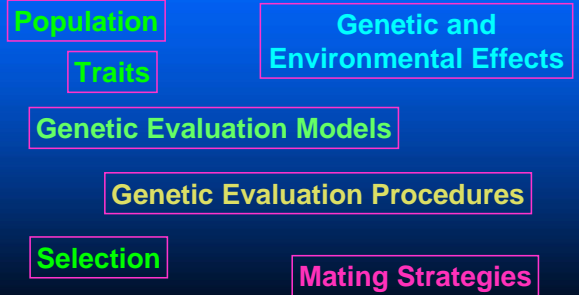


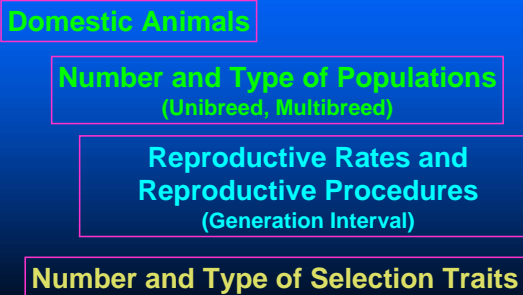
# Current Situation and Prospects for Animal Genetic Improvement

M. A. Elzo  
University of Florida

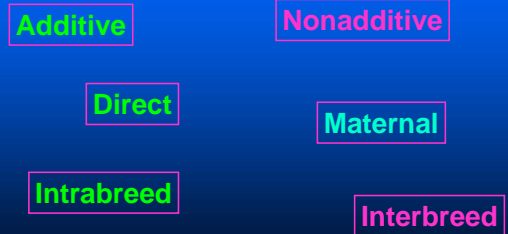
## Situation



## Population



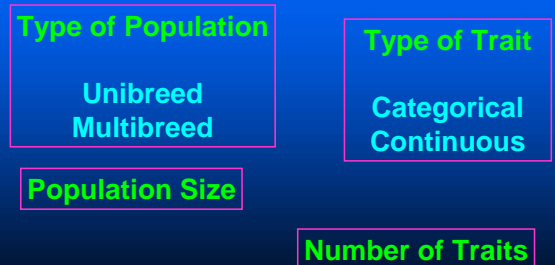
## Genetic and Environmental Effects



## Genetic Evaluation Models



## Computational Procedures



## Selection and Mating Strategies

Selection

Unitrait  
Multitrait

Mating Strategies

Unibreed  
Multibreed

## Genetic Evaluation in Time

Past

Present

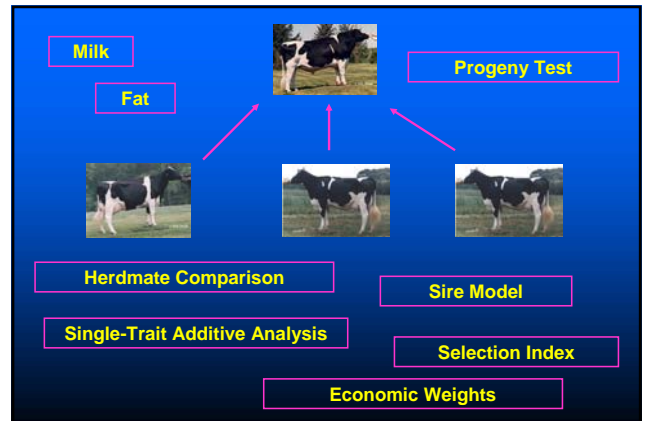
Future

## Past Genetic Evaluations

Unibreed

Unitrait  
Multitrait  
(Selection Index)

