

What is Apiculture?

Apiculture is the keeping of honey bee colonies on a large scale for the purpose of honey production and other products such as pollen, beeswax and royal jelly. The honey bees can also be kept for the sole purpose of selling them to other farmers.

What is Technical English?

I. Technical terms in apiculture

BEEKEEPING TERMS	
apiary	A place where bees are kept, a bee yard.
apiarist	A person who raises and maintains bees, for their honey, pollen, or pollination services.
apiculture	The raising and care of bees for commercial or agricultural purposes.
bee	Are flying insects closely related to wasps, and are known for their role in pollination and for producing honey and beeswax.
beekeeper	An apiarist.
beeswax	A high melting point wax secreted by worker honey bees, and used to construct their honeycomb
beam	A metal bar holding the counterpoise, on a balance scale, and graduated in terms of weight or mass.
brood	Bee larvae and pupae, especially after the workers cap over the last larval stage when it is then called capped brood.
colony	A family of bees, consisting of a queen mother and daughter workers, together with larvae and brood, and sometimes drones, living in a hive or natural cavity.
comb honey colonies	Colonies managed by the beekeeper to produce honey for sale in the comb as a final product, in contrast to extracted (liquid) honey.
counterpoise	The sliding weight on a beam balance scale, whose position balances the load and indicates the load weight.
counterpoise-weight	A precise removable weight added to the end of the beam of a beam balance scale to increase the weight range indicated by the counterpoise.
Demarree	A method for the prevention of swarming involving the vertical, temporary separation of brood and the queen within the hive, thereby relieving congestion and reducing the stimulus to produce new queens.
drone	A male bee, whose function is to fertilize virgin queens.

dross	Bits of wax and other trash that fall to the bottom of the hive, including wax moth feces, usually removed promptly by the bees if they have access to it.
excluder, queen excluder	A wire or plastic grid with spacing large enough for worker bees to pass through, but too small for the queen to pass. Used to keep the queen from walking up to and laying eggs in the honey supers, for ease of harvest.
feeder jar	Typically a gallon jar with a few 1 mm sized holes in the lid, upended and resting on the frames to allow bees to suck the syrup out.
formic or thymol wafers	Two labeled treatments for infestations of the external mite <i>Varroa destructans</i> , an often lethal parasite of the honey bee. They are supplied in porous wafers which release the ingredients slowly within the hive to kill the pests, but not harm the bees
frame	A rectangular wooden support containing honeycomb, usually 10 to each box, which can be easily removed and exchanged without damaging the bees or the comb.
grease patties	Hamburger sized patties made of granulated sugar and hardened vegetable oil, used as a treatment for infestations the honey bee tracheal mite.
hive	A place that bees live, commonly stackable wooden boxes of precise dimensions, invented near Philadelphia by Langstroth in 1851. It typically consists of a bottom board, brood boxes and honey supers containing frames of honeycomb, inner cover, and outer cover.
honey	A thick, complex sugar solution, made by honey bees from naturally collected plant nectars by evaporation and breaking down compound sugars (sucrose) to simple sugars (primarily fructose and glucose), and eaten by bees as their principle energy source over the winter.
honey bee	An insect of the genus <i>Apis</i> , that collect nectar to make honey, make combs of beeswax, and feed on pollen, and specifically <i>Apis mellifera</i> .
honeycomb	The structure made from beeswax by honey bees, consisting of two layers of hexagonal cells open on the face, used by the colony for raising brood and storage of pollen, nectar, and honey.
mite	Primarily refers to two arachnid parasites of the honey bee, <i>Varroa destructans</i> and <i>Aracapsis woodeyii</i> .
nectar	A sugary secretion, primarily 25-50% sucrose, from the nectaries of plants,

