

The BEST Bee ?

Italian? Carniolan? Buckfast? Caucasian? Midnite? Starline? Uncle Joes?

What do you want or expect from your bees? Just as German people are known for their blue eyes and blonde hair, the Negro is known for their big round eyes and curly black hair, and the Oriental is distinguished by "slanted" eyes and black hair. Equally, a duck hunter uses a Labrador retriever to recover the fallen fowl from Chesapeake Bay, because the dog's coat is warm and waterproof; whereas the same hunter uses an Irish Setter to recover fallen fowl when he hunts over dry land. So it is with our honey bees, in that each race (there are numerous) as well as each "stock" (even more numerous) has certain differing characteristics from each other, and it behooves you to select the race or stock that best suits your desires of *apis mellifera*.

Maybe we are lucky that all honey bees are not the same, for if so, I would have nothing to write about, nor would you have anything to argue about. Hence, let me mention some of the characteristics that may be important to you to aid you in selecting a bee BEST SUITED to your desires:

- Gentleness or excitability
- Resistance to various diseases and the tracheal mite plus the Varroa mite
- Early spring buildup in population
- Wintering ability
- Not prone to excess swarming
- Ripens honey rapidly
- Honeycomb cappings are white
- Minimal use of propolis
- Availability and queen cost
- COLOR (At least to me, it is UNFORTUNATE that many beekeepers emphasize this characteristic as important. Sounds like buying a new car, a new evening gown, repainting the living room walls. or dyeing your hair platinum blonde). I will admit that a queen bee is easier to find among golden workers than among black workers; but you should have a MARKED queen anyhow which is very visible among black or gold. Just one more reason for MARKING a queen!

Look that list over and select the importance of each of these differing characteristics are very important to you and the location of your bees, and which of the characteristics are not very important. For example, if your bees are located in an urban area, surely you want gentle bees, bees not given to robbing, or bees that seem to want to swarm on a warm Christmas Day making a new home in your neighbors old doghouse or worse, in his bedroom wall siding. Perhaps, white honeycomb cappings are not important if you do not produce or sell any comb honey.

Before I tell you the good points and the bad points of each race, let me "go out on a limb" and say that to date there is no scientific evidence that substantiates that a particular race has any more resistance to mites than any other race. We all hoped the YC2 stock of Carniolan bees might

prove resistant under the conditions used in the U.S. to mite infestation, but the literature does not support that hope. In 1998, science has not yet found an identifiable resistance to mites by any race. To date, no ways have been found to transfer any apparent resistance of a stock to the progeny of that stock. Unfortunately, until science finds this "key" to mite resistance, killing and controlling (note I said both killing and controlling) mites is our only alternative to beekeeping without bee death from mites.

Let us talk about the good and bad characteristics of each race, and I will present a large part to the most popular races in our country: Italian, Carniolan, and Buckfast.

ITALIAN: *apis mellifera ligustica* was first brought to this country in 1859, and gained immediate attention. Up until that time, all of our bees were descended of the bees brought here by old English ships: the nasty, disease prone, dark English bee, *apis mellifera mellifera* (I'd be nasty too with a double name like that). The "new" Italian bee was much more gentle, disease resistant to the diseases prevalent at that time, and was GOLDEN IN COLOR which made this new "farm bug" almost attractive. In general, there are many different stocks of the Italian race primarily due to selective breeding by queen breeders which of course magnifies or diminishes the characteristics common to Italians; e. g. there are three distinct varieties of color: (1) the leather color (deemed the best by Brother Adam); (2) the bright yellow (Golden) type (which captivated Americans, and still does in 1998 to a few); and (3) the very pale lemon-colored variety. Forgetting that unimportant color, lets talk about the discerning factors of the Italian's behavior! It is relatively gentle and rather calm. It has a strong disposition to brood rearing, which, although providing a large population for nectar collection, continues even during nectar dearths, resulting in high food consumption, even including the long inactive winter months. Often this strong brood rearing disposition and large food consumption in late winter or early spring causes spring dwindling and hence slow or tardy spring development. The Italian is known as an excellent housekeeper (which some scientists think might be a factor in disease resistance), uses little propolis, are excellent foragers, superb comb builders and cover the honey with brilliant white cappings. Sure sounds like the BEST bee for all, but now let me tell you of her serious defects.

