**** I would like to thank Dagie Brundert & Ricardo Leite for support in this venture into `Green' motion pictures processing! – P. Hoffman***

'GREEN' Processing Recipes for 3378

use red light with 3378 (for conventional filmstocks like plus-x or double-x process in complete darkness and add approx. 50% more time)

The following process is suitable for processing 30 ft (10 metres) of film.
X 3 of quantities for processing 100 ft (30 metres) of film.

A. COFFEE DEVELOPER (Cafenol)

Time: 10 min developing time 25 degrees celcius 75 farenheit
(50% more time if you do a 2nd batch with same chemistry)

For 30 ft of Film
Water at 25 C = 32 oz
Washing Soda (laundry detergent) = 50 grams
Vit C (Ascorbic Acid) = 15 grams (David's tea container)
Coffee = 50 grams
X 3 for all ingredients for processing 100 ft

1. Mix **Washing Soda into water** (laundry detergent..inexpensive)
(Try 'Signal' for cost cutting or a Biodegradeable product for environmental safety)
stir well

2. Then **Vit C powder (Ascorbic Acid)**
(try NutriBiotic from Iherb online which is $5 for 2.2 lbs , fast delivery:
https://ca.iherb.com/pr/NutriBiotic-Ascorbic-Acid-Crystalline-Powder-2-2-lbs-1-kg/30240
stir well

3. **Coffee (inexpensive brand)**
Stir very well

4. **wash** for 2 minutes

5. **Fixer:** For Neg use conventional Fixer for 3 to 4 minutes after developing process, or for green fixer use salt water at a ratio of 3:1…submerge for 3 days!!!)

6. **wash** for 5 minutes

7. be sure the coffee grinds are not left in the sink, the majority of them can be dumped in the garbage

B. FLOWER/PLANT DEVELOPER - (organic materials with cafeic acid…with various flowers/plants times may differ)

Making Plant/Flower Extract: Fill a large pot with 192 oz of water (6 litres) – you will loose some water (approx. 96 oz) after boil – ok
Collect flowers, leaving at least 30% per plant for next years crop. Put the flowers/plants into the water so they fully submerged in the water and are quite dense

Boil plants for 30 minutes then let cool to around 26 C or 77-80 degrees (you want to process at 25 C or 75-77 degrees approx minimally). The higher the temperature, the less time you need for processing.

Strain out plant material so you just have fluid
(you can freeze for winter processing needs)

Time: 10-15 min developing time (SEE CHART BELOW FOR VARIOUS PLANTS/FLOWERS
25 degrees celcius 75 farenheit
(50% more time if you do a 2nd batch with same chemistry..I have never done more than two per batch, but the used `green' developer can be saved/recycled for surface manipulation of your films…just dunk the film into the `exhausted' solution for 10 to 20 hours)

For 30 ft of Film (I do 100 ft at a time because I like the scratches…just multiply everything by 3)
Plant /Flower Extract at 25-17 C = 32 oz
Vit C (Ascorbic Acid) = 15 grams (David's tea container)
Washing Soda (laundry detergent) = 50 grams/1 cup approx
X 3 for all ingredients for processing 100 ft

1. Mix **Vit C powder (Ascorbic Acid)** into **Flower/Plant Extract**
(try NutriBiotic from Iherb online - Vit C is $50 for 2.2 lbs , fast delivery:
https://ca.iherb.com/pr/NutriBiotic-Ascorbic-Acid-Crystalline-Powder-2-2-lbs-1-kg/30240
stir well

2. Mix **Washing Soda into water** (laundry detergent..inexpensive)
(Try 'Signal' for cost cutting or a Biodegradeable product for environmental safety)
stir well

3. **wash** for 2 minutes

4. **Fixer:** For Neg use conventional Fixer for 3 to 4 minutes after developing process, or for green fixer use salt water at a ratio of 3:1…submerge for 3 days!!! I have an apaque garbage container filled with salt in the darkroom where I submerge the film for 3 days after development)

5. **wash** for 5 minutes

6. be sure the soap grains are not left in the sink, the majority of them can be dumped in the garbage or dumpsite

In 2017 I conducted many tests on flowers and plants/herbs and found the following results. Processing time varied from 10 minutes to 15 minutes depending on the strength of the acid in the plant. Mostly at 26C or 80F. The processing occurred from late April to October, as flowers & herbs bloomed. The colors can be very subtle.

Plant	**Dev Time/Temp**	**Observation**
Magnolia Blossoms	15 min.26C/80 f	warm neg, turns blue in pos as spots
Hyacinth	10 min.	warm orig ..pos is pink
Hydrangia	15 min.	
Daffodil	15 min.	
Rodedendrum	15 min	
Pond Algae	10 min	
Lilac	20 min.	warm neg, turns blue in pos as spots
Oregano (with blooms)	10 min.	blue spots neg turns yellow as pos
Comfrey (with blooms)	10 min.	
Roses	15 min	pink neg, turns yellow green in pos
Mint	12 min.	
Goldenrod	12 min	yellow/sepia turn blue in pos
Hostas buds after flowering	13 min	

Wild Garlic seeds (bowlful) 15 min

Echinasea 13 min

Tansy 13 min

Aster: Blue flower on roadside 13 min

C. Walnut Toner

1. Collect fallen walnuts in autumn (leave at least 30% for squirrels and other animals).

2. Load in containers, and let autumn rains fill up containers

3. Let walnuts ferment over winter

4. After late winter and early spring thaw, strain fluids into sealable containers and leave in shade. Walnut Toner is ready.

5. Refill containers with spring rains, as the remaining walnuts are still potent.