

# Animal Breeding Programs

*Dr hab. Tomasz Strabel*

Duration: 30 hours

ECTS: 6

## Course outlines

1. Partitioning phenotypic variation. Genetic parameters: heritability, repeatability.
2. Selection differential, intensity of selection, response to selection, generation interval.
3. Breeding value for a single pair of alleles. Breeding values for quantitative traits.
4. Genetic similarity of animals: inbreeding and coancestry. Inbreeding depression. Controlling inbreeding in breeding programs.
5. Construction of breeding programs.
6. Use of reproduction techniques in modern breeding programs. MOET schemes.
7. Optimization of breeding programs using computer simulation programs. SelAction.
8. Improving more than one trait – genetic correlation. Indexes for many traits.
9. Use of molecular technologies to improve quantitative traits.
10. Economic aspects of animal breeding. Profit function. Economic indexes.
11. Conservation genetic programs.
12. Breeding programs for selected domestic species.

## Literature:

1. Bourdon R.M. 2000. Understanding Animal Breeding. Prentice Hall. USA.
2. Douglas S. Falconer and Trudy F.C. 1996. Introduction to Quantitative Genetics
3. Kinghorn, B.P., Van der Werf, J. and Ryan, M. 2000, Animal Breeding - Use of New Technologies.

Additional course materials will be provided

## Computer programs:

1. Genup – available in computer lab. Can be download from the website:  
<http://jay.au.poznan.pl/~strabel/dydaktyka/>
2. SelAction – available in computer lab.

## More info:

<http://jay.au.poznan.pl/~strabel/dydaktyka/>

## Contact:

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