

**Associate Professor (Tenured)**

Department of Food Science & Technology,
 Faculty of Nutrition Sciences
[The University of Agriculture, Peshawar – Pakistan](http://www.aup.edu.pk)



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More than 19 years experience in Research and Teaching

Education

| | | |
|----------------|---|------|
| Postdoc | Cornell University, USA | 2023 |
| PhD | Massey University, New Zealand Food Technology | 2014 |
| MSc(H) | The University of Agriculture Peshawar - Pakistan Food Science & Technology | 2005 |
| BS | The University of Agriculture Peshawar - Pakistan Food Science & Technology | 2003 |

Teaching & Research Experience

| S. No | EMPLOYER | DESIGNATION | DURATION |
|-------|--|--|----------------------------|
| 1 | The University of Agriculture, Peshawar - Pakistan. | Associate Professor (Tenured) (Dept. of Food Sci. & Tech.) | April 2021 till date |
| 2 | Cornell University, United States | Visiting Assistant Professor Postharvest Science | January 2023 till Oct 2023 |
| 3 | The University of Agriculture, Peshawar - Pakistan. | Assistant Professor (TTS) (Dept. of Food Sci. & Tech.) | Dec 2014 to April 2021 |
| 4 | The University of Agriculture, Peshawar. | Lecturer (BPS-18) (Dept. of Food Sci. & Tech.) | April 2010 to Nov 2014 |
| 5 | Agricultural Research Institute Tarnab, Peshawar Pakistan. | Research Officer (BPS-17) (Food Technology) | Dec. 2005 to March 2010 |
| 6 | Amrat Beverages International Islamabad Pakistan. | Quality Controller | July. 2004 to Dec. 2005 |
| 7 | Pakistan Mineral Water Bottling Plant (Pvt) Ltd. Gadoon Amazai, Swabi, Pakistan. | Quality Control Chemist | July 2003 to July 2004 |

EXPERTISE IN

- Conducting research on non-chemical, environmentally friendly postharvest methods to increase the storage life of fruits and vegetables.
- Conducting research on food preservation, food processing, product development, and human nutrition.

- Maintaining close liaison with other scientists and industries working in the field of Food & Agriculture.
- Encouraging the participation of women in the mainstream of agricultural development through gender awareness and training.
- Training farm families in improving post-harvest management techniques to enhance their livelihood.
- Teaching graduate, postgraduate, and PhD classes.
- Supervising graduate, postgraduate, and PhD students' research work.

COURSES TAUGHT

| S.NO. | Semester | Level | Course No | Course Title |
|-------|-------------|--------|-----------|---|
| 1 | Fall 2014 | BSc(H) | FST-512 | Food Process Engineering |
| 2 | = | BSc(H) | FST-515 | Food Laws & Regulations |
| 3 | Spring 2015 | BSc(H) | FST-605 | Poultry and Egg Processing |
| 4 | = | BSc(H) | FST-301 | Intro. to Food Science & Technology |
| 5 | Fall 2015 | BSc(H) | FST-515 | Food Laws & Regulations |
| 6 | = | BSc(H) | FST-613 | Food Toxicology |
| 7 | Spring 2016 | BSc(H) | FST-712 | Food Enzymology |
| 8 | = | BSc(H) | FST-605 | Poultry and Egg Processing |
| 9 | = | BSc(H) | FST-301 | Intro. to Food Science & Technology |
| 10 | = | BSc(H) | FSAC-1003 | Food Microbiology |
| 11 | Fall 2016 | BSc(H) | FST-515 | Food Laws & Regulations |
| 12 | = | MSc(H) | FST-714 | Recent Advances in Food Sci. & Tech. |
| 13 | = | PGDC | FSAC-1009 | Food Inspection, Investigation and Judgment |
| 14 | Spring 2017 | BSc(H) | FST-605 | Poultry and Egg Processing |
| 15 | = | BSc(H) | FST-301 | Intro. to Food Science & Technology |
| 16 | Fall 2017 | BSc(H) | FST-301 | Intro. to Food Science & Technology |
| 17 | = | BSc(H) | FST-515 | Food Laws & Regulations |
| 18 | = | MSc(H) | FST-714 | Recent Advances in Food Sci. & Tech. |
| 19 | Spring 2018 | BSc(H) | FST-605 | Poultry and Egg Processing |
| 20 | = | MSc(H) | FST-703 | Milling of Cereals |
| 21 | = | PhD | FST-717 | Advanced Food Microbiology |
| 22 | Fall 2018 | BSc(H) | FST-515 | Food Laws & Regulations |
| 23 | = | MSc(H) | FST-714 | Recent Advances in Food Sci. & Tech. |
| 24 | = | PhD | FST-712 | Food Enzymology |

