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*Student Note Outline:*  
*Introduction to*  
*Specialty Feeds*

# *Protein Supplements*

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- *More than 20% protein*
- *Animal Protein Supplements*
  - *inedible tissues from meat packing*
  - *Surplus milk products*
  - *marine sources*
  - *feather meal (85% protein) poor quality, must be hydrolized, less than 5% in hog ration*

# *Protein Supplements*

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- *Plant Protein Supplements*
  - *oilseed by-products*
  - *soybean meal*
  - *cottonseed meal*
  - *linseed meal*
  - *peanut meal*
  - *safflower seed*
  - *rapeseed meal*

# *Protein Supplements*

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## ■ *Plant Protein Supplements*

- *Hogs and chickens usually fed some protein feeds of animal origin (essential amino acids)*
- *Ruminants = protein quality is less important*
- *Protein quality usually higher if variety of feeds are used*

# *Protein Supplements*

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- *Non-protein Nitrogen Sources (NPN)*
  - ***Ruminants** - microorganisms (simple plants) in rumen convert nitrogen into protein*

## *Non-protein Nitrogen Sources (NPN)*

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- *Urea - made from anhydrous ammonia*
- *Fertilizer, Feed Additive, Plastics*
- *Urea is the end product in nearly all mammals*
- *Urea = 28% protein*
- *Max limits of Urea use (25% of protein for pregnant cows)*

# *Vitamin Supplements*

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- *Vitamins are destroyed by heat, sunlight, oxidation, mold growth*
- *Adult Ruminants: A, D, E*
  - *synthesize B, C, K vitamins*
  - *sunlight = Vit. D*
- *Hogs: need vitamin supplements*

# *Special Feeds*

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- *Colostrum: first milk given by mammals after parturition*
  - *contains antibodies*
  - *within 15 min to 4 hours*
  - *surplus colostrum can be frozen for up to a year or more*
  - *can feed cow colostrum to lambs etc., but some diseases are species specific*



# *Special Feeds*

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## ■ *Milk Replacers*

- *can't replace colostrum*
- *is fortified with vitamins, minerals and antibiotics*
- *higher fat reduces diarrhea*

# *Special Feeds*

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- *Fats and Oils*

- *acidulated soap stock, tallows, greases*

- *Fat*

- *Increases calories of ration (2 1/4 times energy of carbohydrates)*
- *controls dust*
  - *animals don't like dusty rations*
- *lessens wear on feed mixing equip.*

# *Special Feeds*

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## ■ *Molasses*

- *by-product from sugar manufacture*
- *$\frac{3}{4}$  energy value of corn*
- *appetizer*
- *reduce dust, pellet binder*
- *stimulate rumen activity*

# *Additives, Implants and Injections*

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- *80% of food animals get some drug during lifetime*
- *chemicals that regulate growth, modify rumen activity, improve feed efficiency increase each year.*
- *lower production costs*
- *unsafe if used improperly*

# *Bloat Control Products*

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- *“Bloat Guard”*
- *“Terramycin” or “Neoterramycin”*
- *“Enproal Bloat Blox”*
- *“Bovatec” & “Rumensin” inhibit gas formation and methane production in rumen*

# *Electrolytes*

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- *Substance when dissolved in water enables solution to conduct electric current*
- *Salts (saline)*
- *Replenish fluids lost from:*
  - *dehydration*
  - *diarrhea*
  - *hemorrhage*
  - *vomiting*

# *Electrolytes*

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- *Give orally if possible*
- *Intravenously if life threatening*
- *Subcutaneous possible*
- *Check with veterinarian*
- *7-10% of body weight in 24 hrs*

# *Flavoring Agents*

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- *Increase palatability and feed intake*
- *Many additives taste or smell bad*



# *Implants*

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- *small pellet deposited under skin behind the ear*
- *Promote growth*
- *“Compudose”-steers any age or wt*
- *“Finaplex”-feedlot steers*
- *“Ralgro”-improves rate of gain*
  - *not a hormone (anabolic agent)*
  - *either sex, suckling, growing, finish*

*Student Note Outline:*

*Introduction to  
Specialty Feeds &  
Additives*

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