

## Vitellogenin and Honey Bees

Honey bees deposit vitellogenin in fat bodies in their abdomen and heads. The fat bodies apparently acts as a food storage reservoir. The glycolipoprotein vitellogenin has additional functionality as it acts as an antioxidant to prolong Queen bee and forager lifespan as well as a hormone that affects future foraging behavior. The health of a honey bee colony is dependent upon the vitellogenin reserves of the nurse bees - the foragers have low levels of vitellogenin. As expendable laborers the foragers are fed just enough protein to keep them working their risky task of collecting nectar and pollen. Vitellogenin is important during the nest stage and thus for worker division of labor. A nurse bees vitellogenin titer that developed in the first four days after emergence, affects its subsequent age to begin foraging and whether it preferentially forages for nectar or pollen. If young workers are short on food their first days of life, they tend to begin foraging early and preferentially for nectar. If they are moderately fed, they forage at normal age preferentially for nectar. If they are abundantly fed, immediately after emergence, their vitellogenin titer is high and they begin foraging later in life, preferentially collecting pollen, which is the only available protein source for honey bees.

The above is from:

<http://encyclopedia.thefreedictionary.com/Vitellogenin>