

| Personal Information | |
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| Name | Emel KAÇAL |
| Degree | Assoc. Prof. Dr. |
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| E-mail | emel.vural@gmail.com |
| Research interests | Fruit breeding, crop load management, |



| Education |
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| Doctorate |
| 2009 - Süleyman Demirel University, Department of Horticulture (Fruit Growing and Breeding) |
| Master of Science |
| 2004 - Süleyman Demirel University, Department of Horticulture (Fruit Growing and Breeding) |
| Bachelor of Science |
| 1999 - Süleyman Demirel University, Department of Horticulture (Fruit Growing and Breeding) |

| Work Experience |
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| 2007- Fruit Research Institute (Researcher) |
| 2001 - 2007 Süleyman Demirel University, Department of Horticulture (Research assistant) |

| Courses | | |
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| 16.10.2006–19.01.2007 | Poland | Bilateral Agreement (Staff Mobility and Student Exchange), Socrates/Erasmus Programme, Süleyman Demirel University (Turkey)-Warsaw Agricultural University (Poland), Academic Year, Founded by EU Comm |
| 01.11.2009–08.11.2009 | Netherland | The situation and problems of fruit growing in the Netherlands and the structure of preservation and marketing systems |

| Publications |
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| 1. Koyuncu F, Akıncı Yıldırım F, Vural (Kaçal) E, 2003. An Investigation on the Selection of Walnut Seedling Rootstock in Isparta Ecological Conditions. IV. National Horticultural Congress, September 08-12, Antalya, 13-16 pages. |
| 2. Koyuncu F, Vural (Kaçal), E, Çelik M, 2003. Studies on Rooting of Black Mulberry (<i>Morus nigra L.</i>) |

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| Cuttings. National Kiwi and Berry Fruits Symposium, October 23–25, Ordu, 424-427 pages. |
| 3. Koyuncu F, Vural (Kaçal) E, 2003. Morphological Characteristics of Some Organs and Tissues of Black Mulberry (<i>Morus nigra</i> L.) Tree. National Kiwi and Berry Fruits Symposium, October 23–25, Ordu, 418-423 pages. |
| 4. Koyuncu F, Koyuncu MA, Yıldırım F, Vural (Kaçal) E, 2004. Evaluation of Black Mulberry (<i>Morus nigra</i> L.) Genotypes from Lakes Region, TURKEY. European Journal of Horticultural Science, 69(3): 125-131. |
| 5. Koyuncu MA, Koyuncu F, Yıldırım F, Dilmaçunal T, Vural (Kaçal) E, 2006. Determination of Lateral Fruitfulness and Fruit Characteristics of Natural Walnut (<i>Juglans regia</i> L.) Genotypes of Gelincik (Isparta). Bahçe Journal, II. National Walnut Symposium (Special Issue) 34(1): 73-82. |
| 6. Koyuncu F, Kaçal E, 2007. Anatomical Changes during Adventitious Root Formation in Some Plum Rootstocks. V. National Horticultural Congress, September 4–7, Erzurum, Vol 1 Fruit 290-293. |
| 7. Koyuncu F, Kaçal E, Yıldırım AN, 2007. Determination of Compatibility Situations of Red Globe Peach and Fantasia Nectarine Varieties Grafted on St Julien A Rootstock. V. National Horticultural Congress, September 4–7, Erzurum, Vol 1 Fruit 286-289. |
| 8. Öztürk P, Karamürsel D, Emre M, Kaçal E, 2008. Developments of Expectation in the Near Future and Oil Rose Growing in Turkey. VIII. National Agricultural Economy Congress, Food Management, Bursa, 374-384 pages. |
| 9. Emre M, Karamürsel D, Kaçal E, Öztürk P, Emre RA, Karamürsel ÖF, Öztürk G, 2008. Evaluation of Preharvest and Harvest Losses in Jersey Mac Apple Variety. IV. National Storage and Marketing in Horticultural Products, October, 8-11, Antalya, 138-144 pages. |