All professional apiculturists and researchers agree that of all honey bee races, the Italian has earned the infamous title of "king of the robbers". Perhaps due to its shrewdness in locating stores, if the beekeeper accidentally or carelessly leaves honey or nectar exposed, particularly during a dearth, it is the Italian "girls" that are first on the scene and in moments the area is not fit for man (particularly neighbors) or beasts. Similar to this detrimental characteristic, Italian bees are often very annoying because they angrily fly about the head of the beekeeper as he is making colony manipulations in the apiary. Maybe Italian bees dislike the odor of discharged human breath more than other races - who knows? The Italian bee is the "child" of the Mediterranean climate: short, mild, humid winters and dry summers with long honeyflows. That does NOT sound like our typical Maryland weather. The biggest difference, of course, is our only honey flow is early in the spring and SHORT. (It would be nice to have some nectar crop in June, July, and August before the Goldenrod comes to life). Surely our winters are not like Michigan or New York, but neither are they normally short, mild, and humid. Our normal winters and just not like the normal Mediterranean winter, and perhaps the Italian bee may not be the best bee for our climate and early spring short nectar flow.

Before all you Italian adherents, knowing of my use of Carniolans, descend here armed with tar and feathers, I still think a GOOD well-bred Italian bee is an excellent choice for many beekeepers, and (SURPRISE) I use some Italians myself for special purposes, notably for drawing foundation and making late crop comb honey - but then I requeen them with Carnies. That Tar and Feathers scares me!

CARNIOLAN: *apis mellifera carnica* is the most popular race of bees in all of Europe and perhaps the 2nd most popular in the world. Its original home is the Carniolan Mountains at the eastern side of the Alps in Eastern Austria, Croatia, Eastern Czechslovakia, Hungary, Bulgaria and Roumania (the entire Danube River valley). It is one of the black bees (as opposed to the yellow or golden Italian) and its geographical heritage makes it better suited to normally cooler climates than the Mediterranean area. Like the Italian race, due to geographic location differences as well as selective queen breeding, there are many different "stocks" of Carniolan bees resulting in slightly variable characteristics depending on the stock; e. g. the Austrian stocks produce more propolis than any of the other Carniolan stocks which produce very little propolis.

Although I switched from raising Italian bees to Carniolans 49 years ago (1949) and feel that I know much about them, I will give you the statements and writings about Carniolans from some of the renowned geneticists and apiculturists of the world. Two attributes of the Carniolan that are universally agreed are (1) its exceptional docility (Brother Adam (1966) said that Carnica was the quietest and most gentle of all bee races), and (2) Carniolans are known for their "explosive" early spring buildup at the first sign of pollen. Brother Adam's book, "In Search of the Best Strains of Honey Bees", refers to the Carniolan bee as "the spring flow bee per excellence" because of its early spring buildup. A major difference between Carniolans and other races is they seem to apportion their energies and their food stores with almost human thought, in that during a slowdown of nectar or particularly the dearth times of hot dry summer, they materially reduce brood production thereby saving food. This summertime trait of 'taking it easy and rockin' in the porch swing" enhances the bee's longevity which is a benefit to add to natural foraging ability, its hardiness and wintering ability. Hence, the Carniolan winters with a much smaller cluster than other bees and hence uses much less winter stores. Honey bee geneticist Ruttner (75) and researcher Deitz (68) wrote a great deal about this difference from other bees and pointed out the Carniolan's heavy dependence on pollen availability which triggers an explosive brood rearing cycle. (Needless to say, although Maryland is rich in pollen availability, my bees have pollen substitute patties in place shortly after Christmas.) In contrast to Italians, The Carniolan has a great sense of orientation so that it does not enter the wrong colony or deplete a weak colony by mistakenly entering a strong colony. Perhaps this strong orientation sense is related to the NON-ROBBING attribute of the Carniolan. (This does not mean that you can pour honey all over the apiary ground in August and not have robbing, but it does mean you can inspect or manipulate your colonies in August without the fear of being chased into the next county.) Like the Italians, Carnies produce brilliant white honeycomb cappings. What a spectacle! Finally, brood diseases are almost unknown in the heartland of the Carniolan bee, and somewhat disease resistant in the rest of the world.

Oh my, now I have to explain why the Carniolan is not considered the BEST bee for all beekeepers, and it is not! I joke about its major fault when I tell people that the swarming propensity is so strong that it would not surprise me to have a swarm on a warm Christmas Day.

