REZA KESHAVARZ AFSHAR

Research and Extension Agronomist
Western Colorado Research Center, Colorado State University
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EDUCATION

- Ph.D. in Agronomy. 2014. Department of Agronomy, University of Tehran, Iran. Dissertation title: Effect of soil organic amendments and deficit irrigation regimes on ecophysiological characteristics of milk thistle.
- Master of Science in Agronomy. 2010. Department of Agronomy, University of Tehran, Iran. Thesis title: Effect of Phosphate Solubilizing Bacteria on forage yield and quality of turnip under limited irrigation regimes
- Bachelor of Science in Agriculture (Agronomy and Plant Breeding), 2006. Azad University, Tehran, Iran.

RESEARCH AREAS OF INTEREST

- Sustainable cropping systems with emphasis on water and nutrient management, and environmental protection.
- Conservation agriculture with emphasis on reduced tillage, cover cropping, and soil health.
- Viability and profitability of cropping systems through diversification.
- New and alternative crops.
- Developing and applying decision support tools

PROFESSIONAL EXPERIENCE

- Oct 2017-present: Research and Extension Agronomist (Research Scientist II), Western Colorado Research Center, Colorado State University, Fruita CO (65% Research, 35% Extension appointment)
- Dec 2014- Oct 2017: Postdoctoral Research Associate, Eastern Agricultural Research Center, Montana State University, Sidney, MT.
- Feb 2013- Dec 2014: Research Fellow: Stockbridge School of Agriculture, University of Massachusetts-Amherst, Amherst, MA.

- Sep 2008- Feb 2014: Graduate Research Associate and Teaching Assistant, Department of Agronomy, University of Tehran, Iran.
- Oct 2011- Feb 2013: Agronomist (part time), Sina Seed and Plant Co., Karaj, Iran.
- May 2007- Feb 2008: Intern, Agriculture and Natural Resources Engineering Organization, Tehran, Iran.
- Feb 2005- May 2007: Agronomist: Parchin Gostaran Armand Co., Tehran, Iran.

PUBLICATIONS

Google Scholar profile: https://scholar.google.com/citations?user=ilOZV3AAAAAJ&hl=en

ResearchGate profile: https://www.researchgate.net/profile/Reza_Keshavarz_Afshar

ORCID ID: https://orcid.org/0000-0002-2379-948X

Peer-reviewed journal articles

1) **Keshavarz Afshar, R**., Chen, C., Eckhoff, J., Flynn, C. 2018. Impact of a living mulch cover crop on sugarbeet establishment, root yield and sucrose purity. *Field Crops Research*, 223:150-154. https://doi.org/10.1016/j.fcr.2018.04.009
2) Obour, A. K., Chen, C., Sintim, H. Y., McVay, K., Lamb, P., Obeng, E., Mohammed, Y., **Keshavarz Afshar, R.** Zheljazkov, V. D., 2018. *Camelina sativa* as a fallow replacement crop in wheat-based crop production systems in the US Great Plains. *Industrial Crops and Products*, *111*, 22-29.
3) Huang, Q., **Keshavarz Afshar, R**., Tao, A., Chen, C. 2017. Efficacy of starter N fertilizer and rhizobia inoculant in dry pea (*Pisum sativum* Linn.) production in a semi-arid temperate environment. *Soil Science and Plant Nutrition.* DOI: 10.1080/00380768.2017.1315834
4) Golzardi, F., Baghdadi, A., **Keshavarz Afshar, R.,** 2017. Alternate furrow irrigation affects yield and water use efficiency of maize under deficit irrigation. *Crop and Pasture Science*. https://doi.org/10.1071/CP17178
5) Mohammed, Y., Lamb, P., Chen, C., **Keshavarz Afshar, R**. 2017. Agronomic evaluation of camelina (*Camelina sativa* L. Crantz) cultivars for biodiesel feedstock. *BioEnergy Research*. DOI 10.1007/s12155-017-9840-9
6) Tao, A., Huang, L., Wu, G., **Keshavarz Afshar, R.,** Qi, J., Xu, J., Fang, P Lin, L., Zhang, L., Lin, P. 2017. High-density genetic map construction and QTLs identification for plant height in white jute (*Corchorus capsularis* L.) using specific locus amplified fragment (SLAF) sequencing. *BMC Genomics*. 18:355. DOI 10.1186/s12864-017-3712-8
7) Tao, A., **Keshavarz Afshar, R**., Huang, Q., Espeo, M., Mohammed, Y., Chen, C., Environmental, agronomic, and genetic factors influencing dry pea yield, starch, and protein prediction. *Agronomy Journal*. DOI: 10.2134/agronj2016.07.0401

