What to do about Culicoid Sensitivity (aka Sweet Itch, Summer Itch) and Onchocerca

Go to the following link for a definition & list of symptoms of Culicoid Sensitivity

http://en.wikipedia.org/wiki/Sweet_itch

However it is important to understand that there is a connection between culicoides (aka midges) and onchocerca (aka neck threadworm)
http://au.merial.com/disease_information/horses/oncho.asp
http://www.merckvetmanual.com/mvm/index.jsp?cfile=htm/bc/71804.htm
http://www.ncbi.nlm.nih.gov/pubmed/3755903

It is often difficult to distinguish between midline dermititis caused by onchocerca & allergy to the culicoid bite.
So, it's best to treat both conditions.

For Onchocerca:

Ivermectin kills the filaria that are clustered under the skin of the belly, causing irritation. Adults in the nuchal ligament of the neck can also cause irritation and make the horse rub. (What you don't see as a rule with onchocerca is tail rubbing but horses with Culicoides allergy/sweet itch do often rub their tails.)

I have found that Dr. Kellon's protocol for heavily parastized horses is most effective.
Deworm your horse every 3 weeks (3 times) with ivermectin (generic is fine) then go to an appropriate deworming schedule for your horse & living situation.
Ivermectin and Quest , but not other dewormers, will clear the microfilariae (larvae) from the tissues but do NOT kill the adults. I prefer not to use Quest as it has a lower safety margin than Ivermectin.
It is believed the adults persist for 8 to 14 years and if ivermectin is used regularly in a population it may prevent the further development of adults by killing off the larvae before they become adults. If this deworming protocol does not take care of the problem than you are more likely dealing with a culicoid sensitivity issue.

For the culicoid issue:

This is a vicious cycle. I check my horse everyday for sores & treat immediately with topical barriers before he starts scratching & making it raw then attracting more flies/midges. But because this is an allergic reaction you need to treat it internally as well. Avoiding high protein intake may help reduce allergic responses, it has to do with IgE antibodies.
http://www.ncbi.nlm.nih.gov/pubmed/12953795?

So be sure and check out the protein levels in your horse's diet. For example, feeding your horse alfalfa would not be advisable as alfalfa is high in protein.

Careful attention to mineral balancing, particularly magnesium and the traces, and intake of antioxidant vitamins can eliminate allergies in horses, but it rarely happens the first year. Once a skin allergy is in full swing, it is very difficult to completely reduce it. This is particularly true with skin allergies that involve unavoidable exposure to the trigger....ie. culicoides, midges, etc.

Internally:

Flax (omegas) in large amounts (1 pound+) has some effect, but quite honestly it didn't work for us. I do feed flax for the correct ratio of omegas (very similar to ratio found in fresh grass) when not on pasture, but only 1 -1 ½ cup per 1000# horse.
Vitamin E is also important, 2000 IU for 1000# horse. Use human softgels for best absorption, not powdered Vit E equine supplements (Vitamin E is fat soluble vitamin so requires fat for absorption).
Spirulina is also recommended for allergies but seems to be more effective for respiratory allergies rather than for skin allergies. The dosage is 20 grams twice a day.
Chondroitin sulfate- Dr. Kellon has had very good results with a high dose 10 grams/day (about 3 full tsp) for 1000 pound horse. Can go up to 20 grams divided into 2 doses. Much more effective if you start the CS early in the season before the symptoms actually start.
http://www.jbc.org/content/281/29/19872.full

Equally important is a physical barrier. These flies are tiny and not bothered in the least by fly sprays. Menthol or thymol work well, especially when incorporated into a physical barrier.
A topical mixture Dr. Kellon has had good results with is 1/4 tsp of Campho-Phenique, 1/4 tsp of either Zim's Crack Creme or Calm Coat mixed into a small jar of petroleum jelly. Both the Campho-Phenique and the Crack Creme are anesthetic and the petroleum jelly is a physical barrier to keep flies off the open area.

A simpler way is to spray the raw areas with Bactine (kills the itch) then put on a layer of Vicks, or mix 2 tsp of**Zim's Crack Creme** (Arnica) liquid, in a jar of Vicks and use that. The arnica in the Zim's crack creme helps numb the area & creates a nice barrier.
For **Zim's Crack Crème**
http://www.crackcreme.com/brands/Zim%27s-Crack-Creme.html

Some horseowners have found that fly sheets help. The most effective ones are the ones that cover the midline, tail & mane areas.

Below are some pictures of my horse's midline culicoid sensitivity before treating with above protocol.

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References:

Nutrition as Therapy course, by Dr. Eleanor Kellon
Private communications with Dr. Kellon