

Species – Horse

Module – Feedstuffs Identification

Targeting Life Skills

Beginner

- Critical thinking
- Learning to Learn

Intermediate

- Critical Thinking
- Decision making

Senior

- Critical Thinking
- Communication
- Service learning
- Leadership

Learning Objectives

Beginner

- Explain the differences between forages and concentrates.
- Identify two forages, one mineral source, and three concentrates.

Intermediate

- Identify four forages, six concentrates and two mineral sources.
- Identify processed feeds (i.e., dehydrated, ground, cracked, rolled, etc.) and explain the purpose of the process.

Seniors

- Identify all horse feeds in the Kit Feed Box and forages on the Horse Discovery CD.
- Describe how horse feeds are processed.
- Identify feedstuffs present in a sample of mixed horse feed.

Learning Activities

Age Level	Learning Activities	Materials Needed	Source
Beginner	<ul style="list-style-type: none"> • Identify samples of two forages, three concentrates, and one mineral source. 	<ul style="list-style-type: none"> • Feed samples • Horse Discovery Website 	KHVCR kit KHVCR Manual
	<ul style="list-style-type: none"> • Complete Word Scramble 	<ul style="list-style-type: none"> • Horse Feedstuff Word Scramble 	KHVCR Manual
	<ul style="list-style-type: none"> • Define Forages vs. Concentrates 	<ul style="list-style-type: none"> • Forage vs. Concentrates demonstration activity 	KHVCR Manual
	<ul style="list-style-type: none"> • Complete a word search puzzle of feed names. 	<ul style="list-style-type: none"> • Word Search Puzzle 	KHVCR Manual
	<ul style="list-style-type: none"> • Visual review and quiz using Horse Discovery Website and feeds. 	<ul style="list-style-type: none"> • Feed samples • Horse Discovery Website • Pencils and paper 	KHVCR kit KHVCR Manual

Age Level	Learning Activities	Materials Needed	Source
Intermediate	<ul style="list-style-type: none"> • Identify samples of four forages, six concentrates, and two mineral sources. • Complete Word Scramble. • Gather several feed tags from your local Horse Feed dealer and discuss the feedstuffs present in the horse's feed. • Visual review and quiz using Horse Discovery Website 	<ul style="list-style-type: none"> • Feed samples • Horse Discovery Website • Horse Feedstuff Word Scramble • Feed tags • Feed samples • Horse Discovery Website • Pencils and paper 	<p>KHVCR kit KHVCR Manual</p> <p>KHVCR Manual</p> <p>KHVCR Manual</p>
Senior	<ul style="list-style-type: none"> • Identify all horse feeds in Kit Feed Box and forages on Horse Discovery Website. • Complete Word Scramble. • Conduct an internet search and create an explanatory visual display for young members on the various types of feed processing and the goal of each. • Give an oral report on the feeds you are using at home and why you are using them. • Bring a sample of a mixed horse feed and feed tag; identify each feedstuff. • Utilize feeds kit to teach Beginners and intermediates feeds ID. 	<ul style="list-style-type: none"> • Feed samples • Horse Discovery Website • Horse Feedstuff Word Scramble • Internet • Feed samples and ID tags • Feed samples and ID tags • Feed samples & ID tags • Pencils and paper 	<p>KHVCR kit KHVCR manual</p> <p>KHVCR Manual</p> <p>Internet</p> <p>KHVCR kit</p> <p>KHVCR kit</p> <p>KHVCR kit</p>

Time Requirement

- Each activity should be completed in 60 minutes or less

Best Time to Teach

- First in the “Nutrition” series of lessons.

Best Location

- Classroom

Evaluation

Beginners

- Score identification of feed samples.
- Score word scramble.
- Score word search puzzle.

Intermediate

- Score identification of feed samples.
- Score word scramble.

Senior

- Score identification of feed samples.
- Score word scramble.

References

- Horse Resource Handbook (KHVCR)
- KHVCR Kit
- Horse Discovery Website: <https://afs.ca.uky.edu/horse-discovery>
- Livestock Feedstuffs Kit (KHVCR kit)
- Internet resources

Horse Feeds in KHVCR Kit

The KLVCR kit contains 30 labeled bottles of commonly-used livestock and horse feeds. Only the feeds listed below will be discussed during all Horse Nutrition modules. These feeds are listed along with processing that has been done with that feed.