8) **Keshavarz Afshar, R**., Lin, L., Mohammed, Y., Chen, C. 2017. Agronomic effects of urease and nitrification inhibitors on ammonia volatilization and nitrogen utilization in a dryland farming system: Field and laboratory investigation. *Journal of Cleaner Production*. DOI: 10.1016/j.jclepro.2017.01.105
9) Chaichi, M.R., **Keshavarz Afshar, R**., Lu, B., Rostamza, M. 2017. Growth and nutrient uptake of tomato in response to application of saline water, biological fertilizer and surfactant. *Journal of Plant Nutrition.* 40: 457–466. http://dx.doi.org/10.1080/01904167.2016.1246567
10) Huang, Q., **Keshavarz Afshar, R**., Chen, C. 2016. Response of lentil to nitrogen fertilizer and rhizobia inoculation. *Communications in Soil Science and Plant Analysis. 47*: 2458-2464. DOI: 10.1080/00103624.2016.1254786.
11) **Keshavarz Afshar, R**., Mohammed, Y., Chen, C. 2016. Enhanced efficiency nitrogen fertilizer effect on camelina production under conventional and conservation tillage practices. *Industrial Crops and Products*. 94: 783–789. http://dx.doi.org/10.1016/j.indcrop.2016.09.043
12) Mohammed, Y., **Keshavarz Afshar, R**., Chen, C. 2016. Nutrient requirement of camelina for biodiesel feedstock in central Montana. *Agronomy Journal*. DOI: 10.2134/agronj2016.03.0163.
13) Hajighasemi, S., **Keshavarz Afshar, R**., Chaichi, M.R. 2016. Nitrogen fertilizer and seeding rate influence on dual-purpose barley. *Agronomy Journal*, 108:1486–1494. DOI: 10.2134/agronj2015.0447.
14) Chaichi, M.R., **Keshavarz Afshar, R.,** Saberi, M., Rostamza, M. 2016. Alleviation of salinity and drought stress in corn production using a non-ionic surfactant. *Journal of Animal and Plant Sciences*. 26:1042-1047.
15) **Keshavarz Afshar, R**., Hashemi, M., DaCosta, M., Spargo, J., Sadeghpour, A. 2016. Biochar application and drought stress effects on physiological characteristics of *Silybum marianum*. *Communications in Soil Science and Plant Analysis,* 47: 743–752. DOI: 10.1080/00103624.2016.1146752.
16) Jahanzad, E., Sadeghpour, A., Hashemi, M., **Keshavarz Afshar, R**., Hosseini, M. B., Barker, A.V. 2015. Silage fermentation profile, chemical composition and economic evaluation of millet and soya bean grown in monocultures and as intercrops. *Grass and Forage Science,* DOI: 10.1111/gfs.12216.
17) **Keshavarz Afshar, R**., Mohammed, Y., Chen, C. 2015. Energy balance and greenhouse gas emissions of dryland camelina as influenced by tillage and nitrogen. *Energy,* 91: 1057–1063. DOI: 10.1016/j.energy.2015.07.136.
18) **Keshavarz Afshar, R**., Chen, C. 2015. Intensification of a dryland cropping system for bio-feedstock production: Energy analysis of camelina. *BioEnergy Research,* 8: 1877-1884. DOI: 10.1007/s12155-015-9644-8.
19) Dai, I., **Keshavarz Afshar, R**., Chen, C., Miller, P., Kephart, K., McVay, K., Lamb, P., Miller, J., Bohannon, B., Knox, M. 2015. Multi environmental evaluation of dry pea and lentil cultivars in Montana using AMMI model. *Crop Science,* 56: 520-529. DOI: 10.2135/cropsci2015.01.0032.

20) Dadrasan, M., Chaichi, M.R., Porbabaee, A.A., Yazdani, D., **Keshavarz Afshar, R**. 2015. Deficit irrigation and biological fertilizer influence on yield and trigonelline production of fenugreek. *Industrial Crops and Products,* 77: 156–162. DOI:10.1016/j.indcrop.2015.08.040.