| 10. Kaçal E, Öztürk G, Öztürk P, Karamürsel D, 2008. Evaluation of Crop Profile for Apples in Isparta, Turkey. Compact Fruit Tree 41(2): 12-14. |
| 11. Kaçal E, Koyuncu F, 2008. Investigation of Adventitious Root Development in MM106 and M26 Apple Rootstocks. S.D.Ü. Fen Bilimleri Enstitüsü Dergisi 12-3: 170-174. |
| 12. Kaçal E, 2009. Flower and Fruit Tinning. Fruit Growing Training Project, Apple and Pear Growing. AB Aktif İstihdam Tedbirleri Hibe Planı-2008, Zonguldak, 113-122 pages. |
| 13. Kaçal E, 2009. Use of Plant Growth Regulators in Apple and Pear Growing. Fruit Growing Training Project, Apple and Pear Growing. AB Active Employment Measures Grant Scheme - 2008, Zonguldak, 123-137 pages. |
| 14. Kaçal E, Öztürk G, Atay N, Sarısu C, Özongun Ş, Atay E, Emre RA, Yürekli Ö, Karamürsel Ö, 2009. Apple Breeding Studies at Eğirdir Horticultural Research Institute. Journal of Agricultural Sciences 2(1): 57-60. |
| 15. Yıldırım AN, Koyuncu F, Şan B, Kaçal E, 2010. The Effect of Promalin and Heading Treatments on Lateral Shoot Formation in Pear Nursery Trees. SDU Journal of Natural and Applied Science 14-1: 32-37. |
| 16. Küçükymuk C, Kaçal E, 2010. The Effects of Different Irrigation Programmes in Drip Irrigation on Leaf Properties of Starkrimson Delicious Apple Variety. Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Horticulture 67(2) 297-300. |
| 17. Kaçal E, Koyuncu F, 2010. Determination of Flower Bud Differentiation Duration in Jersey Mac and Jonagold Apples. Ege University, Journal of Agriculture 47(3): 303-307. |
| 18. Öztürk P, Kaçal E, Sarısu C, Karamürsel D, Emre M, 2010. Economic Evaluation of Preharvest and Harvest Losses in 0900 Ziraat Sweet Cherry Cultivar: Isparta (Turkey) Province. Acta Horticulturae 877(I): 261-267. |
| 19. Kaçal E, 2011. Thinning. In: Apple Culture, Akgül, H., Kaçal, E., Öztürk, P., Özongun, Ş., Atasay, A., Öztürk, G. (eds.). Fruit Research Institute Publications, Number, 37, pp. 297-312. |
| 20. Kaçal E, 2011. Plant growth Regulators. In: Apple Culture, Akgül, H., Kaçal, E., Öztürk, P., Özongun, Ş., Atasay, A., Öztürk, G. (eds.). Fruit Research Institute Publications, Number, 37, pp. 393-410. |
| 21. Kaçal E, Yürekli Cengiz Ö, Özongun Ş, 2011. Propagation Methods. In: Apple Culture, Akgül, H., |

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| Kaçal, E., Öztürk, P., Özongun, Ş., Atasay, A., Öztürk, G. (eds.). Fruit Research Institute Publications, Number, 37, pp. 53-70. |
| 22.Kaçal E, 2011. Crop load management in Apple. Tarımkütül, March 2011, 25: 64-65. |
| 23.Kaçal E, Öztürk G, Emre RA, 2011. Flower Bud Formation in Akça and Beurre Precoce Morettini Pear Cultivars. VI. National Horticultural Congress, October 04-08, Şanlıurfa, Turkey. Vol 1, Fruit 360-364. |
| 24.Öztürk G, Basım E, Basım H, Emre RA, Karamürsel ÖF, Eren İ, İşçi M, Kaçal E, 2011. Development of Fire Blight Resistance New Pear Varieties by Controlled Hybridizations: First Fruit Observations. VI. National Horticultural Congress, October 04-08, Şanlıurfa, Turkey, pp. 527-534. |
| 25.Kaçal E, Yıldırım F, 2011. Development of Apple Variety Breeding for Scab Resistance. Derim Journal, 28(2): 14-26. |
| 26.Küçükyumuk C, Kaçal E, Ertek A, Öztürk G, Kukul Yurttaş YS, 2012. Pomological and Vegetative Changes during Transition from Flood Irrigation to Drip Irrigation: Starkrimson Delicious Apple Variety. Scientia Horticulturae 136(1): 17-23. |
