke AB, Chen X, Carter AH (2021) Breeding with major and minor genes: Genomic selection for quantitative disease resistance. Frontiers in Plant Science doi:10.3389/fpls.2021.713667 **(2,3,6)**
25. Rodriguez J, Hauvermale A, **Carter AH**, Burke IC (2021) An $ALA_{122}THR$ substitution in the AHAS/ALS gene confers imazamox-resistance in jointed goatgrass (*Aegilops cylindrica* Host.). Pest Management Science 77:4583-4592 http://doi.org/10.1002/ps.6498 **(2,6)**
26. Sangjan W, **Carter AH**, Pumphrey PO, Jitkov V, Sankaran S (2021) Development of sensor system for the Internet of Things (IoT)-based automated in-field monitoring to support crop breeding programs. Inventions 6:42 doi.org/10.3390/inventions6020042

27. Thompson YA, **Carter AH**, Ward BP, Kiszonas AM, Morris CF (2021) Association mapping of sponge cake volume in U.S. Pacific Northwest elite soft white wheat (*Triticum aestivum* L.). Journal of Cereal Science 100:103250 doi.org/10.1016/j.jcs.2021.103250
28. Lozada DN, **Carter AH**, Mason RE (2021) Unlocking yield potential of wheat: influence of major growth habit and adaptation genes. Crop Breeding, Genetics and Genomics 3:e210004 https://doi.org/10.20900/cbgg20210004
29. Horgan A, Garland-Campbell KA, **Carter AH,** Steber CM (2021) Seedling elongation responses to gibberellin seed treatments in wheat. Agrosystems, Geosciences, and Environment 4:1-13 doi:10.1002/agg2.20144
30. Sandhu KS, Mihalyov PD, Lewien MJ, Pumphrey MO, **Carter AH** (2021) Combining genomic and phenomic information for predicting grain protein content and grain yield in spring wheat. Frontiers in Plant Science 12:613300 doi:10.3389/fpls.2021.613300
31. Sjoberg SM, **Carter AH**, Steber C, Garland-Campbell KA (2021) Application of the factor analytic model to assess wheat falling number performance and stability in multi-environment trials. Crop Science 61:372-382 doi:10.1002/csc2.20293
32. Sandhu KS, Lozada DN, Zhang Z, Pumphrey MO, Carter AH (2021) Deep learning for predicting complex traits in spring wheat. Frontiers in Plant Science 11:613325 doi:10.3389/fpls.2020.613325
33. Merrick LF, Lyon SR, Balow KA, Murphy KM, Jones SS, **Carter AH** (2020) Evolutionary plant breeding in a conventional winter wheat breeding program. Sustainability 12:9728. Doi:10.3390/su12229728
34. Sjoberg, SM, **Carter AH**, Steber CM, Garland-Campbell KA (2020) Unravelling complex traits in wheat: approaches for analyzing genotype by environment interactions in a multi-environment study of falling numbers. Crop Science 60:3013-3026 doi:10.1002/csc2.20133
35. Kruse EB, Revolinski S, Aplin J, Skinner DZ, Murray TD, Edwards C, **Carter AH** (2020) Gene Expression and Carbohydrate Accumulation in Winter Wheat Lines with Different Levels of Snow Mold and Freezing Cold Tolerance. Plants 9:1416 doi:10.3390/plants9111416
36. **Carter AH**, Allan RE, Shelton G, Burke A, Balow K, Hagemeyer K, Chen XM, Engle D, Garland-Campbell KA, Morris C, Murray T, Paulitz T, Clare SJ, Klarquist EF (2020) How 'Madsen' has shaped Pacific Northwest wheat and beyond. Journal of Plant Registrations 14:223-233 doi:10.1002/plr2.20049 **Selected featured article in the September 2020 CSA News**
37. **Carter AH**, Rath BB, Gorzkowski EP, Qadri SB (2020) Evaluation of Silica content in winter wheat chaff. Agriculture and Environmental Letters 5:e20025 doi:10.1002/ael2.20025
38. Lozada DN, Ward BP, **Carter AH** (2020) Gains through selection for grain yield in a winter wheat breeding program. PLoS ONE 15(4):e0221603 doi:10.1370/journal.pone.0221603
39. Lozada DN, **Carter AH** (2020) Genomic selection in winter wheat breeding using a recommender approach. Genes 11:779 doi:10.3390/genes11070779
40. Lozada DN and **Carter AH** (2020) Insights into the genetic architecture of phenotypic stability traits in winter wheat. Agronomy 10:368 doi:10.3390/agronomy10030368
41. Nazarov T, Chen X, **Carter A**, See D. (2020) Fine mapping of high-temperature adult-plant resistance to stripe rust in wheat cultivar Louise. Journal of Plant Protection Research 60:126-133 doi:10.24425/jppr.2020.132213