Reminding you that swarm season is just before the major spring nectar flow (swarming at the height of a nectar flow is the fault of the beekeeper, not the bees), this major deficiency of the Carniolan is its strong disposition to swarming caused by its great vitality and the rapid development of its colonies. However, this excessive swarming tendency can be reduced to tolerable limits by the knowledge of bee behavior principles, good apiary management, always available brood space for the queen, and no queen over one year old (Brother Adam, 1951; Ruttner, 1975; Imirie, 1994). Further, compared to the Italian, the Carniolan is not a proficient comb builder and hence may not be very good for comb honey production or drawing foundation. I mentioned above that I used Italian bees to draw foundation and make late comb honey. Lastly, as much as I prefer Carnies to any other bee, I don't get any phzass out of that black color, and silently wish she was GOLDEN.

Is the Buckfast a "race" or a good "hybrid"? I have listened to experts argue the point to no real conclusion. I have wanted to be the fly on the wall of a room holding Brother Adam, the developer of the Buckfast bee; Gladstone Cale, the developer of the Starline bee; and Friedrich Ruttner, an exponent of the Midnight Bee and listen to their debate whether the Buckfast is a race or a hybrid. As only a novice of genetics, I would have to say the Buckfast is a hybrid, and a good one, but not a race. However, who cares as long as one is smart enough not to use daughter queens, but only use queens ideally coming from artificial insemination with so-called "pure" drone stock. After acarine disease (now we know it was tracheal mites) destroyed about 95% of all English bees in 1920, Brother Adam of Buckfast Abbey in Devon, England was charged with developing a successor to the old English dark bee, *apis mellifera mellifera*. He spent the rest of his life traveling the entire world, notably Europe and Africa, interviewing the apiculturists and breeders of that day plus collecting thousands of various queens to breed away the bad points and maintain the good points. Although the resulting Buckfast bee has numerous diverse lines of forebearers including some of the African bees, the basic bee is primarily Italian with certain changes to make it better suited for beekeeping in the climate and environment of the British Isles. In 1922, our government passed a law prohibiting the entrance of any bees from foreign countries into the U. S., and hence, we could not have the Buckfast bee to try it out. However, in the early 1980's, Weaver Apiaries of Navasota, Texas entered into a contractual deal with Brother Adam to gain Buckfast bees in the U. S. Starting with a small government approved colony, Brother Adam often ships frozen Buckfast drone semen to Weavers, who artificially inseminate virgin queens produced from Weaver's original colony of Buckfast bees. Weaver's are the only licensed suppliers of Buckfast bees in this country.

Purely for a scientific test of what was the "best bee" for my Maryland area, my Bee Partner, Master Beekeeper Ann Harman and I, purchased 10 Buckfast queens back in 1986 to see what they were like compared to Ann's Italians and my Carniolans. It was our plan to continue these tests for 5 consecutive years requeening every colony each year; but the arrival of the Varroa mite redirected our attention to mite control and we had to terminate our trial of Buckfast after just 3 years. I can tell you of our conclusions about Buckfast. They are a nice bee having most of the good points of Italians, but not as gentle as a good stock of Italians (note I said "good stock") and surely not as gentle and calm as a Carniolan. However, they don't have the swarming propensity of Carnies, which is in their favor. Like Italians, or any other race except Carniolans, Buckfast are not up to full strength to do a good job on an early crop like black locust or holly. They do not peak until mid May when our normal nectar flow is about half gone all ready. We could not get a good

test for robbing, because both Ann and I are quite meticulous in avoiding any cause for robbing. They are not the bright yellow or golden bee that is attractive to many Americans. I have no idea of their mite resistance, if any, because I have always used menthol for tracheal mites since 87 and Apistan (following Miticur) since 90, and don't lose bees to mites. When we stopped experimenting, we did not requeen and allowed those 10 colonies to requeen themselves and the problem with using hybrids was well proved. Those F1 and F2 daughters produced nasty workers, and hence we requeened them with Italian and Carniolan queens to regain some nice gentle bees. If I were to move to an area without a real early nectar flow and particularly in a area with a LONG sustained nectar flow and since I use annual requeening as a major factor of swarm prevention, I would use Buckfast bees and requeen every year which might avoid that continuous brood laying and high food consumption of the Italians. I do not think the Buckfast is a desirable bee for a novice or a beeHAYER, but they are fine for a thinking, planning person or an established beeKEEPER.

Now, let me say a few words about a relatively unpopular race of bees, the Caucasian Race whose original home was the lower steppes of the Ural Mountains, near the Caspian sea. The Caucasian bee doesn't really "wake up and come to life" until much later than all other bees, almost June in Maryland, and it seems to attract European Foul Brood as well as Nosema. It is best known for the good point of having perhaps the longest tongue (6.8 -7.4 mm.) of any bee, and one very "sticky", undesirable point of using a massive amount of propolis sealing every element of a colony into a sealed unit. It is extremely gentle, but not used much by beekeepers because of its inherited problems. Perhaps its largest use is to make up the hybrid, Midnite bee, which is a combination of Caucasian and Carniolan. Unless you have a major market for the sale of propolis, not to mention being comfortable with dirty, sticky fingers, you don't want Caucasian bees.