Additive Genetic Effects

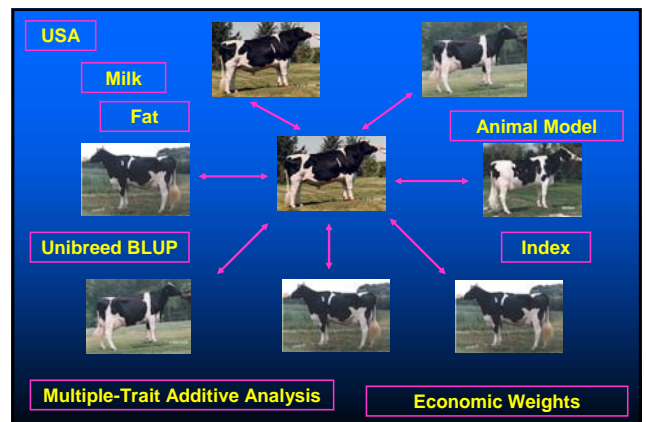


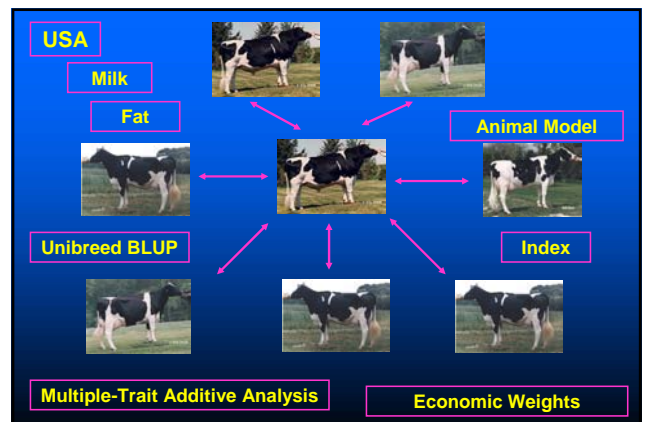
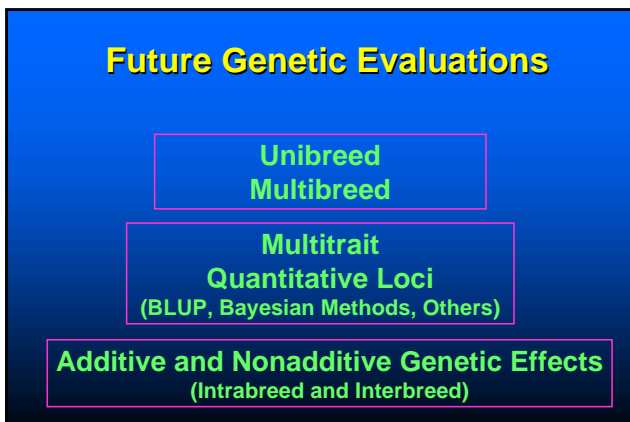
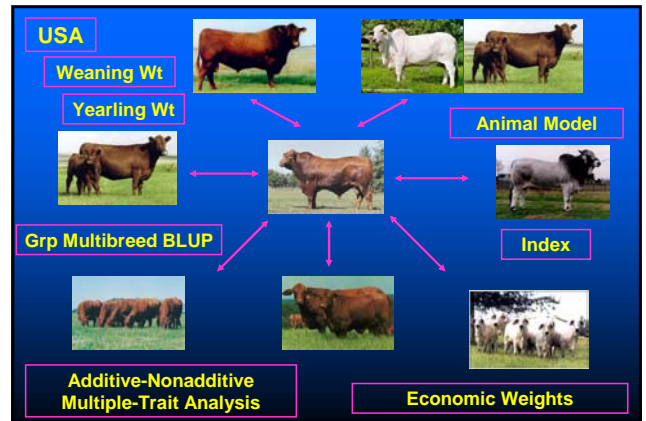