42. Faris F, Overlander ME, Kariyawasam GK, **Carter AH**, Xu SS, Liu Z (2020) Identification of a major dominant gene for race-nonspecific tan spot resistance in wild emmer wheat. Theoretical and Applied Genetics 133:829-841
43. Lozada DN, Godoy JV, Ward BP, **Carter AH** (2019) Genomic prediction and indirect selection for grain yield in US Pacific Northwest winter wheat using spectral reflectance indices from high-throughput phenotyping. International Journal of Molecular Science 21:165 doi.org/10.3390/ijms21010165
44. Kruse EB, Klos K, Marshall J, Murray TD, Ward BP, **Carter AH** (2019) Evaluating marker assisted selection in breeding for tolerance to snow mold in winter wheat. Agrosystems, Geosciences, and Environment 2:190059 doi:10.2134/age2019.07.0059
45. Lozada DN, Godoy JV, Murray TD, Ward BP, **Carter AH** (2019) Genetic dissection of snow mold tolerance in US Pacific Northwest winter wheat through genome-wide association study and genomic selection. Frontiers in Plant Science 29 October 2019 doi.org/10.3389/fpls.2019.01337
46. Dixon LS, Godoy JV, **Carter AH** (2019) Evaluating the utility of carbon isotope discrimination as a selection criterion for wheat cultivar development. Plant Phenomics Volume 2019, Article ID 4528719 doi.org/10.34133/2019/4528719
47. Nielsen N, Stubbs TL, Garland-Campbell K, and **Carter AH** (2019) Rapid estimation of wheat straw decomposition constituents using near-infrared spectroscopy. Agronomy 9(8):462 doi.org/10.3390/agronomy9080462
48. Dixon LS and **Carter AH** (2019) Toward a new use for carbon isotope discrimination in wheat breeding. Agronomy 9(7), 385 doi:10.3390/agronomy9070385
49. Fitria, Ruan H, Fransen SC, **Carter AH**, Tao H, Yan B (2019) Selecting winter wheat straw for cellulosic ethanol production in Pacific Northwest, USA. Biomass and Bioenergy 123:59-69
50. Gizaw SA, Godoy J, Garland-Campbell K, **Carter AH** (2018) Genome-wide association study of yield and component traits in Pacific Northwest winter wheat (*Triticum aestivum* L.). Crop Science 58:2315-2330
51. Gizaw SA, Godoy JG, Pumphrey MO, **Carter AH** (2018) Spectral reflectance for indirect selection and genome-wide association analyses of grain yield and drought tolerance in North American spring wheat (*Triticum aestivum* L.). Crop Science 58:1-13 doi:10.2135/cropsci 2017.11.0690
52. Godoy J, Gizaw S, Chao S, Blake N, **Carter A**, Cuthbert R, Dubcovsky J, Hucl P, Kephart K, Pozniak C, Prasad PVV, Pumphrey M, Talbert L (2018) Genome-wide association study (GWAS) of agronomic traits in a spring planted North American elite hard red spring wheat panel. Crop Science 58:1838-1852
53. Zhang J, Gizaw SA, Bossolini E, Hegarty JM, **Carter AH**, Chao S, Akhunov E, Dubcovsky J (2018) Identification and validation of QTL for grain yield and plant water status under contrasting water treatments in fall-sown spring wheat. Theoretical and Applied Genetics 131:1741-1759
54. Lewien MJ, Murray TD, Jernigan KL, Garland-Campbell KA, **Carter AH** (2018) Genome-wide association mapping for eyespot disease in US Pacific Northwest winter wheat. PLoS ONE April 2, 2018 https://doi.org/10.1371/journal.pone.0194698
55. Gizaw SA, Godoy JGV, Garland-Campbell K, **Carter AH** (2018) Using spectral reflectance as proxy phenotypes for genome-wide association studies of yield and yield