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|----|-------------|--------|-----------|--------------------------------------|
| 25 | Spring 2019 | BSc(H) | FST-502 | Postharvest Technology |
| 26 | = | MSc(H) | FST-703 | Milling of Cereals |
| 27 | Fall 2019 | BSc(H) | FST-515 | Food Laws & Regulations |
| 28 | = | BSc(H) | FST-502 | Postharvest Technology |
| 29 | = | MSc(H) | FST-714 | Recent Advances in Food Sci. & Tech. |
| 30 | = | PGDC | FSAC-1002 | Food of Plant Origin |
| 31 | Spring 2020 | BSc(H) | FST-502 | Food Laws & Regulations |
| 32 | = | MSc(H) | FST-703 | Milling of Cereals |
| 33 | Fall 2020 | BSc(H) | FST-515 | Postharvest Technology |
| 34 | = | MSc(H) | FST-714 | Recent Advances in Food Sci. & Tech. |
| 35 | Spring 2021 | BSc(H) | FST-502 | Food Laws & Regulations |
| 36 | = | MSc(H) | FST-703 | Milling of Cereals |
| 37 | Fall 2021 | BSc(H) | FST-515 | Postharvest Technology |
| 38 | = | MSc(H) | FST-714 | Recent Advances in Food Sci. & Tech. |
| 39 | Spring 2022 | BSc(H) | FST-502 | Food Laws & Regulations |
| 40 | = | MSc(H) | FST-703 | Milling of Cereals |
| 41 | Fall 2022 | BSc(H) | FST-515 | Postharvest Technology |
| 42 | = | MSc(H) | FST-714 | Recent Advances in Food Sci. & Tech. |
| 43 | Spring 2022 | BSc(H) | FST-502 | Food Laws & Regulations |
| 44 | = | MSc(H) | FST-703 | Milling of Cereals |

RESEARCH

Independent Research Projects as PI

| S.No. | Project title | Funded by | Budget (PKR million) | Status |
|-------|---|---|----------------------|-----------|
| 1 | Efficacy of hypobaric treatment in controlling postharvest diseases in peach fruit. | Higher Education Commission of Pakistan (HEC) | 0.5 | Completed |
| 2 | Integration of 1-MCP and hypobaric treatments to enhance the storage life of apple fruit. | Higher Education Commission of Pakistan (HEC) | 9.2 | Completed |

Students Supervision

Postgraduate PhD students

| S. No. | Student Name | Supervisor /Member | Title | Session | Status |
|--------|---------------|--------------------|---|---------|-----------|
| 1 | Sadiq Shah | Supervisor I | Efficacy of edible coating and thyme oil in reducing postharvest fungal decay of mango fruit. | 2015-20 | Completed |
| 2 | Haris Bilal | Supervisor I | Effectiveness of selected Essential oils and Edible salts on postharvest physiological defects of mango fruit. | 2019-22 | Completed |
| 3 | Rukhsar Ali | Supervisor II | Development and storage study of low caloric products prepared from mango and loquat blended pulp using stevia sweetener. | 2015-18 | Completed |
| 4 | Murad Ali | Supervisor II | Food safety perspective: Evaluation of the quality attributes of different frying mediums used in frying of traditional chapli kabab. | 2015-18 | Completed |
| 5 | Qaisar Sultan | Supervisor II | Influence of selected essential oils on postharvest storage life of apricot fruit. | 2018-21 | Completed |

