


## Establishing a health monitoring system for cattle in Austria

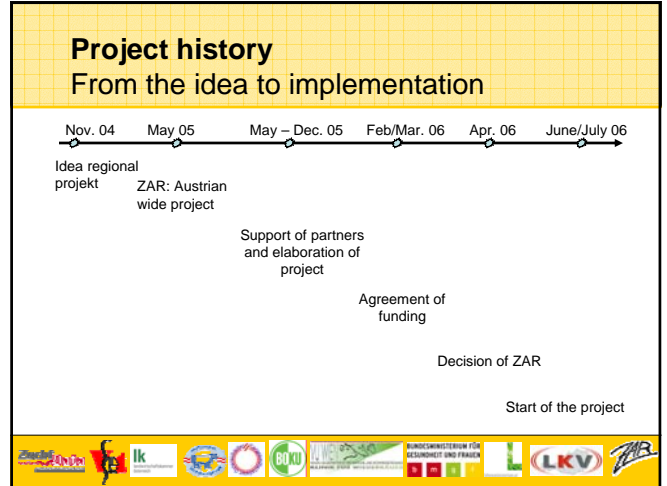
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ICAR, Kuopio - June 7<sup>th</sup>, 2006




## Project history From the idea to implementation



Nov. 04    May 05    May – Dec. 05    Feb/Mar. 06    Apr. 06    June/July 06

- Nov. 04: Idea regional projekt
- May 05: ZAR: Austrian wide project
- May – Dec. 05: Support of partners and elaboration of project
- Apr. 06: Agreement of funding
- June/July 06: Decision of ZAR
- Start of the project



## Overview

- > Background
- > Aims
- > Data recording
- > Genetic evaluation
- > Health reports
- > Project organisation
- > Benefits
- > Conclusions

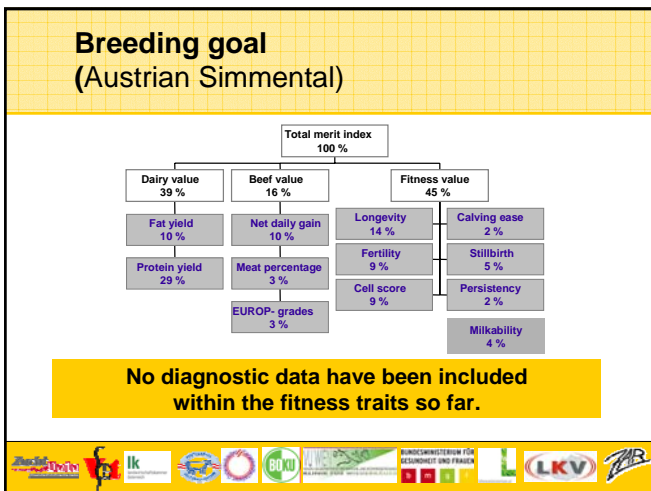


## Background

- > Functional traits are becoming increasingly important due to pressure on production prices.
- > Increasing herd sizes demand for efficient cattle without problems and good health.
- > Growing demands for consumer acceptance and confidence.





## Breeding goal (Austrian Simmental)



Total merit index 100 %			
Dairy value 39 %		Beef value 16 %	
Fat yield 10 %	Protein yield 29 %	Net daily gain 10 %	Meat percentage 3 %
EUROP. grades 3 %		Longevity 14 %	Fertility 9 %
		Cell score 9 %	Persistence 2 %
		Calving ease 2 %	Stillbirth 5 %
		Milkability 4 %	

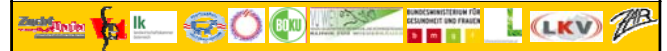
**No diagnostic data have been included within the fitness traits so far.**



## Documentation of diagnostic data Starting point

- > There is the obligation by law (law of drug control) that diagnoses and treatments have to be documented in Austria. These documents have to be kept for 5 years by veterinarians and farmers.
- > The diagnoses have not been standardised.
- > Those data have neither been collected nor stored in a database.

Presently no diagnostic data are available for use in breeding and herd management in Austria.

