

# Wheat Bran

- Slightly Laxative effect
- High in fiber
  - Positive effects on milk production and milk fat
- Dairy cattle and beef cattle
  - » Concentrate feeds 25%
- If given high amounts<sup>↑</sup> ⇒
  - Softening in milk fat and internal fat
- Last period in fattening in beef cattle
- Bran in diets<sup>↓</sup> feeds rich in energy<sup>↑</sup>
- Lamb concentrates 5%
- Sheep concentrates 20%

# Horse nutrition

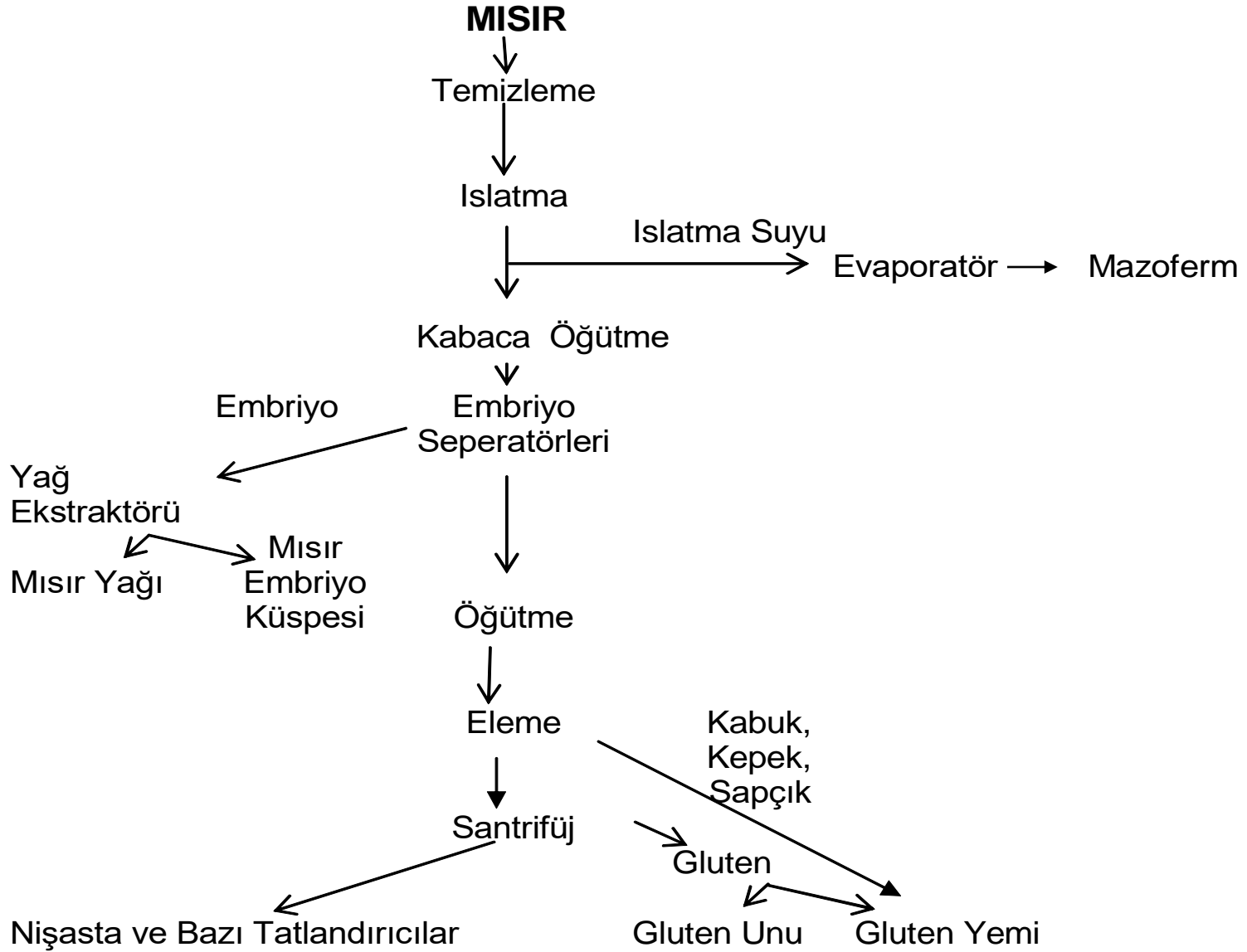
- fibre ↑ and slightly laxative
  - ideal feed.
- Constipated horses,
  - Bran is soaked in hot water for half an hour or more
- When it is given for a long time,
  - No more than 500 g should be given.
- Otherwise diarrhea and work weakness can be seen.
- Horse concentrates 5-20 %

# STARCH INDUSTRY BYPRODUCTS

- Feeds rich in starch such as corn, wheat, sorghum, potato
  - Byproducts obtained after starch production

# **CORN STARCH INDUSTRY BYPRODUCTS**

- Corn grains were processed by wet milling methods
- Various products are obtained from corn grain during starch production



# CORN GLUTEN MEAL

- Corn gluten named as according to the manufacturing technique
  - Corn gluten feed
  - Corn gluten meal
- Corn gluten feed
  - After removal of starch and embryo (24% CP)
- Corn gluten meal
  - After removal of starch, embryo and bran (60% CP)

- Corn gluten meal
  - CP ↑ lysine and triptophane ↓
  - Most of protein is not degraded in rumen,
  - bypass methionine ↑
  - Valuable in high yielding dairy cattle
  - Average 15% starch
  - ME(poultry):3500-3700 kcal/kg,
  - (ruminant): 3050 kcal/kg
  - poultry, lamb, calf 5%
  - Cattle, sheep 10%

# CORN GLUTEN

- Steep water (20-30%) can be added to corn gluten feed
- Corn gluten feed  
broiler, laying hen, turkey diets 10%
- In poultry diets
  - If used instead of some of animal protein
  - Cost of diet ↓ egg production↑
- Gluten feed from yellow corn
- More vitamin A than yellow corn
- Gluten color indicates the type of corn used.



# CORN GLUTEN

- Corn gluten feed
  - Digestible nutrients↑
  - Digestible protein↑ ⇒
    - protein supplement in cattle feed
- 15-20% corn gluten feed in cattle diets

# SUGAR INDUSTRY BYPRODUCTS

- Important in animal nutrition
- Preparation silage
- a large part of the sugar-free part is made of pectin.
- Pektin is not utilized well except ruminants
- Sugar beet and molasses rich in sugar are preferred by dairy cows due to delicious