MSc. (Hon)/M.Phil. (Completed)

| S.No. | Name of Student | Topic of Research | Session |
|-------|---------------------|---|---------|
| 1 | Akhunzada Bilawal | Effect of edible gums, glycerin and calcium lactate treatment on post harvest quality of guava fruit | 2014-15 |
| 2 | Mr. Ismail Khan | Comparative study of Bees wax coating and CaCl ₂ dipping on the overall quality of apple fruit | 2014-15 |
| 3 | Mr. Nasir Amir | Effect of different edible oil coating on the postharvest storage life on mango fruit | 2014-15 |
| 4 | Mr. Zahid Jan | Quality analysis of raw milk commercially available in Peshawar city. | 2015-16 |
| 5 | Mr. Zeeshan Maqbool | Effect of Calcium Chloride treatments on postharvest storage life of pear fruit. | 2015-16 |
| 6 | Muhammad Adnan Khan | Development and storage study of orange-date blended squash | 2016-17 |
| 7 | Hammad Ullah | Effect of edible coating and glycerin on the postharvest quality | 2016-17 |
| 8 | Ghulam Abbas | To study the effectiveness of hypobaric treatment and salicylic acid on fungal decay of peach fruit | 2016-17 |
| 9 | Shahab Ali | Influence of apple peel extract on the overall quality of apple drink. | 2015-16 |
| 10 | Kamran Ud Din | Effect of hypobaric treatment and salicylic acid on storage stability of apricot fruit | 2016-17 |
| 11 | Mehboob Ali | Effect of bee wax, paraffin and aloe vera gel coating on the quality of cucumber during storage | 2015-16 |
| 12 | Guli Shah | Combined effect of Salicylic acid and calcium chloride on the storage life of onion | 2017-18 |

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| 13 | Mehboob Ali | Combined effect of 1-MCP with bee wax on plum quality during cold storage | 2017-18 |
| 14 | Hammad Wahab | Evaluation of ready to serve persimmon drink with added cocoa powder | 2017-19 |
| 15 | Muhammad Abid | Impact of calcium chloride and Aloe vera gel on the overall quality of peach fruit | 2017-18 |
| 16 | Tauqeer-ul-Haq | Effect of salicylic acid and hot water treatment on the post-harvest attributes of potato | 2017-18 |
| 17 | Muhammad Talha | Studies on sensory and functional properties of rice bran added wheat-based products. | 2018-19 |
| 18 | Rizwanullah Khan | Effect of 1-MCP and hypobaric treatment on the storage life of tomato. | 2018-19 |
| 19 | Muhammad Ejaz Ali | Effect of hypobaric treatment and Chitosan coating on the shelf life of Plum fruit. | 2018-19 |
| 20 | Aimal Khan | Effectiveness of hypobaric treatment and salicylic acid on storage life of guava fruit. | 2018-19 |
| 21 | Muhammad Usman | Preparation of low caloric sweet orange drink using stevia powder. | 2019-20 |
| 22 | M. Maaz Khan | Effect of selected hypobaric treatments on keeping quality of apple fruit. | 2019-20 |
| 23 | Syed Umair Shah | Combine effect of short-term hypobaric treatment and chitosan coating on the shelf life of apple fruit | 2019-20 |
| 24 | Wasif-ur-Rahman | Integrated effect of 1-MCP and hypobaric treatment on storage life of apple fruit. | 2019-20 |
| 25 | Abdur Rahman | Effect of hypobaric treatment, gum arabic and cinnamon oil on the storage stability of banana | 2019-20 |
| 26 | Osama Khan | Combined effect of zero energy cooling chamber and on quality of peach fruit | 2020-21 |
| 27 | Rida Elahi | Effect of selected packaging materials on the storage quality of cooking oil and ghee | 2020-21 |
| 28 | Ayaz Ahmad | Integrated effect of 1-mcp and hypobaric treatment on storage life of 'Shughri' pear | 2020-21 |
| 29 | Ihsan Ullah | Integrated effect of short-term hypobaric and 1-methylcyclopropene treatment on keeping quality and sensory attributes of peach fruit | 2020-21 |
| 30 | Komail Ahmad | Development and storage stability of nuts bar with added stevia | 2020-21 |
| 32 | Khansa Ali | Effect of different extracts of garlic on the preservation of tomato cubes | 2021-22 |
| 33 | Muhammad Hamza | Integrated effect of selected edible coatings and hypobaric treatment on postharvest quality of strawberry | 2021-22 |
| 34 | Salman Ahmad | Quality evaluation of potato milk prepared from almond and soybean flour | 2021-22 |