21) Jahanzad, E., Sadeghpour, A., Hoseini, M.B., Barker, A.V., Hashemi, M., **Keshavarz Afshar, R**. 2015. Competition, nitrogen use efficiency, and productivity of millet-soybean intercropping in semiarid conditions**.** *Crop Science,* 55: 2842-2851. DOI: 10.2135/cropsci2015.02.0130.

22) Chen, C., Bekkerman, A., **Keshavarz Afshar, R**. Neill, M. 2015. Intensification of a dryland cropping system for bio-feedstock production: Evaluation of agronomic and economic benefits of *Camelina sativa*. *Industrial Crops and Products,* 71: 114–121. DOI: 10.1016/j.indcrop.2015.02.065.

23) **Keshavarz Afshar, R**., Chaichi, M.R., Ansari Jovini, M., Jahanzad, E., Hashemi, M. 2015. Accumulation of phenolic compounds in milk thistle seeds under drought stress. *Planta,* 242: 539-543. DOI 10.1007/s00425-015-2265-9.

24) **Keshavarz Afshar, R**., Chaichi, M.R., Alipour, A., Dashtaki, M., Hashemi, M. 2015. Potential of milk thistle for biomass production in a semiarid environment. *Crop Science,* 55: 1295-1301. DOI: 10.2135/cropsci2014.10.0678.

25) **Keshavarz Afshar, R**., Chaichi, M.R., Rezaei, K., Asareh, M.H., Hashemi, M. 2015. Irrigation regime and soil organic fertilizers influence on oil content and fatty acid composition of milk thistle seeds. *Agronomy Journal,* 107: 187-194. DOI: 10.2134/agronj14.0368.

26) **Keshavarz Afshar, R**., Ansari Jovini, M., Chaichi, M.R., Hashemi, M. 2014. Grain sorghum response to Arbuscular mycorrhiza and phosphorus fertilizer under deficit irrigation. *Agronomy Journal*, 106: 1212-1218. DOI: *10.2134/agronj13.0589.*

27) **Keshavarz Afshar, R**., Chaichi, M.R., Asareh, M.H., Hashemi, M., Liaghat, A. 2014. Interactive effect of deficit irrigation and soil organic amendments on seed yield and flavonolignan production of milk thistle (*Silybum marianum* L. Gaertn.). *Industrial Crops and Products*, 58: 166-172. DOI: 10.1016/j.indcrop.2014.03.043.

28) Jahansuz, M.R., **Keshavarz Afshar, R**., Heidari Zooleh, H. 2014. Evaluation of yield and quality of sorghum and millet as alternative forage crops to corn under normal and deficit irrigation regimes. *Jordan Journal of Agricultural Sciences*, 10: 699-714.

29) Javanmard, T., Zamani, Z., **Keshavarz Afshar, R**., Hashemi, M., Struik, P. 2014. Seed washing, exogenous application of gibberellic, acid and cold stratification enhance germination of sweet cherry (*Prunus avium* L.) seeds. *Journal of Horticultural Science and Biotechnology,* 89: 74-78. DOI: 10.1080/14620316.2014.11513051.

30) **Keshavarz Afshar, R**., Alipour, A., Hashemi, M., Ansari Jovini, M., Pimentel, D. 2013. Energy input- yield relationship and sensitivity analysis of pistachio (*Pistacia vera* L.) production in Markazi region of Iran. *Spanish Journal of Agricultural Research,* 11: 661-669. DOI: 10.5424/sjar/2013113-3877.