stability in Pacific Northwest winter wheat. Crop Science 58:1232-1241 **Selected featured article in the May 2018 CSA News**
56. Jernigan KL, Godoy J, Huang M, Zhou Y, Morris CF, Garland-Campbell KA, Zhang Z, **Carter AH** (2018) Association mapping for end-use quality in Pacific Northwest adapted soft white winter wheat. Frontiers in Plant Science 09 March 2018 https://doi.org/10.3389/fpls.2018.00271
57. Martinez SA, Godoy J, Huang M, Zhang Z, **Carter AH**, Garland-Campbell K, Steber CM (2018) Genome-wide association mapping for tolerance to preharvest sprouting and low falling numbers in wheat. Frontiers in Plant Science 14 February 2018 https://doi.org/10.3389/fpls.2018.00141
58. Liu W, Naruoka Y, *Miller K*, Garland-Campbell K, **Carter AH** (2018) Characterizing and validating stripe rust resistance loci in US Pacific Northwest winter wheat accessions (*Triticum aestivum* L.) by genome-wide association and linkage mapping. Plant Genome 11:170087. doi:10.3835/plantgenome2017.10.0087
59. Aramrak A, Lawrence NC, DeMacon VL, **Carter AH**, Kidwell KK, Burke IC, Steber CM (2018) Isolation of mutations conferring increased glyphosate resistance in spring wheat, *Triticum aestivum* (L.). Crop Science 58:84-97
60. Jernigan KL, Morris CF, Zemetra R, Chen J, Garland-Campbell K, **Carter AH** (2017) Genetic analysis of soft white wheat end-use quality traits in a club by common wheat cross. Journal of Cereal Science 76:148-156 https://doi.org/10.1016/j.jcs.2017.06.005
61. Kruse EB, Carle SW, Wen N, Skinner DZ, Murray TD, Garland-Campbell KA, **Carter AH** (2017) Genomic regions associated with tolerance to freezing stress and snow mold in winter wheat. Genes|Genomes|Genetics:G3 7:775-780
62. Gizaw S, Garland-Campbell K, and **Carter AH** (2016) Use of spectral reflectance for indirect selection of yield potential and stability in Pacific Northwest winter wheat. Field Crops Research 196:199-206
63. Gizaw S, Garland-Campbell K, and **Carter AH** (2016) Evaluation of agronomic traits and spectral reflectance in Pacific Northwest winter wheat under rain-fed and irrigated conditions. Field Crops Research 196:168-179
64. Froese PS and **Carter AH** (2016) Single nucleotide polymorphisms in the wheat genome associated with tolerance of acidic soils and aluminum toxicity. Crop Science 56:1662-1677
65. Froese PS, Murray TD, and **Carter AH** (2016) Quantitative Cephalosporium stripe disease resistance mapped in the wheat genome. Crop Science: 56:1586-1601
66. Kariyawasam G, **Carter AH**, Rasmussen J, Faris J, Xu S, Mergoum M, Liu Z (2016) Genetic relationships between race-nonspecific and race-specific interactions in the wheat-Pyrenophora tritici-repentis pathosystem. Theoretical and Applied Genetics 129:897-908
67. Carter BP, Galloway MB, Campbell GS, **Carter AH** (2016) Changes in the moisture permeability of grain at the critical water activity from dynamic dewpoint isotherms. American Society of Agricultural and Biological Engineers 59:1023-1028
68. Klarquist E, Chen XM, **Carter AH** (2016) Novel QTL for stripe rust (*Puccinia striiformis* f. sp. *tritici*) resistance on chromosomes 4A and 6B from soft white winter wheat (*Tricticum aestivum*). Agronomy 6:4
69. Kuhn J, Stubbs T, **Carter AH** (2016) Effect of the Gpc-B1 allele in hard red winter wheat (*Triticum aestivum* L.) in the Pacific Northwest of the US. Crop Science 56:1009-1017