International Conference Proceedings

1. Postharvest Storage Workshop held at Cornell University, USA. August 16, 2023.
2. Oral presentation in Annual Conference American Society of Horticulture Science (ASHS), held in Orlando, USA, from July 30 - August 5, 2023.
3. Organized International Conference on Emerging Trends in Food Safety & Nutrition. Peshawar, Pakistan, 26-27 October 2022.
4. National Workshop on Postharvest Management of Fresh Horticultural Produce for Academics (16-17th March 2022)

5. Oral presentation in II International Symposium on Discovery and Development of Innovative Strategies for Postharvest Disease Management, Izmir, Turkey, April-May 2013.
6. Oral presentation in VII International Postharvest Symposium, Kuala Lumpur, Malaysia, May 2012.
7. Oral presentation in Symposium arranged by Institute for Food, Nutrition & Human Health (IFNHH), Massey University New Zealand.

Grants & Trainings

- Seminar on “Food Safety: Our National Responsibility arranged by National Alliance for Food Safety (NASF) Pakistan, on 17th Nov. 2016 held at UET Peshawar.
- Workshop Intellectual Property Rights (Filing and Drafting of Patent Application), organized by PASTIC and The University of Agriculture Peshawar.
- 3-day pedagogical training on development of teaching and presentation skills. Arranged by UNIDO (07-09 May 2015).
- 3-day course on food safety inspection procedures, in situ inspection of food establishments and the use of food inspection kits. Arranged by UNIDO (11-13 May 2015)
- Overseas PhD scholarship for pursuing PhD at Massey University New Zealand (2010 –2014).
- Helen E Akers PhD scholarship 2013, Massey University New Zealand.
- Turners & Grower Research Grant 2013, Massey University New Zealand.
- HEC travel grant for attending international conference.
- Travel grant for attending international conference by New Zealand Horticultural Science Advancement Trust.

Patent granted.

Hashmi, M.S., Ahmad, A., Durrani, Y., Ayub, M. (2023). Method to increase storage life of ‘Shughri’ pear fruit and prevent postharvest fermented flavor through combination of short-term hypobaric and 1-Methylcyclopropene treatments. Patent No. 144078-809/2021. No. 9: https://ipo.gov.pk/system/files/July-2023_0.pdf

Book Chapter

Khan, M. R., Muhammad, A., **Hashmi, M. S.**, Rafiq, M. 2023. Dynamic Controlled Atmosphere Technology for fruits and vegetables. In Ed. Sustainable postharvest technologies for fruits and vegetables by Ali, S., Mir, S. A., Dar, B. N., Ejaz, S. CRC Press. DOI: [10.1201/9781003370376-6](https://doi.org/10.1201/9781003370376-6)

Publications

1. Ahmad, F., Muhammad, A., **Hashmi, M. S***, Ahmad, A., Alam, S., Din, K. U., & Siyab, A. (2024). Pre-storage calcium chloride and aloe vera gel coatings mitigate internal browning and senescence scald in ‘Conference’ pears. *Scientia Horticulturae*, 325, 112684. <https://doi.org/10.1016/j.scienta.2023.112684> **(Impact factor: 4.3)**
2. Hamza, M., **Hashmi, MS***, Durrani, Y., Ahmad. A. (2023). Integration of Beeswax Coating and Hypobaric Treatment Increased Storage Life of Strawberries. *HortScience*, 58 (9), S142-S143.
3. Shah, S.U., **Hashmi, M.S***, Khan, M.R. et al. (2024). Integration of chitosan coating and short-term hypobaric treatment extends postharvest life and upregulates defense-related enzymes in apple fruit. *Eur J Plant Pathol.* **168**, 231–247. <https://doi.org/10.1007/s10658-023-02749-1> **(Impact factor: 1.8)**
4. Bilal, H., **Hashmi, M.S***. (2023). Combination of rosemary oil and potassium sorbate controls anthracnose in mango fruit by triggering defense-related enzymes, *Physiological and Molecular Plant Pathology*, <https://doi.org/10.1016/j.pmpp.2023.102112> . **(Impact factor: 2.7)**
5. Ahmad, A., **Hashmi, M.S***, Durrani, Y. et al. (2023). Synergy of 1-MCP and hypobaric treatments prevent fermented flavour and improve consumers’ acceptability of ‘Shughri’ pear. *J Food Sci Technol.* **60**, 200–210. <https://doi.org/10.1007/s13197-022-05605-y> **(Impact factor: 3.11)**

