



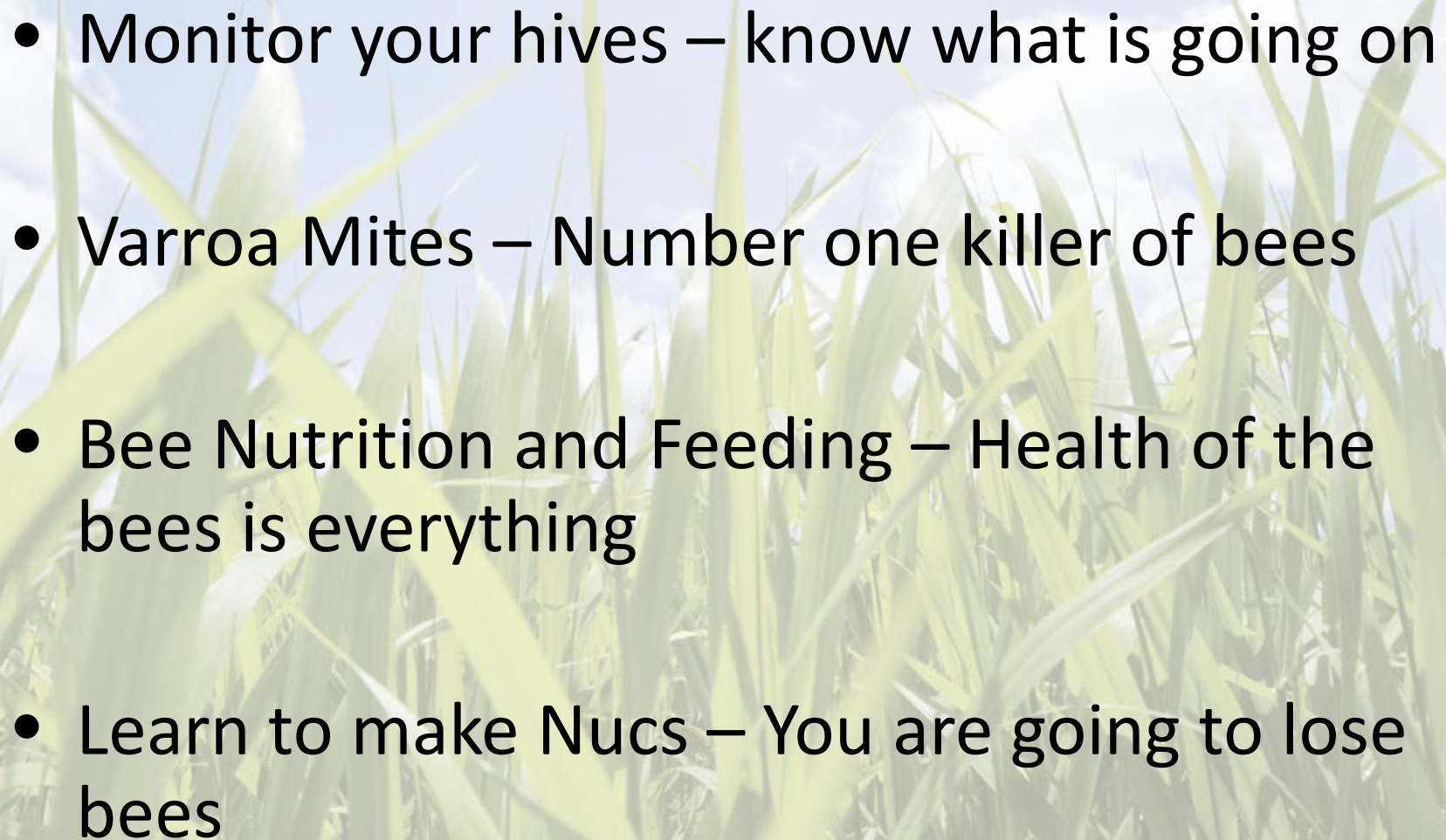
Successful Beekeeping Simpler Than You Think

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Sometimes we over complicate beekeeping

- Too much knowledge to absorb
- Think we have to know ever aspect of beekeeping
- Trying to learn advanced techniques before mastering the basic techniques
- **Try to hard to make money off bees or doing it to fast**
 - Honey
 - Nucs
 - Queens
 - Backyard beekeeping and an actual bee business isn't the same
- **Most new beekeepers are not really prepared and get overwhelmed**
- **Beekeepers don't adjust to changing methods**

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- Monitor your hives – know what is going on
 - Varroa Mites – Number one killer of bees
 - Bee Nutrition and Feeding – Health of the bees is everything
 - Learn to make Nucs – You are going to lose bees

