Genomics is a rapidly evolving field of research that provides radical approaches to understanding the links between the genetic code and diseases. Significant breakthroughs in the last decade have now positioned the animal health research community to capitalize on the infrastructure built by the human genome project. Major milestones include the draft genome sequences for several animal species, including chicken, dog, cattle, and horse, while the sequencing of the cat, pig, and sheep genomes has been initiated.

This volume presents the proceedings of the international symposium on Animal Genomics for Animal Health held in October 2007 in Paris (France). The conference brought together leaders and experts in genomics and in animal health from the public and private sectors, to present the latest breakthroughs in animal genomics, and to discuss the perspectives offered by the new tools that are being introduced.

It includes a review of the state of the art in animal genomics and its applications to animal health. The contributions describe the new tools available, such as HapMaps for chicken and cattle, and show how the understanding of gene structure and function can be successfully applied to delineate the molecular mechanisms of disease and determine complex phenotypes associated with health traits. A critical evaluation of future needs and future applications of animal genomics is also presented. The integration of animal genomics in animal health research is likely to revolutionize the way scientists approach the challenges of discovering highly effective drugs and vaccines for animal diseases.

The collection of papers presented here is invaluable to the animal health research community, animal breeders, veterinary practitioners, as well as regulatory veterinary services and animal health authorities.