6. Rahman, W.U., **Hashmi, M.S***, Durrani, Y. et al. (2022). Hypobaric treatment augments the efficacy of 1-MCP in apple fruit. *J Food Sci Technol.* 59, 4221–4229. <https://doi.org/10.1007/s13197-022-05481-6> **(Impact factor: 3.11)**
7. Riaz, A., Wahab, S., Ayub, M., **Hashmi, M.S.**, Jabeen, F. (2022). Food to food fortification of whole wheat flour biscuit using moringa leaves powder. *Emirates Journal of Food and Agriculture.* 34(2): 128-134. <https://10.9755/ejfa.2022.v34.i2.2816> **(Impact factor: 1.04)**.
8. Khan, M.R., Huang, C., Zhao, H., Huang, H., Ren, L., Faiq, M., **Hashmi, M.S.**, Li, B., Zheng, D., Xu, Y. and Su, H., (2021). Antioxidant activity of thymol essential oil and inhibition of polyphenol oxidase enzyme: a case study on the enzymatic browning of harvested longan fruit. *Chemical and Biological Technologies in Agriculture*, 8(1), pp.1- <https://doi.org/10.1186/s40538-021-00259-y> **(Impact factor: 2.64)**.
9. Shah, S., **Hashmi, M.S***, Qazi, I.M., Durrani, Y., Sarkhosh, A., Hussain, I., Brecht, J.K. (2021). Pre-storage chitosan-thyme oil coating control anthracnose in mango fruit. *Scientia Horticulturae*, <https://doi.org/10.1016/j.scienta.2021.110139>. **(Impact factor: 3.46)**.
10. Khan, N. A., Sulaiman, S. M., **Hashmi, M. S.**, Rahman, S. U., Cone, J. W. (2021). Chemical composition, ruminal degradation kinetics and methane production (in vitro) of winter grass species. *Journal of the Science of Food and Agriculture.* <https://doi.org/10.1002/jsfa.10628>. **(Impact Factor: 3.63)**
11. Shah, S., **Hashmi, M. S.** (2020). Chitosan–aloe vera gel coating delays postharvest decay of mango fruit. *Horticulture, Environment, and Biotechnology*, 61:279–289. <https://doi.org/10.1007/s13580-019-00224-7>. **(Impact Factor: 1.58)**
12. **Hashmi, M.S***, East, A.R., Palmer, J.S., & Heyes, J.A. (2016). Hypobaric treatments of strawberries: A step towards commercial application, *Scientia Horticulturae*, 198, 407-413. <https://doi.org/10.1016/j.scienta.2015.12.017> **(Impact Factor: 1.62)**
13. **Hashmi, M.S.**, East, A.R., Palmer, J.S., & Heyes, J.A. (2013). Pre-storage hypobaric treatments delay fungal decay of strawberries. *Postharvest Biology and Technology*, 77, 75-79. <https://doi.org/10.1016/j.postharvbio.2012.11.008> **(Impact Factor: 3.24)**
14. **Hashmi, M.S.**, East, A.R., Palmer, J.S., & Heyes, J.A. (2013). Hypobaric treatment stimulates defence-related enzymes in strawberry. <https://doi.org/10.1016/j.postharvbio.2013.05.002> *Postharvest Biology and Technology*, 85, 77-82. **(Impact Factor: 3.24)**
15. Hussain, M., M. Umair Ijaz, M. I. Ahmad, I. A. Khan, S. U. F. Bokhary, W. Khan, S. Hussain, **M. S. Hashmi**, C. Li. (2020). Gut Inflammation exacerbates hepatic injury in C57BL/6J mice via gut-vascular barrier dysfunction in high-fat incorporated meat proteins diets. *Food and Function.* <https://doi.org/10.1039/D0FO02153A> **(Impact factor: 4.17)**
16. Suhail, M., Durrani, Y., **Hashmi, M.S***. Muhammad, A., Uzair, M., Ali, S. A., Shahid, M. (2020). Postharvest Losses of Dhakki Dates During Supply Chain Pakistan. *Fresenius Environmental Bulletin*, 29(1), 299-309. <https://doi.org/10.17605/OSF.IO/PH7SR> **(Impact Factor: 0.69)**
17. Alam, S., Khan, N.A., Muhammad, A., Jan, I., **Hashmi, M.S.**, Khan, A., Khan, M.O. (2020). Carryover of aflatoxin B₁ from feed to broilers' tissues and its effect on chicken performance. *Fresenius Environmental Bulletin*, 29(1), 214-221. **(Impact Factor: 0.69)**
18. Khan, M.S.N., Durrani, Y., **Hashmi, M.S***. Muhammad, A., Uzair, M., Ali, S. A., Shahid, M. (2019). Influences of antioxidants treatments on dried persimmon fruit. *Fresenius Environmental Bulletin*, 28, (11A), 8679-8688. **(Impact Factor: 0.69)**
19. Siddiqi, M.Z., **Hashmi, M.S.**, Oh, J., Chun, S., Im. W.T. (2019). Identification of novel glycoside hydrolases via whole genome sequencing of *Niabella ginsenosidivorans* for production of various minor ginsenosides. *3 Biotech*, 9(7), 258. <https://doi.org/10.1007/s13205-019-1776-7> **(Impact Factor: 1.78)**