This is the desired results of our work

Strong honey hives headed up by great queens



This is what we want in February



Monitoring your hives is a must

- Know what is going on in your hives
- Check every 10-14 days
- Varroa issues, queen issues, food issues
- Keep records of what you see
- I use a grading system A-D

Varroa Mites

Number one killer of bees



Varroa Mites

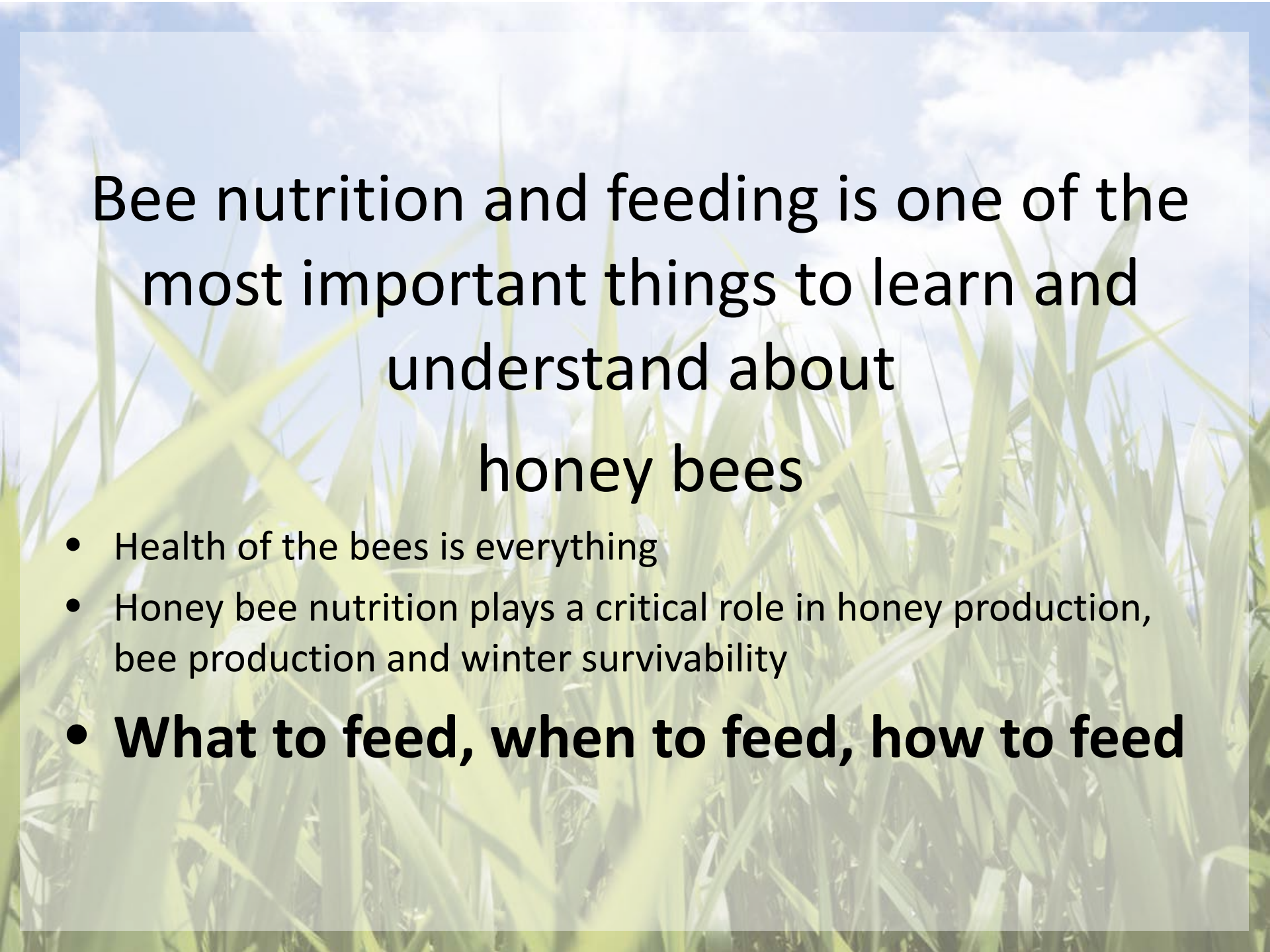
- **My opinion mites is the biggest problem bees and beekeepers face**
- **We know how to control varroa**
- **Varroa is a parasite like a tick**
 - Imagine a tick on your body the size of your hand
- **Varroa weakens the bees immune system and is the carrier of several of the disease's that bees get**
 - DFW Deformed Wing Virus
 - Acute Bee Paralysis
 - Black Queen Cell Virus
 - Israeli Acute Paralysis Virus
 - Kashmir Bee Virus
 - Slow Paralysis Virus
 - Slow Paralysis Viris
 - Lake Sinai Virus-2
 - Chronic Bee Paralysis Virus