	collected by honey bees and converted by them into honey.
nectar flow	A period of time when nectar is actively secreted by flowers and is available to and consumed by bees and other pollinators. A honey bee nectar flow is one that is utilized by the honey bee, <i>Apis mellifera</i> .
phenology	The study of episodic or periodic biological phenomena, such as flowering, breeding, and migration, esp. as related to climate.
pollination	The act of transferring pollen to the ovules of flowers; the business of supplying rental hives of honey bees to enhance pollination of agricultural crops.
pollen	The male gamete of flowering plants, produced by the anthers, which is transferred either by wind or by pollinators to the ovule, to effect fertilization and fruit/seed production. To attract pollinators, the pollen is an enriched source of protein and nutrients, and is used by bees as the protein source in raising new bees.
pollen patties	Patties made from pollen and/or yeast and/or soy protein flour, and honey, that are fed to the bees early in the spring as protein source to augment natural pollen.
pollen trap	A device used for harvesting pollen from honey bees as they enter the hive, usually by directing them through small openings which knocks some of the pollen off of their corbicula (pollen basket).
propolis	A sticky, resinous material ranging from gray through red and brown, collected by bees from plants, and used as an adhesive filler in weatherproofing, repairing and maintaining the hive. Bee glue.
queen	A fully developed, fertile, female insect whose predominant task is to produce fertile eggs.
scale	A device for determining the weight of an object. Sometimes scales.
scale colony, scale hive	A colony of honey bees kept in a hive that is resting on a scale, so that it can be weighed periodically without disturbing the bees.
super	A hive box, with no top or bottom, containing frames of honeycomb, specifically those on the upper portion of the hive used by the bees for honey storage.

swarm	v. the act or process of colony reproduction, whereby the older queen and about half of the bees leave the old hive to start a new colony; n. The group of bees and queen in transit to a new hive location.
syrup	A solution of sucrose (granulated sugar) in water used for feeding bees to augment their honey stores, or to simulate a nectar flow to encourage brood rearing
varroa	The parasitic mite Varroa destructions of the honey bee
wax moth	One of several species of moths that infest honey bee hives, whose larvae (wax worms) feed on the old honeycomb and cocoons.
worker	An incompletely developed female insect, infertile, whose predominant task is to maintain the colony.

II. Revision of some Grammar rules in English

1. Parts of Speech

- Noun
- Verb
- Adjectives
- Adverbs
- Pronouns
- Prepositions
- Conjunctions
- Modals
- Interjection

2. Word functions

S (subject) + Verb (V) + Object

S + V+ Complement (C)

S + V + Modifier (Adv.)

3. Sentence

3.1. Sentence's Classes depend on **its structure**

Simple, complex, compound, complex-compound

3.2. Sentence's Classes depend on **its function**

Declarative, interrogative, imperative, exclamatory

4. Writing a scientific paragraph

4.1. Definition

A paragraph is the smallest unit of prose composition. It may be defined as a group of sentences relating to a single topic.

Every form of prose composition (e.g. letters, essays, stories) should be divided into paragraphs. A paragraph may be long or short. There are no rules regarding the size of a paragraph.

4.2. Tips on writing paragraphs

- **Unity of thought**

A sentence deals with just one thought. In the same way, a paragraph should deal with only one central idea. The ideas need to be developed in a logical order. They must flow neatly between the paragraphs.

- **Use linking words**

Use linking words to achieve the effect of unbroken continuity. For example, the words hence, so, therefore, but, and, or and then will connect the sentences and make the paragraph a well-knit whole. Use expressions like on the other hand, on the contrary, nevertheless, but, yet and still to contrast ideas or present alternatives.

The first sentence is the key sentence in a paragraph. It should introduce the central topic. The last sentence should round off the idea expressed in the paragraph.

- **Variety**

Use varied sentence patterns in the sentence. There should be both long and short sentences. This rule of variety also applies to the size of the paragraphs. For example, put a short paragraph after a long one. It will afford variety and relief to the eye as well as to the mind.