70. Khot LR, Sankaran S, **Carter AH**, Johnson DA, Cummings TF (2016) UAS imaging-based decision tools for arid winter wheat and irrigated potato production management. International Journal of Remote Sensing, 37:125-137
71. Matute MM, **Carter AH**, Sherman J (2015) Nematode composition and soil conditions in plots under a wheat crop in Colfax, Washington State. Journal of Agricultural Science 7:76-89
72. Sankaran S, Khot LR, **Carter AH** (2015) Field-based crop phenotyping: Multispectral aerial imaging for rapid evaluation of winter wheat emergence and spring stand. Computers and Electronics in Agriculture 118:372-379
73. Carter BP, Galloway MB, Campbell GS, **Carter AH** (2015) The critical water activity from dynamic dewpoint isotherms as an indicator of pre-mix powder stability. Journal of Food Measurement and Characterization 9:479-486
74. Carter BP, Galloway MB, Campbell GS, **Carter AH** (2015) The critical water activity from dynamic dewpoint isotherms as an indicator of crispness in low moisture cookies. Journal of Food Measurement and Characterization 9:463-470
75. Carter BP, Galloway MB, Morris CF, Weaver GL, **Carter AH** (2015) The case for water activity as a specification for wheat tempering and flour production. Cereal Food World 60:166-170
76. Sankaran S, Khot LR, Espinoza CZ, Jarolmasjed S, Sathuvalli VR, Vandemark GJ, Miklas PN, **Carter AH**, Pumphrey MO, Knowles NR, Pavek MJ (2015) Low-altitude, high-resolution aerial imaging systems for row and field crop phenotyping: A review. European Journal of Agronomy 70:112-123
77. Naruoka Y, Garland-Campbell KA, and **Carter AH** (2015) Genome-wide association mapping for stripe rust (*Puccinia striiformis* f. sp. *tritici*) in US Pacific Northwest winter wheat (*Triticum aestivum* L.). Theoretical and Applied Genetics 128:1083-1101
78. Squires CC and **Carter AH** (2014) A less lethal sodium hydroxide test for determining seed coat color in wheat. Seed Science and Technology 42:274-278
79. Squires CC, See DR, and **Carter AH** (2014) Sources of seed coat color variation in certified wheat seed. Seed Science and Technology 42:247-259
80. Higginbotham R, *Froese P*, **Carter AH** (2014) Tolerance of wheat (*Triticum aestivum* L.) seedlings to wireworm (Coleoptera: Elateridae). Journal of Economic Entomology 107:833-837
81. Case AJ, Skinner DZ, Garland-Campbell KA, **Carter AH** (2014) Freezing tolerance-associated QTL in the Brundage x Coda wheat recombinant inbred line population. Crop Science 54:982-992
82. **Carter, AH**, Cambron SE, Ohm HW, Bosque-Pèrez N, Kidwell KK. (2014) Identifying molecular markers associated with Hessian fly (*Mayetiola destructor* [Say]) resistance in the spring wheat (*Tricitum aestivum*) cultivar 'Louise'. Crop Science 54:1-11
83. Case AJ, Naruoka Y, Chen X, Garland-Campbell KA, Zemetra RS, **Carter AH** (2014) Mapping stripe rust resistance genes in a BrundageXCoda winter wheat population. PlosONE 9(3):e91758 doi: 10.1371/journal.pone.0091758
84. Higginbotham R, Jones SS, **Carter AH** (2013) Wheat cultivar performance and stability between no-till and conventional tillage systems in the Pacific Northwest of the United States. Sustainability 5:882-895
85. Cavanagh CR, Chao S, Wang S, Huang BE, Stephen S, Kiani S, Forrest K, Saintenac C,