Feed	Processing Procedure	Purpose of Processing
Barley (whole)		
Cracked Shelled corn	Shelled, cracked (dry rolled)	Increase digestibility
Crimped Oats	Crimped (steam rolled)	Increase digestibility
Dicalcium Phosphate		
Dried Beet Pulp	Dried by-product of sugar production	Ease of handling
Ground limestone	Ground (powdered)	Improve mixing qualities
Ground shelled corn	Shelled, ground (dry rolled)	Increase digestibility
Liquid molasses	By-product of sugar production	
Oats (whole)		
Shelled (whole kernel) corn	Shelled (removed from cob)	Increase nutrient concentration
Soybean meal	By-product of oil extraction	
Steam rolled oats	Steam rolled	Increase digestibility
Trace mineralized salt		
Vegetable Oil	Oil extracted from plant seeds	Increase nutrient concentration
Vitamin supplement	Mixed with filler/extender	Improve mixing qualities
Wheat (whole)		
Wheat middlings	By-product of flour milling	
White salt		

Caution: Volunteer Leaders please note: The vitamin supplement included in this kit is just one form of many in which vitamins can appear. Vitamin supplements consist of primarily carrier materials and those are frequently chosen because they are locally inexpensive and easy to acquire.

KHVCR Kit Horse Feeds Labels

Barley	Cracked Shelled Corn
Crimped Oats	Dicalcium Phosphate
Dried Beet Pulp	Ground Limestone
Ground Shelled Corn	Liquid Molasses
Oats (whole)	Shelled Corn
Soybean Meal	Steam Rolled Oats

KHVCR Kit Horse Feeds Labels

Trace Mineralized Salt	Vegetable Oil
Vitamin Supplement	Wheat Middlings
Wheat (whole)	White salt

Horse Feedstuff Word Scramble

Beginner Activity

Please unscramble the words below

1. krcaccdroen

2. laeshiwtt

3. eneymaoalbs

4. tohleoswa

5. fallfaa

6. ityhotm

Horse Feedstuff Word Scramble

Beginner Activity

Answer Key

- | | |
|----------------|--------------|
| 1. krcacdroen | Cracked corn |
| 2. laeshiwt | White salt |
| 3. eneymaoalbs | Soybean meal |
| 4. tohleoswa | Whole oats |
| 5. fallfaa | Alfalfa |
| 6. ityhotm | Timothy |

Horse Feedstuff Word Scramble

Intermediate Activity

Please unscramble the words below

1. uFeaTcelsl

2. erCRdevol

3. acaOrsrhsgdr

4. sBureaslg

5. lBetPeup

6. tsareCmdpOi

7. aeldniiWMhdsgt

8. aCdrorkcneC

9. eobMleSayan

10. lraBye

11. monetsieL

12. hStteWila

Horse Feedstuff Word Scramble

Intermediate Activity

Answer Key

Please unscramble the words below

- | | |
|-------------------|-----------------|
| 1. uFeaTcelsl | Tall Fescue |
| 2. erCRdevol | Red Clover |
| 3. acaOrsrhsgdr | Orchardgrass |
| 4. sBureaslg | Bluegrass |
| 5. lBetPeup | Beet Pulp |
| 6. tsareCmdpOi | Crimped Oats |
| 7. aeldniiWMhdsgt | Wheat Middlings |
| 8. aCdrorkcneC | Cracked Corn |
| 9. eobMleSayan | Soybean Meal |
| 10. lraBye | Barley |
| 11. monetsieL | Limestone |
| 12. hStteWila | White Salt |

Horse Feedstuff Word Scramble – Senior Activity

Please unscramble the words below

- | | | | |
|------------------------|-------|--------------------|-------|
| 1. laffaA | _____ | 2. FseullaTce | _____ |
| 3. msniVita | _____ | 4. sgsaRrye | _____ |
| 5. rvlRdoeeC | _____ | 6. raOdssacgrhr | _____ |
| 7. oteVClhireW | _____ | 8. rarMscealTien | _____ |
| 9. luBsgesra | _____ | 10. BePultpe | _____ |
| 11. timdrasOCep | _____ | 12. WdMghendistial | _____ |
| 13. pusPhmhtlaoecDacii | _____ | 14. Moeassls | _____ |
| 15. kaorcncCeCdr | _____ | 16. ynMSaolbeea | _____ |
| 17. VOgabletleei | _____ | 18. lyBaer | _____ |
| 19. oitemensL | _____ | 20. laSteihWt | _____ |

