

## **SOUTHLAND ARTIFICIAL DIET – PREPARATION AND USE INSTRUCTIONS**

There are several different diets that can be used. Raising butterflies on artificial diets and complete information including the list of diet suppliers are provided in this workshop's Article 5.3.3, [Raising Painted Lady Butterflies on Artificial Diet](#). For this article, the artificial diet used is "Southland Multiple Species Diet" from Southland Products, Inc. The diet product is sold in 10-liter packages. *Note: 1 liter will raise 60 Painted Ladies - or 10 Liters will feed 600 Painted Ladies.*

Southland Products, Inc. (870) 265-3747. Please refer to the Vendor/Supplier section of the Butterfly Boutique website ([www.butterflyboutique.net](http://www.butterflyboutique.net)) as we keep updated and correct contact information there.

The manufacturer's preparation instructions are:

### **Instructions to Prepare 1 Liter of the Diet**

*"Add 903 ml. of boiling water to 162 grams of dry mix. Blend for 3-4 minutes with blender or hand mixer. Note: Water must be boiling when added to dry mix or the diet will not gel properly. Keep dry mix frozen for maximum shelf life."*



*Below are Judi Sunshine's detailed instructions for preparing the Southland Diet.*

Boil 930 ml. of water in a metal saucepan--make sure it's a rolling boil--very important. Measure 162 grams of the powdered diet. (I measure the entire bag of diet out into 162-gram zip-lock bags so I can just grab it without measuring in the future.) The bag contains enough diet to make ten batches of liquid diet. Use a scale and measure out 162 grams to put in the water.

I just use my postage scale. Make sure to account for the weight of the container you put the powder in when weighing, or else use something very light, like a zip-lock bag.



Once the water is boiling, put the pan on a hot pad or in the sink and add in the powder. Start mixing right away and keep mixing for at least 2-3 minutes no matter what--if you don't start with boiling water and/or don't mix long enough, you will end up with pancake batter. That is a bummer! It even happened when I transferred to a plastic mixing bowl, and that's why I say keep to the metal pan!

Once it's mixed, take the pan back to the stove and keep on the lowest setting (simmer) so that the diet stays hot and doesn't start setting in the pan and get clumpy (I might just be slow....but it really sucks when this happens!)



As for the diet temperature and the cups...by the time you are finished mixing the diet for 3 minutes, it is no longer boiling and you can spoon directly into your soft plastic cups. Once you have your little cups filled, keep uncapped and cover with a paper towel for 12-24 hours. After 24 hours, you can cap the diet and it's ready to go.

*Note: I have had success with keeping the diet in the fridge once capped. When I'm ready to use, I just pull out, uncapped so condensation doesn't build while I let get to room temperature, and then I transfer the larvae into the cups.*

While it takes a bit more up front to prepare, the cups take a lot less time to fill using the Southland diet and currently the Painted Lady larvae are growing best on this diet...even over live plant! Some butterfly farmers who raise the Painted Ladies to adulthood on a shelf will pour the diet in a pan, and once it sets, cut it like brownies and put one square in each cup. However, for school raising kits the children will certainly jostle them around and the diet will bounce and injure or kill the larvae. So, set out your cups, prepare your diet and be ready to spoon...it sets really fast and that's why I always leave it on the burner on the lowest setting to prevent that.



Here is a photo of the diet in a 1 oz. cup. I "swirl" into the



cup, but you can also spoon directly into the bottom. One tablespoon per larvae is plenty--you definitely don't need any more than that.

Many people use a different type of blender and then pour the food from the blender into the cups. I chose to use a stainless steel pan and a beater blender so that I can keep the "diet" on low heat, right on the stove while I am pouring the mixture by tablespoon into my cups. This is the way I keep the diet hot at all times so that it does not thicken until you are all done and the diet has been transferred to the cups. I do swirl part of the diet about half way around the cup, that is all.

I figured it out once and weighed the diet as I filled the cups. The cup was less than 2 g., and when the cup weighed 10 g. with the cooked diet there was more than enough for 5 cats. So, if you play it safe and give each cat 1.5-2 g. diet in each cup you should be fine. You could weigh one and see how much diet that is are eyeball it after that.



At right is a photo of clear plastic cups with lids that can be ordered online or on Amazon.com. These cups can be clear, opaque or even colored plastic ones are offered.



*Important information to have a successful pupa formation and emergence of an adult painted lady butterfly.*

- Keep out of direct sunlight or away from a direct bulb or light. Light should be evenly distributed around your kit to avoid condensation from forming inside and drowning the larva.
- Some of you may have 3 day old larvae, very tiny. Keep in a warmer part of your house like a laundry room or kitchen where you cook or a room that is warm from the sun but not in the direct light. This will help your larvae to grow faster.
- If you start to see any condensation or water vapors on the inside of your cup, please open the top and let it air out until the condensation is gone. Do not do this if your larva has already started to pupate or gone into the J position on the coffee filter.
- After you receive your kit, after about a week goes by, please put a new coffee filter on top if your larvae has not attached itself to pupate. This will give your cup a dryer, crisper coffee filter and the larvae will be less likely to fall off of it when it starts to pupate. Sometimes the larvae even eats holes in the paper, so we like to see the coffee filter replaced after about a week. If you do not do this, it's okay. The results will most likely be fine anyway.
- Do not touch the food or the larva with your hands as this transfers bacteria from your hands into the sterile environment.
- Wear gloves if necessary to move anything inside the cup and use a brush.
- After a few weeks, your larva will attach itself to the coffee filter and form a J position. The next day it will pupate and be a chrysalis. Do not disturb during the forming of a chrysalis or it will be ruined or crippled. Let it dry and harden for 48 hours.
- After the 48 hours, remove lid and put aside. Put coffee filter with hardened pupae aside.
- Clean out the cup and dry.
- Cut a clean piece of paper towel approximately 2" by 4"; place the paper towel in the container so it covers the bottom of the container, comes up the side and hangs over the lip. Place the coffee filter back on with the pupae still attached, and put the lid back on.
- The paper towel should press firmly against the bottom and up the sides, not loosely.
- If the chrysalis has been dislodged from the lid, you can use Elmer's glue to glue it back on or lay it on the bottom on the paper towel and when it emerges the butterfly will use the paper towel as a ladder and climb back up to spread its wings and dry.
- Butterfly will emerge in 7 – 10 days. If you see a red fluid in the container, don't worry, it is not blood. It is the excess fluid from that needed to fill the wings.
- Butterflies can be kept in a larger container with air holes. But don't handle them until their wings dry, about two hours after emergence. Best to open container and let them fly out into the larger container or cage. If you use an aquarium, put climbing assists in such as sticks. You can line the sides with netting to help them have something to cling to.
- IMPORTANT: if you have pets in the house and use Advantage and/or any other flea and tick killer, you should not handle the butterfly or uncover lids or handle anything around the butterfly. The tick killer will kill your butterfly. Wash hands and wear plastic gloves to do this.
- You can feed butterflies sugar water (about 9 parts water to 1 part sugar) on a cotton ball or Q-tip. Cut watermelon, cut orange slides, scored to make the juice come out, works well also. They also like Gatorade, orange. Change nectar daily as it will ferment.
- If you plan to release your butterfly within 48 hours, don't bother feeding it, they will not be hungry. Release on a warm sunny day in temperatures above 64 degrees F. If cool, warm them up very gently. Call for more information. Thank you.