Brown-Guedira GL, Akhunov A, See D, Bai G, Pumphrey M, Tomar L, Wong D, Kong S, Reynolds M, Lopez da Silva M, Bockelman H, Talbert L, Anderson JA, Dreisigacker S, Baenziger PS, **Carter A**, Korzum V, Morrell PL, Dubcovsky J, Morell MK, Sorrells ME, Hayden M, Akhunov E (2013) Genome-wide comparative diversity uncovers multiple targets of selection for improvement in hexaploid wheat landraces and cultivars. Proc Natl Acad Sci 100:8057-8062 doi:10.1073/pnas.1217133110

86. Flowers M, Hamm PB, **Carter AH**, Murray TD (2012) Reaction of winter wheat cultivars and breeding lines to soilborne wheat mosaic. Plant Disease Management Reports 6:CF025
87. Lanning, SP, Hucl P, Pumphrey M, **Carter AH**, Lamb PF, Carlson GR, Wichman DM, Kephart KD, Spaner D, Martin JM, Talbert LE (2012) Agronomic performance of spring wheat as related to planting date and photoperiod response. Crop Science 52:1633-1639
88. Poole GJ, Smiley RW, Paulitz TC, **Carter AH**, See DR, Garland-Campbell K (2012) Identification of microsatellite markers *Xgwm247* and *Xgwm299* linked to quantitative trait loci for resistance to Fusarium crown rot (*Fusarium pseudograminearum*) in two spring wheat populations. Theoretical and Applied Genetics 125:91-107
89. Beecher BS**, Carter AH,** See DR (2012) Genetic mapping of a new family of seed-expressed polyphenol oxidase genes in wheat (*Triticum aestivum* L.). Theoretical and Applied Genetics 124:1463-1473
90. **Carter AH**, Santra DK, Kidwell KK (2012) Assessment of the effect of the *GPC-B1*allele on senescence rate, grain protein concentration and mineral content in hard red spring wheat (*Triticum aestivum* L.) from the Pacific Northwest region of the USA. Plant Breeding 131:62-68
91. **Carter AH**, Garland-Campbell K, Morris C, Kidwell KK (2012) Chromosomes 3B and 4D are associated with several milling and baking quality traits in a soft white spring wheat (*Triticum aestivum* L.) population. Theoretical and Applied Genetics 124:1079-1096
92. Higginbotham RW, Jones SS, **Carter AH (**2011) Adaptability of wheat cultivars to a late-planted no-till fallow production system. Sustainability 3:1224-1233
93. **Carter AH**, Garland-Campbell K, Kidwell KK (2011) Genetic mapping of quantitative trait loci associated with important agronomic traits in the spring wheat (*Triticum aestivum* L.) cross 'Louise' by 'Penawawa'. Crop Science 51:84-95
94. **Carter AH**, Chen XM, Garland-Campbell K, Kidwell KK (2009) Identifying QTL for high-temperature adult-plant resistance to stripe rust (*Puccinia striiformis* f. sp. *tritici*) in the spring wheat (*Triticum aestivum* L.) cultivar 'Louise'. Theoretical and Applied Genetics 119:1119-1128
95. Murphy KM, **Carter A**, Zemetra RS, Jones SS (2008) Karyotype and ideogram analyses of four wheatgrass cultivars for use in perennial wheat breeding. Journal of Sustainable Agriculture 31:137-149
96. Leonard J, Watson C, **Carter A**, Hansen J, Zemetra R, Santra D, Campbell K, Riera-Lizarazu O (2008) Identification of a candidate gene for the wheat endopeptidase *Ep-D1* locus and two other STS markers linked to the eyespot resistance gene *Pch1*. Theoretical and Applied Genetics 116:261-270
97. **Carter AH**, Hansen J, Koehler T, Thill DC, Zemetra RS (2007) The effect of Imazamox application timing and rate on imazamox resistant wheat cultivars in the Pacific Northwest. Weed Technology 21:895-899