31) **Keshavarz Afshar, R**., Chaichi, M. R., Moghadam, H., Ehteshami, S.M.R. 2012. Irrigation, phosphorus fertilizer, and phosphorus solubilizing microorganism effects on yield and forage quality of turnip in an arid region of Iran. *Agricultural Research,* 1: 370-378. DOI: 10.1007/s40003-012-0039-1
32) Chaichi, M.R., **Keshavarz Afshar, R**., Ghanbarzadeh, S. 2014. Date of planting and seeding rate effects on quantitative and qualitative characteristics of turnip in agroforestry compared to monocropping systems. *Agroecology,* 6: 84-96. (In Farsi)
33) Ghalegolab Behbahani, A., Nassiri Mahallati, M., **Keshavarz Afshar, R.,** Alipour Jahangiri, A., Pazoki, A., Safa, H., Kariminejad, M., 2014. Assessing the status of agrobiodiversity through calculation of species richness index using the method of rarefaction (A case study: ShahreRey city located in south of Tehran, Iran). *Agroecology*, 6(2): 199-208. (In Farsi)
34) Alipour, A., **Keshavarz Afshar, R.,** Karimi Nejad, M., Ghalegolab Behbahani, A., Mohammadi, M., 2013. Evaluation of energy flows in irrigated wheat agroecosystems. A case study: ShahreRey City. *Journal of sustainable Agriculture and Production Science*. 23(3):59-69. (In Farsi)
35) **Keshavarz Afshar, R.,** Keikhah, M., Chaichi, M.R., Ansari Jovini, M. 2013. Effect of different levels of salinity and drought stress on seed germination characteristics and seedling growth of forage turnip (*Brassica rapa* L.). *Iranian Journal of Field Crop Science*, 43(4):661-671. (In Farsi)
36) Ansari, M., Chaichi, M.R., **Keshavarz Afshar**, R. 2012. Effect of different soil fertilization methods (organic, chemical, and integrated fertilizers) on yield and yield components of turnip (*Brassica rapa*). *Journal of Crop Production,* 4: 121-138. (In Farsi)
37) **Keshavarz Afshar, R.,** Chaichi, M.R., Alipour Jahangiri, A., Ansari Jovini, M., Moghaddam, H., Ehteshami, S.M.R., Khavazi, K. 2011.Effects of foliar application of plant growth promoting rhizobacteria on forage and grain yield of forage sorghum (var. Speed feed). *Iranian Journal of Field Crop Science*, 42(3): 575-584. (In Farsi)
38) Ansari Jovini, M., Chaichi, M.R., **Keshavarz Afsahr, R.,** Ehteshami, S.M.R. 2011. Effects of different plant growth promoting rhizobacteria (PGPR) application methods on forage production in sorghum (sorghum bicolor var. Speed feed). *Iranian Journal of Field Crop Science*, 42(2): 329-337. (In Farsi)

In-review or in preparation

1) Biabani, A., Feroughi, A., Karizaki, AR., Rasam, G., Dezfuli, A., **Keshavarz Afshar, R**., Relationship among physiological traits, yield, and yield components in canola. In review, European journal of Agronomy
2) **Keshavarz Afshar, R**., Nilahyane, A., Chen, C., He, H., Stevens, W.B., Iversen, W. Impact of conservation tillage and nitrogen on sugarbeet yield and quality. In review, Soil and Tillage Research

3) Nilahyane, A**.,** Chen, C., **Keshavarz Afshar, R.,** Sustainable water and nitrogen management of sprinkler-irrigated sugarbeet. In review, Agricultural Water Management
4) Hashemi, M., Samanta, S., Sadeghpour, A., Jahanzad, E., **Keshavarz Afshar, R**., Sixty years of research on intercropping: opportunities and challenges. Review paper. In review, Advances in Agronomy.
5) **Keshavarz Afshar, R**., Allen, B., Chen, C. Optimum seeding rate and seeding date for camelina in dryland systems. Ready for submission to Agronomy
6) **Keshavarz Afshar**, Chen, C., He, H., Sadeghpour, A. Bread wheat and durum wheat responded differently to nitrogen rate, method, and application timing. Ready for submission to Agronomy Journal.

