

DIRECTIONS

for a short-term research internship at Hungarian University of Agricultura and Life Sciences

T/p	Research field	Program period and the preferred month	Program details
1. Potato research			
1.	Molecular genetics	1 month <i>Any month</i>	Development and application of molecular markers in potato breeding.
2.	Breeder	1 month, June, <i>September, October</i>	Goals, tools and achievements in commercial potato breeding.
3.	Agronomy	1 month <i>April - June, September-October,</i>	Seed potato production technology, ensuring seed quality.
2. Crop husbandry and environmentally friendly production			
4.	Agronomy and seed quality laboratory work (wheat, barley, corn, sunflower, soybean)	1-6 months, <i>April – October</i>	Investigation of the effects of fertilizers, foliar fertilizers, Plant conditioning and bio stimulants for yield and quality; Production technology; Plant diagnosis technology on the field and in the laboratory.
5.	Agronomy	1-6 months, <i>April – October</i>	Cereal-legume intercropping systems.
3. Aquaculture and fisheries			
6.	Fundamentals of pond aquaculture management	3 months <i>May-September (preferably in May)</i>	Technical issues of pond aquaculture; Biological basis of pond aquaculture; The practice of pond aquaculture; Novel methods in pond aquaculture.
7.	Molecular biology and genetics	1 month <i>Any month</i>	Novel methods of molecular biology, population genetics and genome manipulation.
8.	Breeding program and gene banking	3 months <i>May-Sept Preferably in propagation season (May and June)</i>	Breeding program of Common carp; Scientific issues of gene banking; Cryopreservation.
9.	Utilization of agricultural by-products in fish feed production	3 months <i>Any month</i>	By-products in fish feed; Feeding in aquaculture.
10.	Fish nutrition and feed production	1 month <i>Any month</i>	Preparation of fish feed and utilization it for feeding.
11.	Monitoring fish assemblages in natural waters	3 months, <i>June-September</i>	Monitoring methods; Practice of fish monitoring; Evaluation of monitoring data.
4. Viticulture and Oenology			
12.	Viticulture and Oenology	1 month: <i>September (2022y), February, March (2023y)</i>	Lectures on viticultural technology and principles of wine Technology; Harvesting practices; Field trips to wine regions; Visits to the research stations in Kecskemét and Badacsony; Taking part in running projects at the departments (mostly data collection).
13.		3 months: <i>September – November</i>	Lectures about the biological and Phyto technical resources of viticulture and oenology; Pruning practices; Field trips to wine regions;

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		3 months <i>February-April</i>	Visits to the research stations; Taking part in running projects at the departments (mostly data evaluation).
5. Animal science			
14.	Small ruminants' milk production, udder health, milk quality	<i>(May)-June</i>	Visiting dairy sheep or goat farms. Collect milk samples. Laboratory analysis.
15.	Assessment of stress using non-invasive methods in dairy cattle	<i>May-June</i>	The importance and role of the non-invasive methods of stress assessment, and stress research in general, lies in better understanding of cattle's responses to stress and through develop and improve precision tools for dairy farm management, thereby improving cattle welfare and consequently increasing farm productivity. During the program stress-evaluation methods, possible future research directions of stress assessment, and possible ways for the development of automatic on-farm stress assessment systems will be studied based on behavioral and physiological markers.
16.	Reproduction management in small ruminants and ultrasound investigation in breeding processes	<i>(May)-June</i>	Theoretical lectures, practical farm visits (different breeding management).
17.	Grassland management	<i>May</i>	Attending the lectures of the Sward management course at the beginning of May. Thereafter getting acquainted with the Hungarian grasslands. Participation in botanical estimating.
18.	Goose liver production (foie gras), from the point of view animal welfare	<i>May-June</i>	Visit to the goose farms. Animal welfare investigations.
19.	Animal Science	1 month <i>June</i>	Statistical methods applied in animal science.
20.	Sheep in vitro embryo production, sheep MOET	6 months <i>from September</i>	Learning the steps of the sheep embryo production.
6. Biotechnology			
21.	Research on stress-tolerant (heat, salt, pathogen infection, etc.) plants, breeding and monitoring of hereditary variants related to stress by biotechnological methods	1 month <i>June</i>	DNA isolation, PCR with different molecular markers (RAPD, SCAR, CAPS, SSR) applied to MAS, agarose and acrylamide gel electrophoresis.
7. Plant protection research			
22.	Plant protection research	<i>May and June</i>	Seed pathology of different crops and weeds.
23.	Plant protection research	<i>May and June</i>	Pesticide toxicology.