Having mentioned the Buckfast and the Midnite, I might as well mention the other hybrids found in the U. S. - The Starline, The Double Hybrid, and of course Uncle Joe's, Cousin Bill's, Aunt Mary's, or YOURS in you don't have a planned requeening program. If you just allow your bees to take whatever nature provides for them via your virgin queen being bred by a whole flock of boys just drifting along the flyways in your area maybe carrying all kinds of disease germs, mites, another race and who knows, maybe an Africanized drone from a swarm that escaped from a tanker cruising up Chesapeake Bay, you are the classic example of a beeHAYER and certainly not a beekeeper! The Africanized bees were not brought across the Rio Grande in a chauffeur driven limousine, but rather swarmed across the river from Mexico unnoticed.

All of the commercially available hybrids have been specially bred by someone in the hopes of either bettering some deficiency or lessening some problem point. A knowledge beekeeper with some understanding of genetic principles can use the the different characteristics of each race to make the resulting hybrid "best" for a specific purpose, and usually that purpose at the sacrifice of some of the other characteristics. It has been said that the Midnite hybrid (Carniolan - Caucasian) was bred in an attempt to lesson the Carniolan's desire to swarm and lesson the Caucasian's overuse of propolis while maintaining the superb gentleness and calmness of both races. This was accomplished to some extent, but some of the other race good characteristics were lessened and some of the bad characteristics were intensified. One has to accept the fact that "what might be good for George or Bill might be bad for Dick and Harry", so one cannot say " That hybrid is really good! " or " That hybrid is really lousy!" "Good or bad" is an individual choice of

what that person wants and desires of a bee! There is only one thing for sure about any hybrid and that is the queen must be bred by a talented queen breeder; because allowing a hybrid virgin queen to field breed will almost always result in nasty progeny which makes any beekeeping a chore rather than pleasant work. The Starline was developed by Dadant Co. Dr. Gladstone Cale as a bee designed for the migratory beekeeper whose bees were always supposed to bring in large crops of honey month after month plus have all the other desirable qualities you can think of and of course none of the unfavorable traits. No queen was expected to last very long, because swarms were surely not wanted, so colonies must be requeened each year or even twice a year. This hybrid is a product of breeding two different inline progeny of Italians; and it was quite popular 20 years ago and has lost favor since.

I want to end this report by saying you should NOT select a race or a stock because George said it was best, or because commercial beekeeper Charlie uses XYZ bee so that must be the best, or Professional apiculturist John only buys bees from High Jinks Bee Company, so they must have the best bees, and lastly, don't buy because it is the cheapest (if cars were bought that way, we would all have the EZride sedan and no one would have a Cadillac or a Mercedes). God gave you a mind - use it! What bee characteristics do you want the most? Which bad points do you want to avoid? You have read what I have written, particularly for Maryland; and you can read what the famous apiculturists say, like: Roger Morse, Keith Delaplane, Steve Taber, Mark Winston and read the books like Hive and the Honeybee, ABC & XYZ of Bee Keeping, etc, and talk to people who have known beekeeping skills (not just friendly beekeepers in your club or your neighborhood - I hope you don't consult your butcher or your computer teacher for advice about having an appendectomy). After doing all these things, make your decision and then ask these same knowledgeable people "Which queen breeder do you use, so I can get some like yours?" Again, forget what your good buddy in the bee club says - maybe you are debating between getting a Lincoln and a Lexus, and your good buddy drives a beat-up old Rambler because he is quick to tell you: "It is the BEST!"

You have all winter to think about this. I strongly suggest that you have your order in to the supplier of your choice before February so you can get a decent shipment date. I will not give you any advice regarding queenbreeders for fear of offending some, but I will talk with you about it if you call me. GOOD queen breeding is a talent and art that require a lot of ability and hard work to get good at it. I know most of the better ones and I know some that I would avoid at all costs. It might make a difference if you told your selected supplier that you were following George Imirie's advice, because most of the breeders in the country know me and know how much I demand, not only of them, but the demands that I place on the queens, and MYSELF!

I am planning on having a great 1999 in spite of my slowdown from age and strokes, and I wish you an even better year!

George Imirie
Master Beekeeper

p.s. - Use only MARKED queens. The standard, accepted color for 1999 is GREEN.