| 27.Öztürk P, Karamürsel D, Sarısu C, Emre M, Kaçal E, Eren İ, Çalhan Ö, 2012. Determination of Preharvest and Harvest Loses in 0900 Ziraat Sweet Cherry Variety. V. National Storage and Marketing in Horticultural Products, September, 18-19, İzmir, Turkey. |
| 28.Kaçal E, Koyuncu F, 2012. Use of Chemical Blossom Thinners in Jersey mac and Jonagold Apples. Bulgarian Journal of Agricultural Science 18(6): 898-904. |
| 29.Kaymak S, Kaçal E, Öztürk Y, 2013. Screening Breeding Apple Progenies with Vf Apple Scab (<i>Venturia inaequalis</i> (Cke.) Wint.) Disease Resistance Gene Specific Molecular Markers. Integrated Protection of Fruit Crops IOBC-WPRS Bulletin 91: 361-365. |
| 30.Yıldırım F, Yıldırım AN, Şan B, Kaçal E, 2013. A review on Sustainable New Fruit Thinning Strategies in Apple Growing. 4th International Symposium on Sustainable Development (ISSD) Sarajevo, May 2013. |
| 31.Küçükyumuk C, Yıldız H, Sarısu HC, Kaçal E, Koçal H, 2013. The Effects of Different Water Stress Levels on Vegetative Development and Some Parameters for Mazzard Rootstock (<i>Prunus avium</i> L.). III. National Soil and Water Resources Congress, October 22-24, Tokat, pp. 315-321. |
| 32.Küçükyumuk C, Kaçal E, Yıldız H, 2013. Effects of Different Deficit Irrigation Strategies on Yield, Fruit Quality and Some Parameters: Braeburn Apple Cultivar. Notulae Botanicae Horti Agrobotanici Cluj-Napoca 41(2): 510-517. |
| 33.Öztürk G, Emre RA, Karamürsel ÖF, Sarısu HC, Kaçal E, Aksu M, Basım H, 2013. Breeding of Pear Cultivars Resistant to Fire Blight Disease (<i>Erwinia amylovora</i>): Promising genotypes and Molecular Characterization. International Plant Breeding Congress, 10-14 November, Antalya, TURKEY (Abstract book), pp. 484. |
| 34.Kaçal E, Öztürk G, Öztürk Y, Demirtaş İ, Sarısu HC, 2013. Breeding of Scab Resistant Apple Varieties. International Plant Breeding Congress, 10-14 November, Antalya, TURKEY (Abstract book), pp. 527. |
| 35.Öztürk FP, Yüceer A, Demirtaş M, Kaplan N, Karamürsel D, Emre M, Öztürk G, Kaçal E, Eren İ, 2014. Investigation of Enhancing Competition Power Facilities of Turkey's Apple Industrial. XI. National Agricultural Economy Congress, September 3-5, Samsun, Vol 3: 1451-1458. |
| 36.Öztürk Y, Kaçal E, Kaymak S, 2014. Determination of Scab Resistance in Apple Genotypes obtained by Controlled Hybridizations. V. Plant Protection Congress, February 3-5, Antalya (Abstract book), pp. 242. |
| 37.Basım H, Basım E, Öztürk G, Kaçal E, 2014. Development of Pear Varieties Resistant to Fire Blight and Phenotypic and Genotypic Characteristics of <i>Erwinia amylovora</i> isolates in Turkey: 1997-2013. V. Plant Protection Congress, February 3-5, Antalya (Abstract book), pp. 185. |
| 38.Akıncı-Yıldırım F, Kepenek G, Şan B, Yıldırım AN, Kaçal E, 2014. Effects of BA+GA +7 Treatments on Fruit Quality in Fuji Apple Variety. Balkan Agriculture Congress, 8-10 September, 2014 Edirne. Turkish Journal of Agriculture and Natural Sciences (Special issue) 2: 1387-1390. |
| 39.Şan B, Yıldırım AN, Akıncı-Yıldırım F, Kaçal E, 2014. Mineral Composition of Leaves and Fruits in |

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| some Myrtle (<i>Myrtus communis</i> L.) Genotypes. Balkan Agriculture Congress, 8-10 September, 2014 Edirne (Abstract book). |
| 40. Küçükçyumuk C, Yıldız H, Kaçal E , Koçal H, Karamürsel ÖF, Emre RA, 2014. Effects of Different Mulching and Irrigation Programmes on Vegetative Development and Water Consumption in Drip-irrigated Apple Trees. YYU J AGR SCI 24(3): 257-269. |