Deformed Wing Virus



Varroa Mites

- **Testing is critical to determine levels of mite infestation**
 - Powered Sugar Roll
 - Alcohol Wash (most accurate)
- **Treat anytime a hive is over the threshold of 9 mites per sample of 300 bees (1/2 cup bees)**
- **Rotate treatment options to prevent bees from building resistance**
 - Apiguard
 - Apivar
 - Oxalic Acid
 - MiteAway Quick Strips
- **Highest mite levels occur during the months of June, July, August and September**
- **Sick bees will crash or abscond in late summer, early fall**
- **I treat for mites as soon as honey supers are removed August 1st**



Bee nutrition and feeding is one of the most important things to learn and understand about honey bees

- Health of the bees is everything
- Honey bee nutrition plays a critical role in honey production, bee production and winter survivability
- **What to feed, when to feed, how to feed**

Nectar

Natures Energy Source

- Nectar is the source of carbohydrates (sugars) that supply's the energy through the creation of the honey that the honey bees consume
- Natural nectar sources are declining forcing beekeepers to feed more than every
 - Agricultural practices not as diverse
 - Land and homeowners wanting pristine yards and fields
 - State and local governments spraying roadsides, parks, etc.
- Nectar is supplemented be the beekeeper with 1:1 sugar water in the spring and summer and 2:1 sugar water in the fall to build up winter food reserves.

Pollen

- Pollen is the source of protein, amino acids, vitamins, minerals, fats and Lipids
 - Protein is needed for muscle growth in brood and young adult bees
- **Natural pollen varies from 10%-36% in proteins**
 - The minimum protein percentage needed for honey bees from pollen is 20-25%
- Many natural pollens are nutritional lacking
- Natural pollen sources decrease drastically in summer
- Bees collect many different types of pollens to make up for differences in pollen quality
- **Brood production isn't possible without a quality source of pollen or a appropriate source of protein supplement**
- Bee will cannibalize brood when pollen is low

Open Feeding of AP23 Protein Supplement



Pollen Substitute

- Not all pollen substitutes is created equal
- Comparison of a few high grade pollen substitutes
 - **Ultra Bee** dry 58% crude protein Patties 18% protein
 - **AP23** dry 47% crude protein Patties 15% protein
 - **Bee-Pro** dry 40% crude protein Patties 12% protein
 - **Mega Bee** dry 38% crude protein Patties 13% protein
 - Most Winter Patty Substitutes 2.5%-4%

Water

Why is water important

- Used to dilute stored honey for consumption
- Control the humidity of the hive
- Provides cooling in the summer
- Used by nurse bees to create royal jelly to feed larva (royal jelly can be 50-70% water)
- It assists in the removal of waste
- Assist is digesting and metabolizing what they eat or turning their food into usable materials

Feeding

Feed the bees any time the bees need it, you can't always depend on mother nature to supply it at the correct time

- Provide high quality food
 - I don't feed HFCS, only feed sugar water and high grade protein supplement.
- I also use feed additives:
 - Honey Bee Healthy and Amino B Booster
 - Vitamins & Electrolytes Plus
- Also apply Brood DFM (microbial supplement) spring and fall
 - Direct feed microbial supplement that improves the digestive (bee gut) balance in bees

Spring Buildup

- **Number one reason for weak honey crop is the bees build up on the honey flow**
- **Start feeding 1:1 syrup mid February until honey flow begins**
 - 1:1 Stimulates queen to start laying, once you start feeding you should continue until natural nectar is available
 - Depends on temperature, need 3-4 days a week in high 40's to low 50's
 - If feeding winter food, leave it in until last of March
- **Start Feeding Protein Patties mid February until honey flow begins**
 - Queen requires protein to lay eggs
 - Feed only what bees will take (Small Hive Beetles love protein patties)
 - Continue to feed protein patties even after bees start bringing in pollen from Maples in early March
- **Have drawn honey supers on by April 1st, stop any syrup feeding but continue with protein feeding for couple weeks.**