Extension Publications and Reports

1) **Keshavarz Afshar, R.,** Haley, S., Gobo, K, Johnson, N. 2018 Dryland winter wheat trial. Western Colorado Research Center, August 2018. CSU Extension
2) **Keshavarz Afshar, R.,** Cabot, P., Gobo, K, Johnson, N. 2018 Alfalfa variety trial. Western Colorado Research Center, Oct 2018. CSU Extension
3) **Keshavarz Afshar, R**., Ogg, B., Urbanowidtz, S., Fry, J., Johnson, N. 2018 irrigated pinto bean variety trial in Delta, Colorado. Oct 2018. CSU Extension
4) Chen, C., Huang, J., **Keshavarz Afshar, R**. 2017. Starter N Fertilizer and Rhizobia Inoculant Effects on Dry Pea. *Montana Fertilizer eFACTS No.73. Montana State University Extension*. January 2017. http://landresources.montana.edu/fertilizerfacts/documents/FF73PeaStarterNInoc.pdf
5) **Keshavarz Afshar, R.,** Chen, C. 2017. Biofortification of Spring Wheat and Durum with Zinc to Improve Yield and Nutritional Quality. *Montana Fertilizer eFACTS No.74, Montana State University Extension.* January 2017. http://landresources.montana.edu/fertilizerfacts/documents/FF74ZnWheatYieldConc.pdf
6) Weis, S., Spargo, J., **Keshavarz, R**., Hashemi, M., Hazzard, R. 2014. Growing Wheat in Massachusetts? An investigation into timing of nitrogen fertilization. *Crops, Dairy, Livestock, and Equine Newsletter*, 17 (3): 4-7.
7) Hashemi, M., Weis, S., **Keshavarz, R**. 2014. 2013 Massachusetts Corn Hybrid Evaluation. Available online at: http://ag.umass.edu/sites/ag.umass.edu/files/researchreports/MA%20Corn%20Hybrid%20Report%20-%202013_0.pdf

Oral and Poster Presentations at scientific meetings

1) **Keshavarz Afshar,** R., Cabot, P., Gobo, K., Fry, J., Short Term Impact of Tillage and Residue Management on Crop Yield in a Continuous Corn Cropping System. ASA-CSSA 2018 International Annual Meeting, Nov. 04-08, Baltimore, MD.
2) Chen, C., Nilahyne, A., **Keshavarz Afshar,** R., Nitrogen and Water Management of Sugarbeet under No-till. ASA-CSSA 2018 International Annual Meeting, Nov. 04-08, Baltimore, MD.
3) Chen, C., **Keshavarz Afshar, R**., Mohammed, YA., Intensified Dryland Cropping Systems for Food and Biofuel Feedstock Production. The 4th World Congress on New Technologies. 19 - 21 Aug 2018, Madrid, Spain
4) **Keshavarz Afshar,** R., Chen, C., Stevens, W., Iversen, W., Sugar Beet Yield and Quality Response to Irrigation Management. ASA-CSSA-SSSA 2017 International Annual Meeting, Oct. 22-26, Tampa, FL.
5) Pradhan, G., Teboh, J., Chen, C., Bergman, J., Staricka, J., Link, A., Link, E., **Afshar, RK**., Dragseth, K., Weltikol, D., Interaction Effects of Sulfur and Nitrogen Fertilization on Physiology and Yield of Spring Wheat Under Semi-Arid No-till Condition. ASA-CSSA-SSSA 2017 International Annual Meeting, Oct. 22-26, Tampa, FL.
6) **Keshavarz Afshar,** R., Chen, C., Stevens, W., Iversen, W., Response of Sugar Beet to Nitrogen Rate While Shifting from Conventional Tillage to Conservation Tillage. ASA-CSSA-SSSA 2017 International Annual Meeting, Oct. 22-26, Tampa, FL.
7) Chen C., **Keshavarz Afshar**, R., Conservation Tillage and Nitrogen Management for Sugarbeet Production. 3rd World Congress on New Technologies., June 6 - 8, 2017 Barceló Aran Mantegna, Rome, Italy
8) **Keshavarz Afshar, R.,** Chen, C. Early-season intercropping of sugarbeet with barley, lentil, and camelina to improve establishment and yield. ASA-CSSA-SSSA 2016 Annual Meeting, Nov. 6-9, Phoenix, AZ.
9) **Keshavarz Afshar, R.,** Mohammed, Y., Lamb, P., Beckerman, A., Chen, C. Diversification of wheat-based dryland cropping systems in the northern great plains: food production potential and economic incentive. ASA-CSSA-SSSA 2016 Annual Meeting, Nov. 6-9, Phoenix, AZ.
10) Pradhan, G., Teboh, J., Chen, C., Bergman, J., Staricka, J., Link, E., Link, A., **Afshar, R K.**, Garza, R., Dragseth, K. Impacts of sulfur, nitrogen, and their interaction on soil moisture, physiology, growth, and yield of no-till dryland spring wheat. ASA-CSSA-SSSA 2016 Annual Meeting, Nov. 6-9, Phoenix, AZ.
11) Liu, L., Hua, S., Liu, Z., Huang, F., **Keshavarz Afshar, R.,** Chen, C. Biomass estimation and spatial distribution of maize root in China. ASA-CSSA-SSSA 2016 Annual Meeting, Nov. 6-9, Phoenix, AZ.