Horse Feedstuff Word Scramble – Senior Activity

Answer Key

Please unscramble the words below

1. laffaA	<u>Alfalfa</u>	2. FseullaTce	<u>Tall Fescue</u>
3. msniVita	<u>Vitamins</u>	4. sgsaRrye	<u>Ryegrass</u>
5. rvlRdoeeC	<u>Red Clover</u>	6. raOdssacgrhr	<u>Orchardgrass</u>
7. oteVClhireW	<u>White Clover</u>	8. rarMscealTien	<u>Trace Minerals</u>
9. luBsgesra	<u>Bluegrass</u>	10. BePultpe	<u>Beet Pulp</u>
11. timdrasOCep	<u>Crimped Oats</u>	12. WdMghendistial	<u>Wheat Middlings</u>
13. pusPhmhtlaoecDacii	<u>Dicalcium Phosphate</u>	14. Moeassls	<u>Molasses</u>
15. kaorcncCeCdr	<u>Cracked Corn</u>	16. ynMSaolbeea	<u>Soybean Meal</u>
17. VOgabletleei	<u>Vegetable Oil</u>	18. lyBaer	<u>Barley</u>
19. oitemensL	<u>Limestone</u>	20. laSteihWt	<u>White Salt</u>

Forages vs. Concentrates

Beginner Demonstration Activity

The purpose of this demonstration is to illustrate how forages differ from concentrates and why we use these two types of feeds with hindgut fermenters.

Forages are feeds that are higher in fiber, lower in digestible nutrients, and lower in energy compared to concentrates. They include hay, straw, pasture, and high fiber by-products. Concentrates are feeds that are higher in one or more nutrient (that is, nutrients are “concentrated”) compared to forages. They include all grain feeds, protein supplements, vitamin and mineral supplements, fats, sugar sources, etc.

What are the human equivalents of forages? They are those foods that meet the definition above, so think high fiber. What are the human equivalents of concentrates? Think high energy or fat items.

Materials needed: Variety of “forage” foods for humans, examples:

Lettuce *Any bran products (wheat, oat, rye)*
Celery *Whole grains* *Shredded wheat*
Granola *Popcorn* *Broccoli*

Variety of “concentrate” foods for humans, examples:

Any meat products
Any dairy products (cheese, yogurt, milk, etc.)
Peanut butter
Any soy-based product (tofu, soymilk, soybars, etc.)
Eggs
Nuts
Vitamin tablets

KLVCRC Feed kit (horse feeds only)
Pencils and paper
Paper plates

Place your variety of human foods on plates and spread them across one table (label if necessary). Spread your horse feeds across another table with labels (next page) cut out and near each bottle.

The objective is to group the “forages” and the “concentrates” in both the human foods and the horse feeds. A demonstrator can do this as a group by calling out instructions or the youth can do it themselves. To make it competitive, let teams take turns grouping the items under a time limit and score their efforts.

Feed Names Word Search Puzzle - Beginners

H O H M I N E R A L S H N Z L
A B U B W Q S V X G K W T V Y
H J S L Q F O E S J T W H E R
C B K A E G N O S L Y H T E M
O Q F I T F Y F Q S E J J B K
Q L X D A B N B L C A M S R E
Y N J I E O O V R W C L E K J
D A L A H A Z X V S R B O U W
O D N V W Y V S S N L C C M I
V I D P F N L M A I K R O B K
M J L T S N B X L M G H E A B
L S N E B X R W T A I C W R N
P L J N L E S O M T G X Z L O
B H F L I T K D C I A Q T E V
I N C P O A T S Z V Y Z Y Y R

BARLEY

WHEAT

OATS

CORN

SOYBEAN

MOLASSES

OIL

MINERALS

VITAMINS

SALT

Feed Names Word Search Puzzle - Beginners

Answer Key

H	O	H	M	I	N	E	R	A	L	S	H	N	Z	L
A	B	U	B	W	Q	S	V	X	G	K	W	T	V	Y
H	J	S	L	Q	F	O	E	S	J	T	W	H	E	R
C	B	K	A	E	G	N	O	S	L	Y	H	T	E	M
O	Q	F	I	T	F	Y	F	Q	S	E	J	J	B	K
Q	L	X	D	A	B	N	B	L	C	A	M	S	R	E
Y	N	J	I	E	O	O	V	R	W	C	L	E	K	J
D	A	L	A	H	A	Z	X	V	B	R	B	O	U	W
O	D	N	V	W	Y	V	S	S	N	L	C	C	M	I
V	I	D	P	F	N	L	M	A	I	K	R	O	B	K
M	J	L	T	S	N	B	X	L	M	G	H	E	A	B
L	S	N	E	B	X	R	W	T	A	I	C	W	R	N
P	L	J	N	L	E	S	O	M	T	G	X	Z	L	O
B	H	F	L	I	T	K	D	C	I	A	Q	T	E	V
I	N	C	P	O	A	T	S	Z	V	Y	Z	Y	Y	R

BARLEY

WHEAT

OATS

CORN

SOYBEAN

MOLASSES

OIL

MINERALS

VITAMINS

SALT