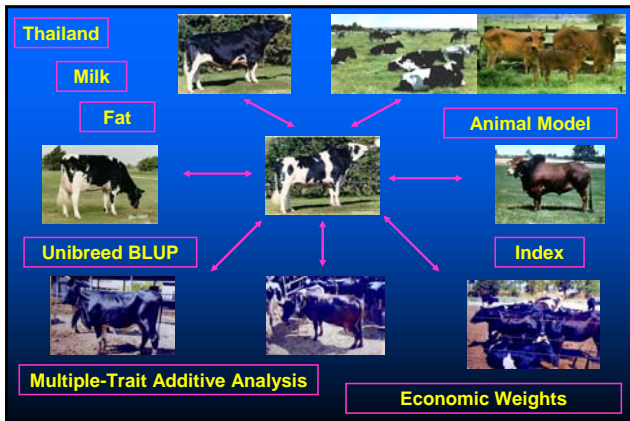
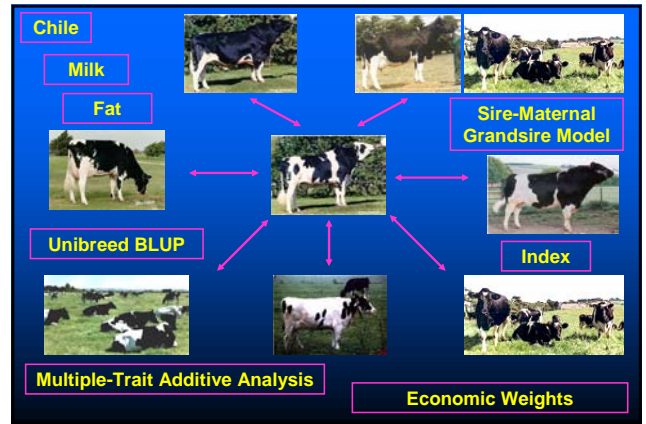
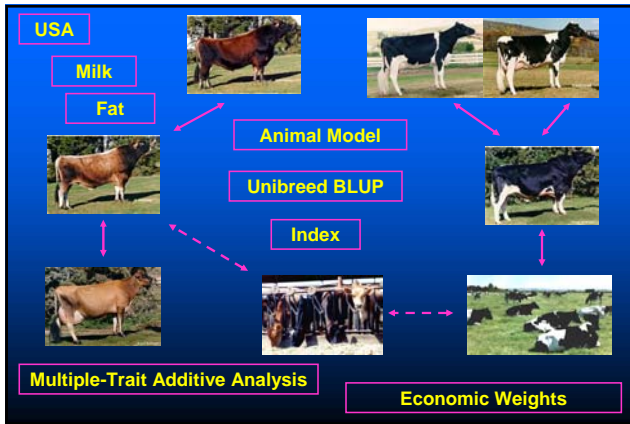
## Present Genetic Evaluations