20. Jabeen, F., Wahab, S., **Hashmi, M.S***, Mehmood, Z., Riaz, A., Ayub, M., Muneeb. M. (2019). Liquid Stevia Extract as substitution of sucrose in the preparation of guava drink, *Fresenius Environmental Bulletin*, 28(1), 233-243 (**Impact Factor: 0.69**)
21. Alam, M., Shahzeb, Khan, M.A., Ahmad, I., Sajid, M., **Hashmi, M.S.**, Muhammad, A., Ali, L. (2019) Microbiological Quality of Fresh Vegetables from Selected Retail Establishments in Peshawar- Pakistan. *Fresenius Environmental Bulletin*, 28, (11A), 8773-8782. (**Impact Factor: 0.69**)
22. Khan, K., Ullah, I., Khan, N.A., **Hashmi, M.S***, Islam, M.S. Z., Khan I. (2019). Nutritive value of mulberry (*Morus alba*) leaves for fattening rabbits (*Oryctolagus cuniculus*) *Fresenius Environmental Bulletin*, 28, (11A), 8759-8764. (**Impact Factor: 0.69**)
23. Mazahir, M., Durrani, Y., Qazi, I.M., **Hashmi, M.S***, Muhammad A. (2018). Pre and post-harvest calcium chloride treatments maintain the overall quality of sweet cherries, *Fresenius Environmental Bulletin*, 27 (12 B), 9696-9705. (**Impact Factor: 0.67**)
24. Durrani, Y., Khan, R.A., Ali, S.A., **Hashmi, M.S.**, Shahid, M.A. (2018). Comparative study of selected calcium salts impacts on enhancement of postharvest storage life of fresh plum fruits, *Fresenius Environmental Bulletin*, 27(1), 46-53. (**Impact Factor: 0.67**)
25. Usman, M., **Hashmi, M.S.**, Ahmad, A., Ahmad, F., & Alam, Z. (2024). Assessment of Physicochemical and Sensory Characteristics of Stevia Sweetened, Low-Caloric Orange Drink. *Sarhad Journal of Agriculture*, 40(2). 354-358.
26. Ali, M., **Hashmi, M.S.**, Khan, N., Shurjeel, H.K., Aziz, I., Ullah, I., Khan, M.A., Khan, S. and Iqbal, H. (2022). Combined Effect of 1-MCP with Honeybee Wax on Plum Quality during Cold Storage. *Journal of Arable Crops and Marketing*, 4(2), 103-113.
27. Bilal, H., Durrani, Y., **Hashmi, M.S.**, Muhammad, A., Uddin, M.N., Sultan, Q.A. and Uddin, M. 2019. Effect of heat and chemical preservatives on the overall quality of Muskmelon cubes preserved in sucrose solution. *Pure Appl. Biol.* 8(2), 1016-1024.
28. Muhammad, A., Ayub, M., Durrani, Y., Qazi, I. M., **Hashmi M. S.**, and Saifullah. 2018. Whey Neutralization with Different Concentration of Sodium Hydroxide and Sodium Bicarbonate. *Sarhad Journal of Agriculture*. 34(4), 910-916.
29. Khan, M. A., **Hashmi, M.S.**, Muhammad, A., Muneeb, M., Bilal, H. & Wali, G. (2018). Development and Storage Study of Orange Date Blended Squash. *Sarhad Journal of Agriculture*. 34(3), 606-615.
30. Muhammad, A., M., Ayub, Y., Durrani, I. M., Qazi, S., A., Ali, **M. S.**, **Hashmi** and Saifullah. (2018). Impact of brine, lye solution and water on sensory attributes of olive fruits. *Pure Appl. Biol.* 7(1), 20- 25.
31. Bilawal, A., **Hashmi, M.S.**, Zareen, S., Amir, M. N., & Khan, I. (2017). Effect of edible gum coating, glycerin and calcium lactate application on the post-harvest quality of guava fruit. *International Journal of Advanced Research and Pub.* 1(5), 23-27.
32. **Hashmi, M.S.**, East, A. R., Palmer, J.S., & Heyes, J. A. (2014). Strawberries Inoculated after Hypobaric Treatment Exhibit Reduced Fungal Decay Suggesting Induced Resistance. *Acta Horticulturae*, 1053, 163-168.
33. **Hashmi, M.S.**, East, A. R., Palmer, J. S., & Heyes, J. A. (2013). Hypobaric treatment reduces fungal rots in blueberries. *Acta Horticulturae* 1012, 609-614.
34. **Hashmi, M.S.**, Alam, S., Riaz, A., & Shah, A.S. (2007). Studies on microbial and sensory quality of mango pulp storage with chemical preservatives. *Pakistan Journal of Nutrition*. 6(1), 85-88.
35. **Hashmi, M.S.**, Zeb, A., Riaz, A., Shah, A. 2007. Preparation and evaluation of synthetic squashes for diabetic patients by using sorbitol as sweetener. *Sarhad Journal of Agriculture*, 23(2), 459-461.
36. **Hashmi, M.S.**, Ayub, M., Zeb, A., Hashim, M., Alam, S., & Riaz, A. (2006). Effect of chemical preservatives on the physico chemical and nutritional evaluation of mango pulp stored at ambient temperature. *Sarhad Journal of Agriculture*, 22(4), 685-687.
37. Alam, S., **Hashmi, M.S.**, Shah, A. S., & Khan, U. L. (2007). Comparative Storage Studies on the Organoleptic Attributes of Iron Fortified Whole Wheat Flour. *Sarhad Journal of Agriculture*, 23(4), 1121-1125.