12) **Keshavarz Afshar, R.,** Chen, C. Yield and yield components of winter camelina (*Camelina sativa* L. Crantz) in response to seeding date and rate. 28th Annual Meeting of the Association for the Advancement of Industrial Crops. 24-28 September, Rochester, NY.
13) **Keshavarz Afshar, R**., Mohammed, Y., Chen, C. Intensified dryland cropping systems for biomass feedstock production. 24th European Biomass Conference and Exhibition. June 6-9, 2016, Amsterdam, the Netherland.
14) Chen, C., **Keshavarz Afshar, R**., Intensified dryland cropping systems for food and fuel production. 2015 Western Society of Crop Science Annual Meeting June 16-17, Logan, UT.
15) Tao, A., **Keshavarz Afshar, R**., Mohammed, Y., Chen, C., Genotype and environment effects on yield, starch, and protein of dry peas. 2015 Western Society of Crop Science Annual Meeting June 16-17, Logan, UT.
16) Tao, A.F., **Keshavarz Afshar, R**., Mohammed, Y.A., Chen, C. 2015. Genotype and environment effects on yield, starch, and protein of dry peas. North American Pulse Improvement Association 2015 meeting, Nov. 4-6, 2015. Niagara Falls, Ontario, Canada.
17) Mohammed, Y.A., Chen, C., **Keshavarz Afshar, R**. 2015. Nutrient requirement of camelina (*Camelina sativa* L.) as a bioenergy feedstock. ASA-CSSA-SSSA 2015 Meeting, Nov. 15-18, Minneapolis, MN.
18) **Keshavarz Afshar, R**., Mohammed, Y.A., Chen, C. 2015. Energy balance and greenhouse gas emission of dryland camelina as influenced by tillage and nitrogen. ASA-CSSA-SSSA 2015 Meeting, Nov. 15-18, Minneapolis, MN.
19) **Keshavarz Afshar, R**., Chaichi, MR., Hashemi, M., Ghanbarzadeh, S., Feasibility of growing forage turnip in agroforestry compared with mono-cropping. Northeastern Branch CSA Annual Meeting-2013 University of Delaware, Newark, Delaware June 23-26, 2013
20) **Keshavarz Afshar, R**., Hashemi, M., Ansari Jovini, M., Chaichi, MR., Alipour, A., Response of grain sorghum yield to scheduled deficit irrigation when phosphorous fertilizer is substituted by arbuscular mycorrhizal fungi and phosphate solubilizing bacteria. Northeastern Branch CSA Annual Meeting-2013 University of Delaware, Newark, Delaware June 23-26, 2013.
21) **Keshavarz Afshar, R**., Chaichi, MR., Moghadam, H., Ehteshami, SMR. Effects of phosphorus solubilizing bacteria on turnip forage production at limited irrigation system. International Conference on Organic Agriculture in Scope of Environmental Problems. February 3-7 2010, Famagusta- Cyprus Island.

GRANT ACTIVITIES

Funded ($410,518)

1) **Keshavarz Afshar, R (PI),** Russell, K., Uchanski, M., Larson, K., Ogg, B. Production Potential of Cool-season grain legumes in Colorado: experimental and modeling approach. Submitted to 2018 Colorado Specialty Crop Block Grant ($52,640)
2) **Keshavarz Afshar (PI)**, Khosla, R., Cabot, P. Sensor-Based Precision Nitrogen Management in Wheat to Enhance Agronomic and Economic Efficiency. Submitted to Colorado Wheat Research Foundation ($12,000)
3) Chen, C., **Keshavarz Afshar, R (CO-PI),** Improving Yield and Quality of Spring Wheat by Cropping Systems and Management Strategies. Montana Wheat and Barley Committee ($39,676).
4) Chen, C., **Keshavarz Afshar, R (CO-PI)**., Stevens, B., Fine, T. Research and demonstration of minimum tillage and optimum water and nitrogen management in sugarbeet production in Eastern Montana. Western SARE ($247,407).
5) Chen, C., **Keshavarz Afshar, R (CO-PI).** Optimization of nitrogen management in sugarbeet under no-till. Montana Fertilizer Advisory Committee ($58,795).