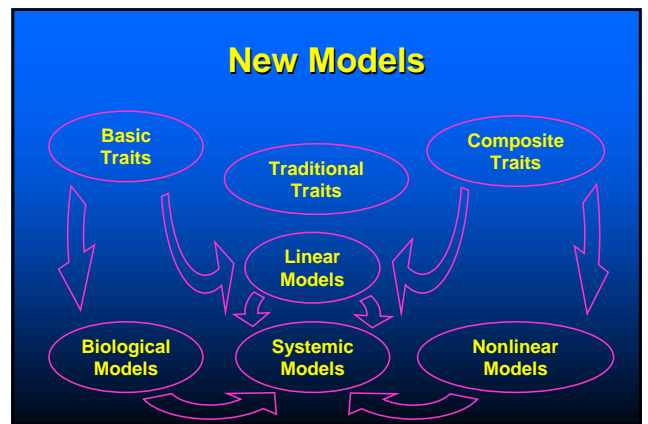
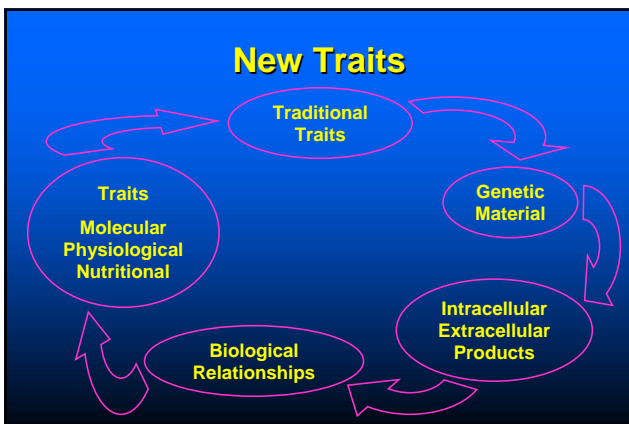
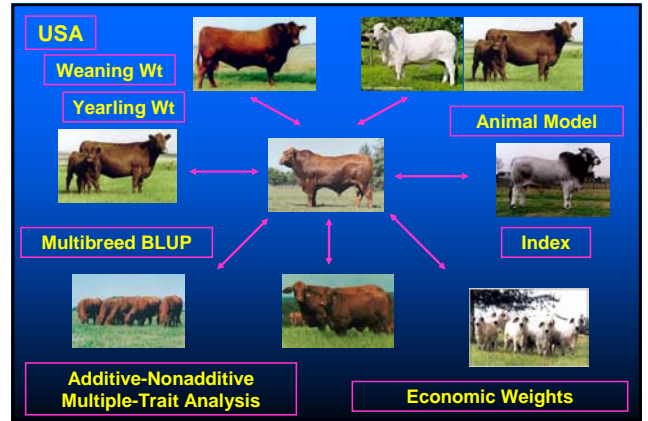
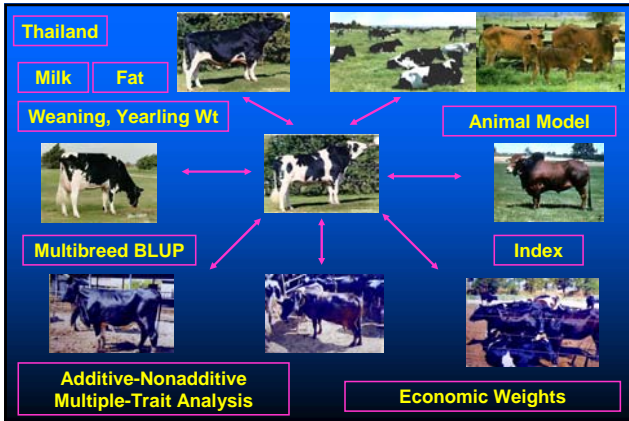
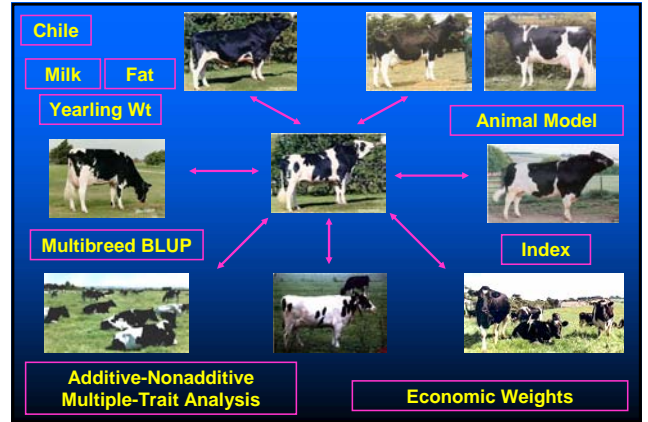
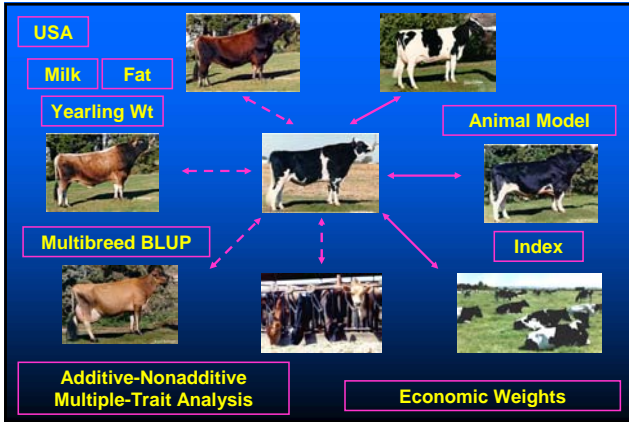
Unibreed  
Multibreed