VARIETY/GERMPLASM RELEASE

1. Phipps SN, Burke AB, Balow KA, Murray TD, Carter AH (2022) Registration of the PI 173438/WA 8137 Wheat Doubled Haploid Mapping Population. Journal of Plant Registrations doi:10.1002/plr2.20228
2. Lopez S, Wiersma A, Strauss N, Watkins T, Baik B-K, Zhang G, Sehgal S, Kolb F, Poland J, Mason E, **Carter A**, Olsen E (2022) Description of U6719-004 wheat germplasm with YrAS2388R stripe rust resistance introgression from Aegilops tauschii. Journal of Plant Registrations Early View doi:10.1002/plr2.20226
3. Garland-Campbell K, Bellinger BS, Carter AH, Chen X, DeMacon P, Engle D, Hagerty CH, Kiszonas A, Klarquist E, Murray TD, Morris C, Neely C, Odubiyi S, Rashad A, See D, Steber CM, Wen N (2022) Registration of 'Cameo' soft white winter club wheat. Journal of Plant Registrations 16:585-596 doi:10.1002/plr2.20234
4. Zemetra RS, Phipps SN, Kohler T, Burke AB, **Carter AH** (2022) Registration of the Coda/Brundage wheat recombinant inbred line mapping population. Journal of Plant Registrations 16:176-184 doi:10.1002/plr2.20147
5. Garland-Campbell K, Allan RE, Carter AH, DeMacon P, Klarquist E, Wen N, Chen X, Steber CM, Morris C, See D, Esser A, Engle D, Higginbotham R, Mundt C, Murray TD (2021) Registration of 'Castella' soft white winter club wheat. Journal of Plant Registrations 15:504-514 doi:10.1002/plr2.20132
6. Strauss NM, Wiersma A, DeMacon P, Klarquist E, **Carter AH**, Garland-Campbell KA, Olson E (2021) Registration of the Wheat D-Genome Nested Association Mapping Population. Journal of Plant Registrations 15:215-222 doi:10.1002/plr2.20078
7. Gill KS, Kumar N, Randhawa HS, Murphy K, **Carter AH**, Morris CF, Higginbotham RW, Engle DA, Guy SO, Lyon D, Murray TD, Chen XM, Schillinger WF (2021) Registration of 'Resilience CL+' soft white winter wheat. Journal of Plant Registrations 15:196-205 doi:10.1002/plr2.20118
8. **Carter AH**, Balow KA, Shelton GB, Burke AB, Hagemeyer KE, Stowe A, Worapong J, Higginbotham RW, Chen XM, Engle DA, Murray TD, Morris CF (2021) Registration of 'Stingray CL+' soft white winter wheat. Journal of Plant Registrations 15:161-171 doi:10.1002/plr2.20109
9. **Carter AH**, Balow KA, Shelton GB, Burke AB, Hagemeyer KE, Stowe A, Worapong J, Higginbotham RW, Chen XM, Engle DA, Murray TD, Morris CF (2021) Registration of 'Devote' soft white winter wheat. Journal of Plant Registrations 15:121-131 doi:10.1002/plr2.20079
10. **Carter AH**, Balow KA, Shelton GB, Burke AB, Hagemeyer KE, Stowe A, Worapong J, Higginbotham RW, Chen XM, Engle DA, Murray TD, Morris CF (2021) Registration of 'Scorpio' hard red winter wheat. Journal of Plant Registrations 15:113-120 doi:10.1002/plr2.20076
11. **Carter AH**, Kidwell KK, DeMacon V, Shelton G, Burke A, Balow K, Herr A (2020) Registration of 'Louise'/'Penawawa' Spring Wheat Recombinant Inbred Line Mapping Population. Journal of Plant Registrations 14:474-480 doi:10.1002/plr2.20077
12. **Carter AH**, Balow KA, Shelton GB, Burke AB, Hagemeyer K, Worapong J, Higginbotham RW, Chen XM, Engle DA, Murray TD, Morris CF (2020) Registration of 'Purl' soft white winter wheat. Journal of Plant Registrations 14:398-405 doi:10.1002/plr2.20069
13. Gill KS, Kumar N, Randhawa HS, **Carter AH**, Yenish J, Morris CF, Baik B, Higginbotham RW, Guy SO, Engle DA, Chen XM, Murray TD, Burke IC, Lyon D (2020)

Registration of 'Curiosity CL+' soft white winter wheat. Journal of Plant Registrations 14:377-387 doi:10.1002/plr2.20066