| 41. Kaçal E , Küçükçyumuk C, Yıldız H, 2014. Effects of Regulated Deficit Irrigation Practices on Flower Quality and Floral Characteristics of Braeburn Apple. International Mesopotamia Agriculture Congress, 22-25 September 2014 Diyarbakır, Turkey, pp.641-647. |
| 42. Küçükçyumuk C, Sarısu HC, Yıldız H, Kaçal E , Koçal H, 2015. Effect of Water Stress on the Some Vegetative Growth Parameters of Cultivar Grafted on Different Rootstocks 0900 Ziraat Sweet Cherry. YYU J AGR SCI 25(2): 180-192. |
| 43. Küçükçyumuk C, Yıldız H, Sarısu HC, Kaçal E , Koçal H, 2015. Response of Sweet Cherry Grafted on Different Rootstocks to Water Stress. Fresenius Environmental Bulletin 24(9a): 3021-3024. |
| 44. Öztürk G, Kaçal E , 2015. Pear Breeding for Fire Blight Resistance. Horticultural Society Newsletter 4(2): 20-24. |
| 45. Kaçal E , Yıldırım F, Öztürk G, Aydınlı M, 2015. An Overview on Fruit Breeding in Turkey. II. International Plant Breeding Congress, 1-5 November, Antalya (Abstract book). |
| 46. Aydınlı M, Öztürk G, Kaçal E , 2015. The Possibility of Using Phenolic Compounds in Breeding to Fire Blight Resistance. II. International Plant Breeding Congress, 1-5 November, Antalya (Abstract book). |
| 47. Öztürk G, Aşkın MA, Emre RA, Kaçal E , Sarısu HC, 2015. Development of Embryo Sac and Pollen Tube Growth in Pear Crosses. II. International Plant Breeding Congress, 1-5 November, Antalya (Abstract book). |
| 48. Öztürk FP, Öztürk G, Kaçal E , Karamürsel D, Bayav A, Emre M, 2015. The Determination of Consumer References Related to External Quality Features in Turkey. II. International Plant Breeding Congress, 1-5 November, Antalya, Abstract book, p. 154. |
| 49. Seymen T, Özgöngün Ş, Akyüz F, Atay AN, Kaçal E , 2015. Frost Damage in Apple and Importance of Breeding Late Blooming Apple Varieties. II. International Plant Breeding Congress, 1-5 November, Antalya, Abstract book, p. 174. |
| 50. Yıldırım F, Vural (Kaçal) E , Uçar Y, Yıldırım AN, 2016. Interaction of Crop Load and Irrigation on Yield, Fruit Size, Color and Stem-end Splitting Ratio of Apple c.v. 'Gala, Galaxy'. Erwerbs-Obstbau 58(2): 103-111. |
| 51. Emre M, Küçükçyumuk C, Kaçal E , Yıldız H, 2016. Effect of Regulated Deficit Irrigation Practices on Income in Apple Production. Derim 33(1): 51-66. |
| 52. Karamürsel D, Öztürk FP, Oğuz C, Emre M, Bayav A, Karamürsel ÖF, Akol S, Kaçal E , Sarısu A, Altındal M, 2016. Marketing Structure and Problems of Fruit Tree Nursery Producing Business in Turkey. XII. National Agricultural Economy Congress, 25-27 May, Isparta, Vol 1, pp.501-510. |
| 53. Öztürk FP, Öztürk G, Kaçal E , Erdem U, Karamürsel D, Bayav A, Sarısu A, 2016. Determination of The External Quality Features Preference of Consumer in Pear. XII. National Agricultural Economy Congress, 25-27 May, Isparta, Vol 1, pp. 511-518. |
| 54. Kaçal, E. , Seymen, T., Öztürk, G., 2017. Elmada Çeşit Eğilimleri. Tarım Türk Dergisi, Ocak-Şubat Sayı: 63 yıl 12, sayfa 50-52. |
| 55. Kaçal, E. , 2017. Meyve Ağaçlarında Seyreltme Uygulamaları. Tarım Türk Dergisi, Mayıs-Haziran, Sayı: 65, yıl 12, Sayfa 76-79. |
| 56. Kaçal, E. , Gür, İ., Aydınlı, M., Koçal, H., Yıldız, H., Cansu, M., Akol, S., 2017. Effect of GA4+7 + BA on Russet in Starkspur Golden Delicious Apple Variety. International Conference on Technology, Engineering and Science (IConTES) October 26-29, 2017, Antalya, Turkey, Abstract Book, pp.119. |
| 57. Kaçal, E. , Koyuncu, F., 2018. Thinning Efficiency of Ammonium Thiosulfate and Hydrogen Cyanamid on "Golden Reinders" Apple. IV. International Agricultural Congress, 5-8 July, Nevşehir, Turkey. |