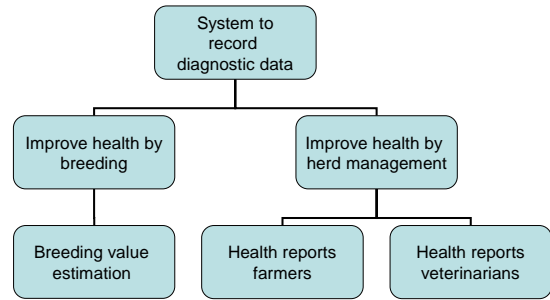


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### Project aims



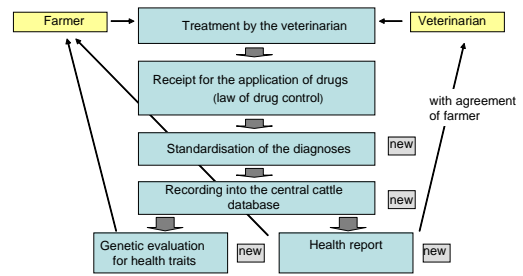
### Target group

Who can participate?

- > Austrian wide project
- > Voluntary participation
- > Open to all cattle under performance recording (also juvenile)
- > Membership in Animal Health Organisation is advantageous, but not precondition
- > Vision for the future: open for all cattle holders



### Recording of data and backflow of information



### New receipt for the application of drugs

Arzneimittelanwendungs-, Arzneimittelabgabe- und Arzneimittelrückgabebeleg

Betrieb: (Name und Anschrift) \_\_\_\_\_

LFBIS-Nr.: \_\_\_\_\_

Medizinische Anamnese (Art, Dauer, Verlauf der Anwendung, Nachbehandlung)

Datum: \_\_\_\_\_

Tabelle	TA	Menge	Arzneimittelbezeichnung / Chargen-Nr.	Genaue Angabe (Anwendungsmenge, Art, Dosierung pro Tier und Tag, Dauer der Anwendung, Nachbehandlung)	Wertzeit in Tagen	
					neu	alt
	80					
	80					
	80					
	80					
	80					
	80					
	80					
	80					



### Standardisation of diagnoses

Austrian wide key

<ul style="list-style-type: none"> <li>01 spezifische Katzenkrankheiten</li> <li>02 Kälberkrankheiten</li> <li>03 Mastitiden</li> <li>04 Mastitisformen</li> <li>05 Kälberkrankheiten</li> <li>06 andere Krankheiten des Kalbes</li> <li>07 Erkrankungen des Vorderextremes</li> <li>08</li> <li>09</li> <li>10</li> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> <li>23</li> <li>24</li> <li>25</li> <li>26</li> <li>27</li> <li>28</li> <li>29</li> <li>30</li> <li>31</li> <li>32</li> <li>33</li> <li>34</li> <li>35</li> <li>36</li> <li>37</li> <li>38</li> <li>39</li> <li>40</li> <li>41</li> <li>42</li> <li>43</li> <li>44</li> <li>45</li> <li>46</li> <li>47</li> <li>48</li> <li>49</li> <li>50</li> <li>51</li> <li>52</li> <li>53</li> <li>54</li> <li>55</li> <li>56</li> <li>57</li> <li>58</li> <li>59</li> <li>60</li> <li>61</li> <li>62</li> <li>63</li> <li>64</li> <li>65</li> <li>66</li> <li>67</li> <li>68</li> <li>69</li> <li>70</li> <li>71</li> <li>72</li> <li>73</li> <li>74</li> <li>75</li> <li>76</li> <li>77</li> <li>78</li> <li>79</li> <li>80</li> <li>81</li> <li>82</li> <li>83</li> <li>84</li> <li>85</li> <li>86</li> <li>87</li> <li>88</li> <li>89</li> <li>90</li> <li>91</li> <li>92</li> <li>93</li> <li>94</li> <li>95</li> <li>96</li> <li>97</li> <li>98</li> <li>99</li> <li>00</li> </ul>	<ul style="list-style-type: none"> <li>Klassen- und Gliederungsanordnungen</li> <li>Ferkeln, Mutteln</li> <li>Kalbinnen</li> <li>Kalberkrankheiten</li> <li>Fraktionen, Lokationen, andere Gliederungsanordnungen</li> <li>Krankheiten von Muskeln und Sehnen</li> <li>spezifische Parasiten, Parasiten</li> <li>Parasiten</li> <li>Freiwillige Erkrankung des Bewegungsapparates</li> <li>Krankheiten des Schenkelgürtels</li> <li>Erkrankungen der Atemwege</li> <li>Erkrankungen des oberen Luftweges</li> <li>Luftwegenerkrankungen</li> <li>andere Lungenerkrankungen</li> <li>Herz-, Kreislauf- und Bluterkrankungen, Erkrankungen des Herzkreislaufsystems</li> <li>Septikämie, Anämie</li> <li>Nierenkrankheiten</li> <li>Prophylaxien und andere Parasiten des Blutes</li> <li>Leukämie</li> <li>Erkrankungen der Gebärmutter und der Milchdrüse</li> <li>Erkrankungen der Harnblase</li> <li>ZNS-Erkrankungen, Heidenkrankheiten, Infektionen</li> <li>ZNS-Erkrankungen</li> <li>Erkrankungen des Rückenmarkes</li> <li>Parasiten und Infektionen der Haut</li> <li>Erkrankung der Hufe</li> <li>andere Hufkrankheiten</li> <li>Algenkrankheiten</li> <li>Banale Erkrankungen</li> <li>unbestimmte Krankheiten</li> <li>veränderte Fraktion, Inappetenz</li> <li>Früher, Sekundäre Allgemeinerkrankung ohne Diagnose</li> </ul>
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## Data recording and data storage