14. Gill KS, Kumar N, Randhawa HS, **Carter AH**, Yenish J, Morris CF, Baik B-K, Higginbotham RW, Guy SO, Engle DA, Chen XM, Murray TD, Lyon D (2020) Registration of 'Mela CL+' soft white winter wheat. Journal of Plant Registrations 14:144-152 doi:10.1002/plr2.20006
15. Balow K, Shelton G, Burke A, Hagemeyer K, Klarquist E, Froese P, Kruse EB, Carle SW, Roa A, Nielsen N, **Carter AH** (2019) Registration of the Finch-Eltan Winter Wheat Recombinant Inbred Mapping Population. Journal of Plant Registrations 13:287-293
16. Wiersma AT, Whetten RB, Zhang G, Sehgal SK, Kolb FL, Poland JA, Mason RE, **Carter AH**, Cowger C, Olson EL (2018) Registration of two wheat germplasm lines fixed for *Pm58*. Journal of Plant Registrations 12:270-273
17. **Carter AH**, Jones SS, Balow KA, Shelton GB, Burke AB, Lyon SR, Higginbotham RW, Chen XM, Engle DA, Murray TD, Morris CF (2017) Registration of 'Jasper' soft white winter wheat. Journal of Plant Registrations 11:263-268.
18. **Carter AH**, Jones SS, Lyon SR, Balow KA, Shelton GB, Burke A, Higginbotham RW, Schillinger WF, Chen XM, Engle DA, Morris CF (2017) Registration of 'Sequoia' hard red winter wheat. Journal of Plant Registrations 11:269-274.
19. **Carter AH**, Kidwell KK, Balow, KA, Burke A, Shelton GB, Higginbotham RW, DeMacon V, Lewien MJ, Chen XM, Engle DA, Morris CF (2017) Registration of 'Earl' hard white winter wheat. Journal of Plant Registrations 11:275-280.
20. Garland-Campbell K**, Carter AH,** Jones SS, Chen X, DeMacon P, Higginbotham R, Engle D, Guy SO, Mundt CC, Murray TD, Morris CF, See D (2017) Registration of 'Pritchett' Soft White Winter Club Wheat. Journal of Plant Registrations 11:152-158.
21. **Carter AH**, Kidwell KK, DeMacon V, Shelton GB, Higginbotham RW, Balow KA, Hansen J, Chen XM, Engle DA, Baik B, Morris CF (2015) Registration of 'Sprinter' wheat. Journal of Plant Registrations 9:196-200.
22. **Carter AH**, Jones SS, Cai X, Lyon SR, Balow KA, Shelton GB, Higginbotham RW, Chen XM, Engle DA, Baik B, Guy SO, Murray TD, Morris CF (2014) Registration of 'Puma' wheat. Journal of Plant Registrations 8:273-278.
23. **Carter, AH**, Jones SS, Shelton GB, Higginbotham R, Lyon S, Balow K, Guy S, Baik B, Engle DA, Morris C, Chen XM (2013) Registration of 'Otto' wheat. Journal of Plant Registrations 7:195-200.
24. Kidwell KK, Shelton GB, DeMacon VL, Kuehner JS, Baik B, Engle DA, Bosque-Pérez NA, Burke A, **Carter AH**, Chen XM (2009) Registration of 'Whit' wheat. Journal of Plant Registration 3:279-282.
25. Kidwell KK, Shelton GB, DeMacon VL, Chen XM, Kuehner JS, Baik B, Engle DA, **Carter AH,** Bosque-Pérez NA (2009) Registration of 'Kelse' Wheat. Journal of Plant Registrations 3:269-272.

INVITED BOOK CHAPTER

1. Murphy KM, **Carter AH**, Jones SS 2013. Evolutionary breeding and climate change. Chapter 9, pp 377-389. *In* C. Kole ed, Genomics and Breeding for Climate-Resilient Crops, Vol. 1 Concepts and Strategies. Springer-Verlag Berlin Heidelberg.

2. **Carter AH**, Walker CA, Kidwell KK 2010. Chapter 2: Breeding for dual-purpose hard white wheat in the US: Noodle and Pan breads. pp 25-56. *In* G. Hou ed, Asian Noodles: Science, Technology, and Processing. John Wiley & Sons, Inc.