| 58. Kaçal, E. , Yıldırım, F., Öztürk, G., Aydınlı, M., 2018. An Overview on Fruit Breeding in Turkey. Chronica Horticulturae 58(2): 23-26. |
| 59. Kaçal, E. , Öztürk, G., 2018. Genetic Predisposition of Some Apple Progenies to Burrknot. XXX. International Horticultural Congress, 12-14 August, İstanbul, Turkey. |

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| 60. Öztürk, F.P., Küçükyumuk, C., Yıldız, H., Kaçal, E. , 2018. Economic Evaluation of Transition from Flood Irrigation to Drip Irrigation. XIII. National Agricultural Economics Congress, 12-14 September, Kahramanmaraş, Türkiye. |
| 61. Öztürk, F.P., Kaçal, E. , Karamürsel, D., Öztürk, G., 2018. The relationship between Consumer-Quality-Sensory Analysis and its Importance in Fruit Breeding. XIII. National Agricultural Economics Congress, 12-14 September, Kahramanmaraş, Turkey. |
| 62. Karamürsel, D., Öztürk, F.P., Emre, M., Bayav, A., Oğuz, C., Karamürsel, Ö.F., Kaçal, E. , Akol, S., Sarısu, A., Altındal, M., 2018. Sectoral Overview and Expectations of Public and Private Enterprises Producing Fruit Seedlings. XIII. National Agricultural Economics Congress, 12-14 September, Kahramanmaraş, Turkey. |
| 63. Kaçal, E. , 2018. Crop Load Regulation with Chemical Thinners in Deveci Pear (<i>Pyrus communis</i> L.). Applied Ecology and Environmental Research. 16(5):7203-7212. |
| 64. Kaçal, E. , 2018. Adventitious Root Formation in Black Mulberry Cuttings. 6 th ASM International Congress on Agriculture and Environment, Abstract Book pp. 92. |
| 65. Güçlü, S.F., Kaçal, E. , Koyuncu, F., 2019. Investigations on <i>In Vitro</i> Propagation of Black Mulberry. 2. International Conference on "Agriculture, Forestry & Life Sciences" April 18-20, Prague, Czech Republic (oral presentation). |
| 66. Çalışkan, O., Bayazıt, S., Kaçal, E. , Öztürk, G., Karamürsel, Ö.F., Kılıç, D., 2019. Grafting Success of Sultan Hawthorn Cultivar Grafted on Some Clonal rootstocks. Third Mediterranean International Congress on Natural Sciences, Health Sciences and Engineering, June 18-20, 2019 Podgorica, Montenegro (oral presentation). |
| 67. Kaçal, E. , Öztürk, G., Gür, İ., Aydınli, M., Koçal, H., Altındal, M., Yıldırım, A.N., 2019. Crop Load Management with Blossom Thinners in 'Redchief' Apple and Their Effects on Fruit Mineral Composition. Erwerbs-Obstbau (2019). https://doi.org/10.1007/s10341-019-00421-9 . |
| 68. Karamürsel, D., Öztürk, F.P., Kaçal, E. , Bayav, A., Oğuz, C., Karamürsel, Ö.F., Akol, S., Sarısu, A., Altındal, M. 2020. Sub-Sector Analysis of Fruit Tree Nursery in Turkey. Erwerbs-Obstbau, https://doi.org/10.1007/s10341-020-00477-y |
| 69. Kaçal, E. , Çalışkan, O., Atak, A., Aydınli, M., Öztürk, G., Bayav, A., 2020. Effects of proline and temperature applications on germination of black mulberry seeds. Mustafa Kemal University Journal of Agricultural Sciences 25 (2):181-188. DOI: 10.37908/mkutbd.722437 |
| 70. Kaçal, E. , Gür, İ., Aydınli, M., Koçal, H., Öztürk, G., Yıldız, H., Cansu, M., Akol, S., Karamürsel, Ö., 2020. Effect of Different GA4+7 + BA Doses on Russet Formation in Starkspur Golden Delicious Apple Variety. Fruit Science, 7(1), 17-22. |
| 71. Gür, İ., Koçal, H., Kaçal, E. , Aydınli, M., Yalçın, B., Karamürsel, Ö., Sarısu, H., Demirtaş, İ., 2020. Determination of Grafting Compatibility of Some Selected Plum Genotypes with Monroe Peach and Aprikoz Apricot Varieties. Fruit Science, 7(1): 1-9. |
| 72. Kaçal, E. , Öztürk, G., 2020. Genetic predisposition of some apple progenies to burrknot. Acta Hort. 1282; 297-302. DOI 10.17660/ActaHortic.2020.1282.44. |