Multitrait  
Quantitative Trait Loci (QTL)  
(BLUP, Bayesian Methods)

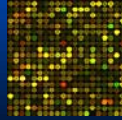
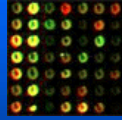
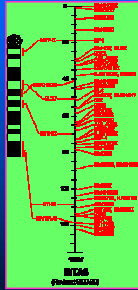
Additive and Nonadditive Genetic Effects  
(Interbreed)



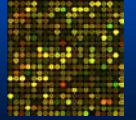
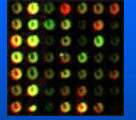
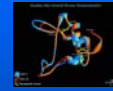
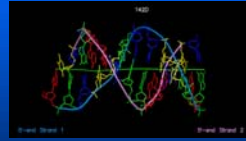




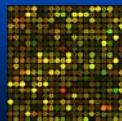
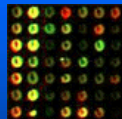
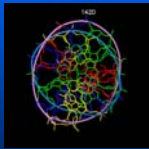
## Current Research



## New Relationships

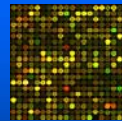


## New Groups of Traits



Milk

Fat



Ninth Month

Seventh Month

Fifth Month

Level of Activity

Third Month

Active Genes

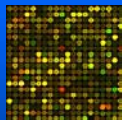
First Month

Groups of Genes

Relationships Among Genes

Milk

Fat



Ninth Month

Heat Resistance

Seventh Month

Immunologic Resistance

Fifth Month

Digestive Efficiency

Third Month

Parasite Resistance

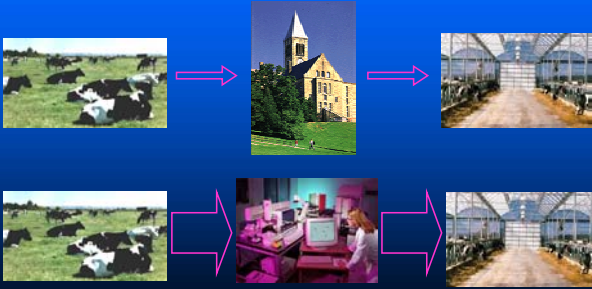
First Month

Oxytocin GH

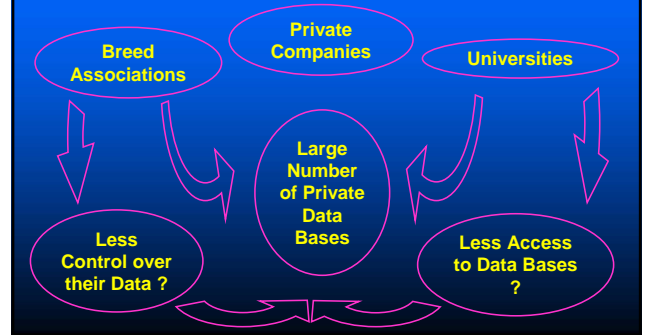
## Current Flow of Information



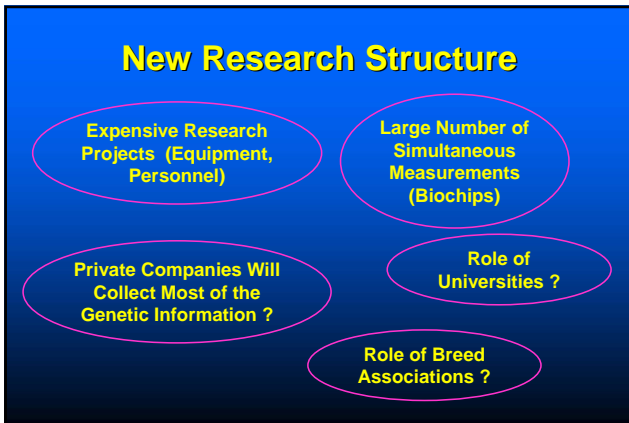
## Future Flow of Information



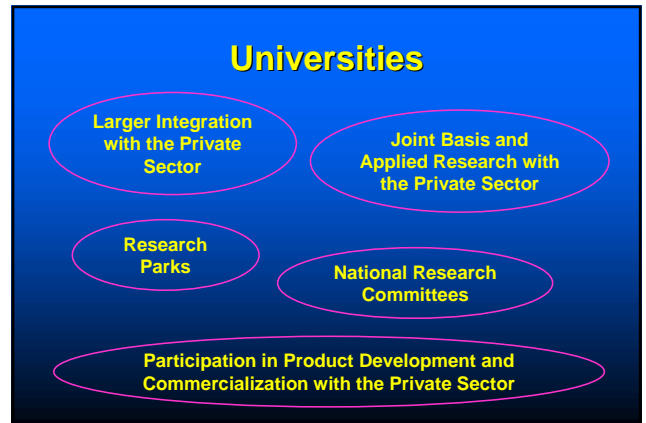
## New Informatics Structure



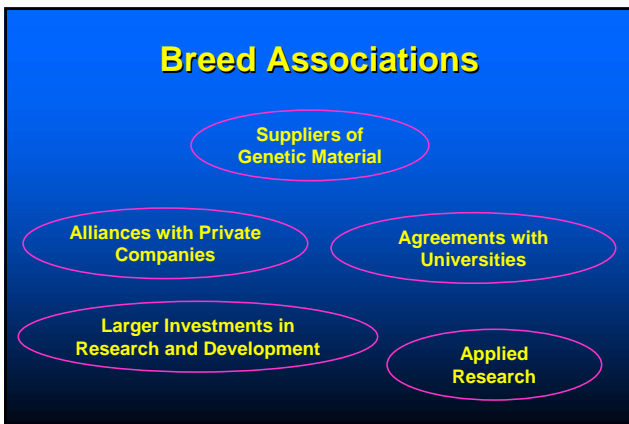
## New Research Structure



## Universities



## Breed Associations



## Globalization