### What is recorded?

- Identity of the animal
- Identity of the farm
- Number of the veterinarian
- Diagnoses and date of diagnoses from first treatments only

### Where is it stored?

In the central cattle database



## Data protection

### Declaration of consent for

- recording of data
- transferring data to the veterinarians.

With the declaration of consent and the law of data protection data security is warranted.



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## Breeding for animal health

### Steps in breeding

Breeding goal



Performance recording



Genetic evaluation



Breeding programme



Genetic response



## Breeding for animal health

### Planned measures

**Aim:** Breeding values for health traits for bulls

- Data quality and data validation.
- Study of trait definition.
- Analyses of environmental effects and estimation of genetic parameters for main breeds.
- Estimation of economic weights.
- Elaboration of routine genetic evaluation for health traits.
- Analyses concerning requirements of breeding programmes.



## Health reports for herd management

- Provision of health reports with already existing data from performance recording as well as diagnostic data.

*Daily report:* e.g. action lists

*Annual report:* gives overview about health status of herd

- Future plan to include data from slaughtering houses, milk laboratories as well as hoof trimming.



## Link to Animal Health Organisations

- Presently no information based on individual diagnostic data nor data from performance recording are available for consultancy of farmers on animal health and herd management.
- Comprehensive health reports with information from performance recording and diagnoses will be available.

**Health reports are valuable for Animal Health Organisations to consult farmers.**



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## Project organisation

### Project partners:

- Animal Health Organisations
- Chamber of Agriculture
- Chamber of Veterinarians
- Ministry of Agriculture, Forestry, Environment and Water management
- Ministry of Health and Women
- University of Natural Resources and Applied Life Sciences
- University of Veterinary Sciences
- ZuchtData EDV-Dienstleistungen GmbH

### Project executing organisation:

- Federation of Austrian Cattle Breeders with member organisations from breeding, performance recording and artificial insemination.

### Project management:

- Committee with representatives of different groups.



## Benefits

- **Farmer:** Improved breeding values for bulls and health reports for the optimisation of herd management. Higher economic efficiency.
- **Veterinarians:** Health reports for consultancy of farmers in disease avoidance. Valuable tool for auditing.
- **Cattle breeding:** Contribution to further positioning of the Austrian cattle breeding with high emphasis on functional traits.
- **Consumer:** On the long term an increase in consumer safety is expected.



## Key factors for success

Collaboration of farmers and veterinarians essential

### High participation:

- **Genetic evaluation:** reliable breeding values will only be enabled by high participation of farmers and veterinarians – base for genetic response.
- **Health reports:** For the explanatory power of key figures from health reports a wide participation is important.

### Good data quality:

- Awareness and monitoring of data quality is important.



## Conclusions

- Consideration of health traits has the chance of success (e.g. Scandinavian countries).
- Difficult project – needs the full support of farmers, veterinarians and their organisations and representatives.
- Key factor for success is a good data quality: cooperation with performance recording organisations is very valuable.
- Success only possible in cooperation with partners from cattle breeding, performance recording, veterinarians, science and the support by the Ministries.



## Acknowledgement

The Federation of Austrian Cattle Breeders thanks

- > the Ministry of Agriculture, Forestry, Environment and Water management and the Ministry of Health and Women as well as the Federal States for their financial support.
- > the partner organisations for their good cooperation and their valuable advise.



- > The colleagues from other countries for their advise and sharing of experiences.