| Projects |
| 1. The Anatomical and Histological Investigation in the Cutting on Rooting of Some Apple Clonal Rootstocks, SDÜBAP 433, (2001-2003) (Project leader) |
| 2. Selection and Propagation of Walnut (<i>J. regia</i> L.) in Isparta, TUBİTAK-TOGTAG 2775, (2001-2004) |
| 3. Investigation on Some Tree and Fruit Characteristics of Black Mulberry (<i>Morus nigra</i> L.) grown in Isparta District, SDÜBAP 378 (2000-2003) |
| 4. Anatomical Changes during Adventitious Root Formation in Some Clonal Plum Rootstocks, SDÜ-APYB 2003/18, (2003-2004) |
| 5. In vitro Propagation of Black Mulberry (<i>Morus nigra</i> spp.) Leaves, SDÜBAP (2003-2004) |
| 6. Organic Acids and Phenolic Acid Composition Determination by HPLC of Black Mulberry (<i>Morus nigra</i> L.) Fruits, SDÜBAP 590 (2002-2005) |
| 7. Effects of New Blossom Thinners on Fruit Set, Fruit Quality and Flower Bud Differentiation in Apples (<i>Malus communis</i> L.), SDÜBAP-1312 D 06, (2006-2009) (Project leader) |
| 8. Determining of Physiological and Morphological Changes on Apple Trees Due to Transition of Flood Irrigation to Drip Irrigation Method and Irrigation Scheduling, TAGEM (2008-2010) |

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| 9. Development of Variety and Rootstocks Relative to Stock Production and Protection Units of Eđirdir Horticultural Research Institute, DPT (2010-2012) |
| 10. Development of New Apple Varieties Resistant to Apple Scab TAGEM (2011-)(Project leader) |
| 11. The Determining of Effects of Different Mulch Materials and Irrigation Levels on Apple Trees, Water Protecting and Weed Control on M9 and MM106 Rootstocks, TAGEM (2009-2013) |
| 12. The Effects of Deficit Irrigation in Different Stages on Yield, Fruit Quality and Postharvest Time of Braeburn Apple Variety Grafted on M9 Rootstock, TAGEM (2011-2013) |
| 13. Pear Variety and Rootstock Breeding Resistant to Fire Blight, TAGEM (2006-) |
| 14. Determination of Fruit Characteristics of Superior Genotypes selected from Pear Genotypes Resistant to Fire Blight obtained by Controlled Hybridization, TUBİTAK-TOVAG (2011-2013) |
| 15. HealthyGrowth: From niche to volume with integrity and trust, ERA-NET Core Organic II AB 7. Framework Program (2013-2016) |
| 16. Turkey Fruit Nursery Industry Analysis, TAGEM (2015-2018) |
| 17. Determination of Effect on Thinning of BA (6-benzyladenine) in Starkrimson Apple Variety (Project Leader), Private Sector (2015-2018) (Project leader) |
| 18. Determination of Effect on Russet of GA ₄₊₇ + BA (6-benzyladenine) in Starkspur Golden Delicious Apple Variety (Project Leader) Private Sector, (2015-2017) (Project leader) |
| 19. Determination of Different Pear Rootstocks and Scion/Rootstock Combinations to Salinity Tolerance of Status as Morphological, Physiological and Biochemical, TUBİTAK 3001, (2016-2018) |
| 20. Determination of Paclot (Paclobutrazol 250 G/L) Plant Growth Regulator Effects on Apple Vegetative Growth, Private Sector (2015-2017) |
| 21. Identification and Vegetative Propagation of Natural Hawthorn (<i>Crataegus azarolus</i> L.) Populations for Arid-Semi Arid Areas (collaboration with Ministry of Agriculture and Forestry and Erciyes University) |
| 22. Determination of Usability of Some Fruit Species as Rootstock to Hawthorn (<i>Crataegus azarolus</i> L.) (2018-2020) (collaboration with Hatay Mustafa Kemal University) |
| 23. Determination of Nuclear DNA Contents and Ploidy Levels of National Apple Genetic Resources with Flow Cytometry (Tubitak 1002, 200-2021) (Project leader) |