

MY PROGRAM: MANURE MANAGEMENT...AND MORE



UF UNIVERSITY of
FLORIDA
IFAS Extension

Foundation for a Gator Nation
An Equal Opportunity Institution



Farm Outreach Coordinator

UF/IFAS Marion County Extension Agent



MY TWO PROGRAM AREAS:

- 1. Water Quality**
- 2. Natural Resources**

Because Marion County is "Horse Capital of the World"...



***And,
Horse manure/urine = water quality issues***

**And Nitrogen
is the problem here,
as you all know...**

***AND...look at these statistics
on horses and people
in Florida and Marion County...***



SPEEDING CAN WRECK YOUR DAY

IN FLORIDA:

**18+ million people
(4th largest state in US)
500,000+ horses**

IN MARION COUNTY:

**330,000+ people
50,000+ horses-WOW!**

***One of the
THREE BIGGEST horse STATES!***



Now, consider this:

**A 1000 lb. horse excretes
45 to 50 pounds
of manure
*EVERY DAY!***





**500,000 horses
X 50lbs./day**

_____ =

LOTS OF MANURE!



You do the math:

**Even though horse manure
does NOT have the highest amount of nitrogen ...**



The large numbers of horses have created the problem

Average Manure Facts-Raw Manure

The Ohio State University Extension: Agronomy Facts

Animal	Manure Tons/yr	Nutrient Content lbs/ton	Percent Solids
Sheep	7.3	N:22.5, P₂O₅:7.6, K₂O:9.5	25.0
Llama/Alpaca	?	?...High N, low organic matter	?
Goat	7.0	N:22.0, P₂O₅:5.4, K₂O:15.1	31.7
Pig	~11.2	N:~13.9, P₂O :~10.8, K₂O:~10.9	9.2
Cow (beef, dairy)	~13.5	N:~10, P₂O₅ :~5, K₂O:~8.8	~10.9
Horse	8.2	N:12.1, P₂O₅ :4.6, K₂O:9.0	21.0
Poultry (assorted)	~10.4	N:~27.2,P₂O₅ :~20.3, K₂O:~14.2	25.0

**FYI... It's critical to note:
The horse industry has over a
\$500 million Impact in Marion County alone**

-stats from 2005 American Horse Council



So we must protect this valuable commodity

A large portion of my work involves: Education and Outreach for...

- Group programming/workshops**
- Individual farm consultations**
- Equine Breed Associations and Clubs**
- Government Bodies (within the whole state)**
- Equine Housing Associations**
- Horse shows and events, when appropriate**

On BMPs, legislation, etc.,

ABOUT THE PROGRAM:

- Originally, a three term contract, starting in 2007
- Started with UF-2010.
- TO DATE:
 - 766 initial farm visits done. (*farms bought & sold*)
 - 212 farm revisits.
- Farm service companies, composting facilities, manure to energy, etc.,
- Monthly articles : *Florida Horse, Horse Capital Digest, In the Field.*
- BMP, pasture management, etc., presentations given to equine clubs, HOA's.
- “Tabling” done at horse shows, equine and community events
- Wellington discussions

My Explanation of This Program:

**“I’m not the person who gets you into trouble,
I’m the person who helps keep you out of trouble.”**

University of Florida/IFAS is Educational only

NOT regulatory in any fashion

**Marion County works well with this program, so I am
able to give farms the help they need,
*IN A NON-REGULATORY MANNER.***

OFTEN TIMES MISTAKES ARE MADE ONLY FROM LACK OF EDUCATION

Manure handling options are covered...





Many piles have been eliminated...



**And others are now held in a
Manure Containment Bin**

Composting for a small farm



**Another farm built this from
education provided**

**Composted manure
(used on farm)**

Manure to be hauled away



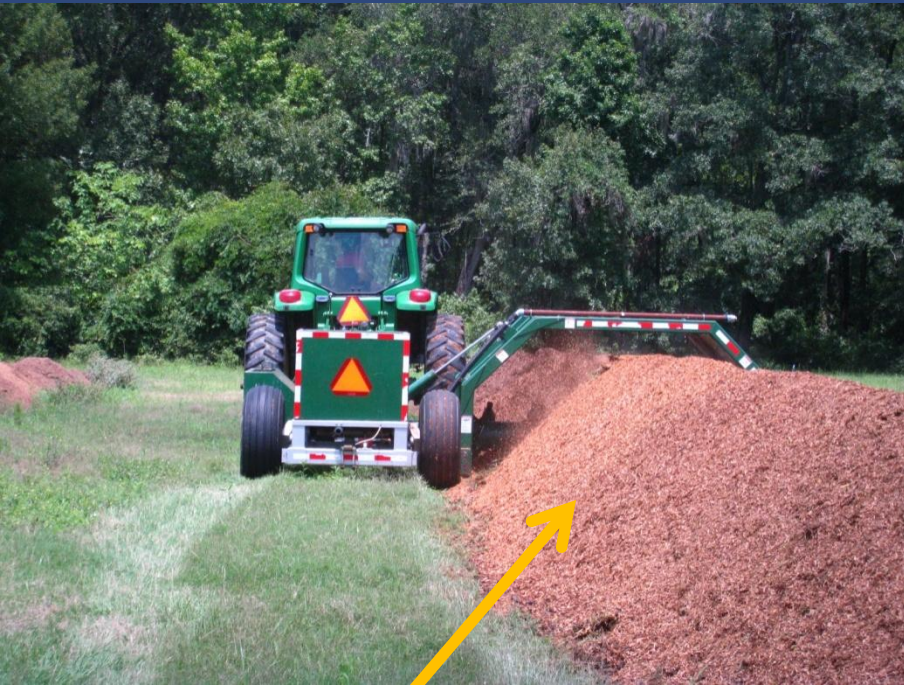
SUSTAINABLE AGRICULTURE:

(Built as a result of this program)

**The manure from this farm is used to help
maintain the pastures**

Large-scale Composting

Continued education has greatly improved this facility



Just started pile

Completed compost

Finished product of
HORSE MANURE/BEDDING
(This is used on the farm's crops)
AGAIN, SUSTAINABLE FARMING



Another example of Composting and program benefits:



This manure used to be dumped directly in a pond



SPREADING



What I teach farms:

Determine if there is enough acreage ;
check with local codes

- I discuss land-applying manure :
 - *Composted manure is best-case scenario*
- It's a terrific soil amendment (great in Florida)
- It can also be a good slow-release fertilizer



SOIL HEALTH: *Discussed Often*

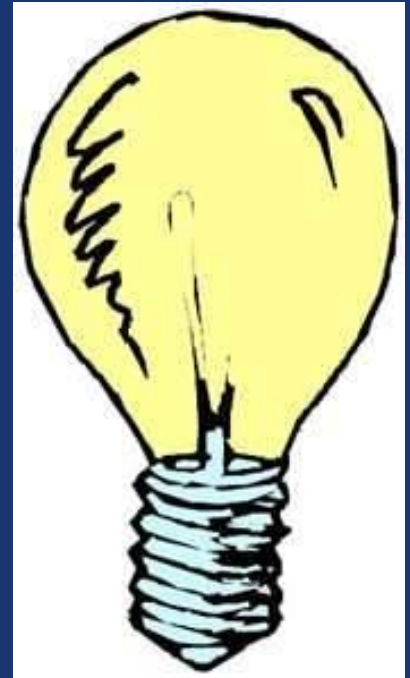
This program shows...
LAND APPLICATION LAWS ARE CHANGING:

Ex. Wellington, FL no longer allows the spreading of manure which has not been previously composted

True for MANY states, not just Florida!

**Ex. Pennsylvania:
EACH farm NEEDS a
Nutrient Management Plan
to address *any* land application**

Manure to Energy...



In Marion County: Two farms use gasification today



**The goal: For the farm's manure to generate
all the electrical needs for the farm**

ANAEROBIC DIGESTION:

Manure comes from Marion County



A horse-cow manure mixture used at the farm



**Allows this facility to be “off the grid”
for 6 months at a time**



WHAT ELSE MY PROGRAM OFFERS *TO FARMS:*

Non-regulatory farm evaluations :

- 1. Current manure management practices**
- 2. Farm layout**
- 3. Current fertilization practices**
- 4. Trouble spots**

Farm Improvement Services offered:

- 1. Pasture/stocking rate assistance**
- 2. Free soil testing kits**
- 3. Help setting up or improving composting systems**
- 4. Always working on manure to energy**

Building and Construction advice:

- 1. To avoid future/additional erosion and run-off problems**

I also cover participation in the equine BMP Manual

FOR: Commercial Horse Farms

- **Lands Classified as Agriculture**
- **IRS Form 1040, Schedule F**

NOT ELIGIBLE:

Small hobby operations

Race tracks

Large horse shows regulated by FDEP permit

I also explain FDEP “Hobby Horse” Manual



**Marion County's
Springs Protection
Ordinance
*Adopted in 2009***

**CAFOs-
*Concentrated Animal
Feeding Operation***

**Additional state/federal
legislation
for facilities housing over 500
animals**

Successes with the Program:

- **OVER 70% IMPROVEMENT w/ MANURE HANDLING in Marion County, since start of program**

- **OVER 70% IMPROVEMENT IN BMP USAGE**

- **Soil testing**
- **Decreasing horse numbers on the property**
- **Rotational grazing –improves grass cover**
- **Fixing soil erosion problems**
- **Planting grass seed, etc.**

FYI: LOTS more interest in composting is occurring!

CURRENTLY WORK WITH SWFWMD, FARMS AND COST SHARE

And...

A 1000 lb horse makes ~ 8.5 tons manure/yr.

Which ~ 2057lbs./yr nitrogen (N),

**(<http://www.extension.org/pages/25674/horse-manure-management>,
“Horse Manure Management” J.G. Davis, A. M. Swinker, and Crystal Smith).**

**And... At least 70,000 cubic yards (~18,900 tons)
of stockpiled manure have been removed
Since this program's inception.**

So...

**Total nitrogen reduction amounts to
the ground and surface waters through
elimination of manure stockpiling
Have been at least 228,690 lbs (114.3 tons)
since the inception of this program.**

ANY QUESTIONS?