4.3. Kinds of paragraphs

- **Definition Paragraph**

When writing a definition paragraph, you take a thing or an idea and explain what it is.

Example: Write a paragraph giving the definition of bees.

The following words can help you to write a good definition paragraph:

"is defined as"

Example: A pest **is defined as** any animal or plant that damages crops, forests, or property.

"is a kind of"

Example: A pest **is a kind of** animal or plant that damages crops, forests, or property.

- **Classification Paragraph**

When writing a classification paragraph, you group things or ideas into specific categories.

The following words can help you to write a good classification paragraph:

Helper Words:
is a kind of
can be divided into
is a type of
falls under
belongs to
is a part of
fits into
is grouped with
is related to
is associated with

- **Description Paragraph**

In a description paragraph, you are writing about what a person, place, or thing is like. Sometimes, you may describe where a place is located.

The following words can help you to write a good description paragraph:

Helper Words:

Properties	Measurement	Analogy	Location
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size	length	is like	in
colour	width	resembles	above
shape	mass/weight		below
purpose	speed		beside
			near
			north/east/south/west

- **Compare and Contrast Paragraph**

In a compare and contrast paragraph, you write about the similarities and differences between two or more people, places, things, or ideas.

The following words can help you to write a good compare and contrast paragraph:

Helper Words:

Similarities	Differences
is similar to	the other hand
both	however
also	but
too	in contrast
as well	differs from
	while
	unlike

- **Sequence Paragraph**

In a sequencing paragraph, you are writing to describe a series of events or a process in some sort of order. Usually, this order is based on time.

The following words can help you to write a good sequence paragraph.

Helper Words:

Order	Time
first, second, third, etc.	recently
in the beginning	previously

before	afterwards
then	when
after	after
finally	
at last	
subsequently	

- **Choice Paragraph**

In a paragraph where you have to make a choice, you need to choose which object, idea, or action that you prefer. Often, you will need to give your opinion on a choice of actions or events.

The following words can help you to write a good choice paragraph:

Helper Words:

Point of View	Personal Opinion
in my opinion	like/dislike
belief	hope
idea	feel
understanding	
I think that	
I consider	
I believe	
it seems to me	
I prefer	

- **Explanation Paragraph**

In an explanation paragraph, you need to explain how or why something happens. Very often in social studies class, you will be asked to explore causes and effects of certain events.

The following words can help you to write a good explanation paragraph:

Helper Words:

Cause	Effect
because	therefore
since	thus
as a result of	consequently

is due to	hence
	it follows that
	if . . . then

III. Scientific text (examples): “reading, comprehension, analysis”

Learning about beekeeping

How to recognize the bees in your hive?

Learning about beekeeping includes learning to recognize the bee colony members including the queen, the worker and the drone. Understanding the difference between these bees and the roles each play will help you better care for your colony.

The crowing of a queen

The queen is the most important of all the bee colony members, for without her a hive will die within weeks. Why? Because during the spring and summer months, the average life cycle of a bee is only a few weeks due to hardships and predators. It is the queen’s job to lay sufficient eggs to replace the up to 1.800 bees that die daily. That’s why one of the most important aspects of learning about beekeeping is learning to recognize your queen. When a queen is too old or worse yet, there is no queen; workers will begin to produce a replacement from one of the bee colony members. They select either an egg or a very young larva and feed her royal jelly throughout her larva stage. In just a couple of weeks she is a fully developed queen, ready within days to mate.

The worker

Workers are the go- to ladies of the bee colony members. They are made up of female bees whose reproductive organs have not developed. They are the smallest bees in the hive and do all the work. A worker bee has pollen baskets, a honey stomach, wax glands and- unfortunately for us- a barbed sting. One colony can have hundreds of thousands of workers.

The drone

Male bees are the drones. They are much larger and are a bit more square - shaped than the other bee colony members. They do not have a sting, and their only job is to mate with the queen. They will live anywhere from 21 to 32 days.