Grants from Industries

Total of $12500 in 2018.

Not Funded

1) **Keshavarz Afshar (PI),** Cabot, P., Ippolito, J., Research and demonstration on conservation agricultural practices to enhance soil health and provide economic incentive for corn growers. Submitted to Colorado Corn Administrative Committee. $154,021.
2) **Keshavarz Afshar (PI)**, Uchanski, M., Cabot, P., Urbanowidtz, S., Optimizing nitrogen management in onion. Submitted to International Plant Nutrition Institute ($260,000)
3) **Keshavarz Afshar (PI), et al.,** Building conservation through integrating agroecological principles into conventional cropping systems: a whole-system assessment. Submitted to 2018 NRC Conservation Innovation Grant. $625,000.
4) **Keshavarz Afshar, R (PI).,** Cabot, P., Broders, K., Developing an Integrated Pest Management Approach for Alfalfa Stem Nematode. Submitted to USDA-NIFA Crop Protection and Pest Management Competitive Grants Program. $210,000.
5) **Keshavarz Afshar, R (PI).,** Cabot, P., Judson, F., Integrating dual-purpose cover crops into Colorado cropping systems to improve agronomic efficiency and rebuild soil health. Western SARE. Preproposal (no budget was requested).
6) Sadeghpour, A., Gage, C., **Keshavarz Afshar, K (CO-PI)**., Cabot, P., Interseeding technology for increasing canola adoption in east and west of Corn Belt. 2018. USDA/NIFA-SACC. $206,000.

7) Chen, C., **Keshavarz Afshar, R (CO-PI)** Yield gap analysis of wheat in Montana and potential impacts of climate change on the state wheat industry. Montana Wheat and Barley Committee 2016 grant funding ($34,375).
8) Chen, C. **Keshavarz Afshar, R (CO-PI)**., Developing a suitable framework for growing pulse crops under irrigation. Northern Pulse Growers Association ($76,972).
9) Chen, C., **Keshavarz Afshar, R (CO-PI).,** Pradhan, G., Improving sustainability and viability of the U.S pulse industry through diversification. USDA-NIFA SCRI 2017. ($1,500,000).

OUTREACH (FORMAL PRESENTATION)

- Cover Crops to improve soil health in western Colorado. 2019 Western Colorado Soil Health Conference, Feb 2019, Delta, Colorado
- Cropping system for efficient use of irrigation water- Colorado State University-extension Water Research Workshop-Oct 16, 2018- Steamboat Springs, CO
- Dual purpose cover crops to enhance soil health, 2018 Western Colorado Soil Health Conference, Feb 2018, Delta, Colorado
- An update on new varieties of pinto bean. Western Colorado Research Center Dry Bean Field Day. Aug 2018. Delta CO
- 2018 WCRC Dry Bean Field day. August 8, 2018. Delta, CO
- No-till management in sugarbeet. EARC field day 2017. July 19, 2017.
- Improving yield and quality of wheat through zinc application. Sidney ARS and EARC Dryland Field Day, June 23, 2017.
- Camelina seeding date and seeding rate evaluation. Field day for USDA-ARS Northern Plains Agricultural Research Laboratory in Froid Research Farm, 23 June 2016.
- Macro and micronutrient management for improving yield and quality of wheat. Field day for Eastern Agricultural Research Center of Montana State University, dryland farm, 24 June 2016.
- No-till management in sugarbeet production. Field day of Eastern Agricultural Research Center of Montana State University, irrigated farm, 30 June 2016.

PROFESSIONAL AFFILIATIONS

- American Society of Agronomy
- Crop Science Society of America
- Soil Science Society of America
- Association for the Advancement of Industrial Crops

PROFESSIONAL SERVICES

Editorial Board Member: Journal of Integrative Agriculture.

Journal Reviewer

Agronomy Journal, Journal of Cleaner Production, Field Crops Research, Industrial Crops and Products, Crop Science, Agronomy MDPI, Journal of Soil and Water Conservation, Archives of Agronomy and Soil science, Journal of the Science of Food and Agriculture, Crop Journal, Environmental Monitoring and Assessment, Sustainability, Canadian Journal of Plant Sciences, International Journal of Recycling of Organic Waste in Agriculture, etc.

https://publons.com/researcher/643436/reza-keshavarz-afshar/