38. Alam, S., Shah, H., U., **Hashmi, M.S.**, Suleman, M. 2006: Biochemical and microbiological studies of iron fortified whole wheat flour during storage. Sarhad Journal of Agriculture 22(4): 673-679.
39. Riaz, A., Wahab, S., **Hashmi, M.S.**, & Shah, A. S. (2007). The influence of Mungbean and Mashbean supplementation on the nutritive value of whole Wheat flour bread. Sarhad Journal of Agriculture, 23(3), 737-742.
40. Shah, A.S., Alam, S., Hashim, M.M., **Hashmi, M.S.**, & Riaz, A. (2007). Effect of stabilizers and storage time on the overall quality of tomato paste. Sarhad Journal of Agriculture, 23(4), 1137-1140.
41. Shah, A.S., Zeb, A., Alam, S., Hashim, M. M., **Hashmi, M. S.**, & Riaz, A. (2007). Effects of dehydration, packaging and irradiation on the microbial and sensory quality of Bitter Gourd. Sarhad Journal of Agriculture, 23(3), 781-785.
42. Muhammad, N., Shah, A.S., Riaz, A., Hashim, M. M., Mahmood, Z., & **Hashmi, M. S.** (2007). Preparation and evaluation of pear glaze at different stages of maturity. Sarhad Journal of Agriculture, 23(2), 305-308.

References

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