1:1 Syrup and Protein Feeding



Feeding right after final honey supers removed

- I remove all supers no later than August 1st, sometimes mid July
- Large honey producing hives can crash because you have removed 90% of their food source once supers are removed
- As soon as last supers pulled I feed all honey hives 4-5 gallon 1:1 syrup in one – two feedings and 2-4 sugar/protein patties
- Continue to feed 1:1 as needed though August and September
 - **August is usually a very poor month for nectar and pollen**
 - August dearth in most of Kentucky
- I switch to sugar/protein patties (9 sugar to 3 protein ratio) and continue to feed them regularly through the fall
- Watch out for Robbing
- Treat for mites (this is when mites are at their worst)
- Importance of summer feeding 1:1 syrup and protein is to keep brood production going to produce winter bees
- The bees you see in October and November are the bees you see in March

Hives After Honey Supers Removed



Fall Feeding

- From August through October we feed 1:1 syrup depending on strength of goldenrod flow
 - Our goal is to keep queens laying heavy to produce large amounts of winter bees
 - This can be modified if supers pulled early or hives that don't have supers.
- Normally we feed 2:1 syrup in November and December if needed once goldenrod is gone
- If you have to feed 2:1 don't trickle feed, determine how much that hive needs and feed it in one or two feedings
- Continue to feed sugar/protein patties through December

Fall Feeding



Winter Feeding

- Winter is not a survival time, just another phase in beekeeping
- **Winter feeding should never be considered emergency feed**
- In January, February and March I use sugar/protein blocks on top frames in 3" spacer
 - Place 4-5 on each 10 frame and 2-3 on nuc hives mid to late December
 - Be careful placing to early or bees will move up to them
 - » Make sure bees have clustered a couple times
- Winter patties, or candy boards also good options
- **I am a firm believer of providing protein all winter**
- My sugar/protein blocks contain about 15% protein, most purchased winter patties contain about 4% protein

This is what we want in February



Why is creating nucs important?

- Help prevent swarming
- Increase your number of hives
- Raise extra queens for queenless hive or re-queening unproductive hives
- Queen introduction
- Boost weak hives with brood or honey from nucs
- Nucs pull foundation really well, make extra comb to use in other hives
- Overwinter Nucs to replace winter losses
- **Need 1 Nuc for every 2 hives, you should try and maintain minimal 3 hives to help sustain your hives**



Making Nucs





Feeding Nucs



Feeding Nucs



Recipes

- **1:1 Sugar Water:**
- 2 gallon syrup
 - 10 lbs. granulated sugar
 - 5 quarts water
 - Heat water to very hot, add sugar and stir
 - Add 4-5 teaspoons of Honey B Healthy per gallon
- 5 gallon syrup
 - 25 lbs. granulated sugar
 - 12.5 quarts water
 - Heat water to very hot, add sugar and stir
 - Add 4-5 teaspoons of Honey B Healthy per gallon
 - Add one cap full of bleach (helps prevent mold)
- **Protein/Sugar Patties:**
 - 9 cups AP 23 protein powder
 - 3 cups sugar
 - ¼ cup corn oil (helps keep patties soft)
 - ¼ teaspoon vitamins & electrolytes plus
 - Add enough 1:1 or 2:1 syrup to make consistence of peanut butter and form into patties on wax paper.

Recipes

- **2:1 Sugar Syrup:**
- 1.5 gallon syrup
 - 10 lbs. granulated sugar
 - 2.5 quarts water
 - Heat water to very hot, add sugar and stir
 - Add 4-5 teaspoons of Honey B Healthy per gallon
- 5 gallon syrup
 - 25 lbs. granulated sugar
 - 6.25 quarts water
 - Heat water to very hot, add sugar and stir
 - Add 4-5 teaspoons of Honey B Healthy per gallon
 - Add one cap full of bleach (helps prevent mold)
- **Sugar/Protein Patties:**
 - 3 cups AP 23 protein powder
 - 9 cups sugar
 - ¼ cup corn oil (helps keep patties soft)
 - ¼ teaspoon vitamins & electrolytes plus
 - Add enough 1:1 or 2:1 syrup to make consistence of peanut butter and form into patties on wax paper.

Recipes

- **Hard Sugar Blocks:**

- 1 quart water
- 12 lb. sugar (24 cups)
- 6 teaspoons Honey B Healthy
- ¼ teaspoon vitamins & electrolytes plus
- 1 tablespoon white vinegar
- Five 7"x7"x1.25" cake pans or five 9" pie pans (makes five 2 lb. pans)
- Add Water, sugar, HBH, vinegar, vitamins & electrolytes, heat to 250 deg. mixing occasionally, remove from heat and let cool to 210 deg., stir quickly and pour into pans, let harden (don't let it get too hard while cooling or you can't pour it)

- **Hard Sugar/Protein Blocks:**

- 1 quart water
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