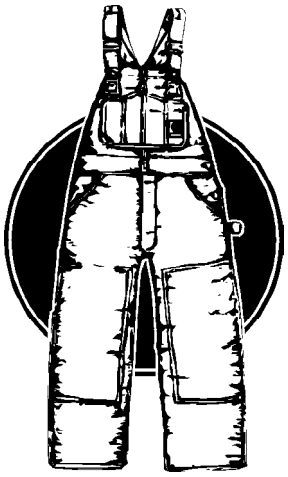

Farmer's Reducer Treatment for Negatives and Prints

Farmer's Reducer dissolves away silver that forms the image in a print or a negative. This results in a lighter print or a thinner negative. It can be applied locally with a cotton swab to treat only selected areas in prints or negatives. With a print, you might consider this treatment as a kind of a post-printing "dodge". On a negative, the treated area is thinner and it prints darker. Often commercial photographers treat specific negative areas to get a black background in the resulting print. However, locally treating areas of a negative is easier if the negative is larger than 35mm in size.

Farmer's Reducer is composed of separate solutions of Potassium Ferricyanide and Sodium Thiosulfate (plain hypo). These are usually combined just before use, or are used as a two bath treatment. Arnold Gassan's *Exploring Black and White Photography* (2nd edition) lists several techniques on pp. 205-206 for using this old fashioned but well-loved darkroom aid.

Assignment:

Choose either a negative or a print that you can afford to lose. Make a diagonal cut in either the print or the negative and treat one half in Farmer's Reducer. The other half remains untreated for comparison.

Mixing:

Mix Solution A (Plain Hypo) as follows:

Sodium Thiosulfate	480 grams (equal to 1-1/2 cups)
Water at 70 deg. F.	to make 2 Liters

Mix Farmer's Reducer Solution B (Ferricyanide) as follows:

Potassium Ferricyanide	38 grams (equal to 2 tablespoons and 1 teaspoon)
Water at 70 deg. F.	500ml.

(Note: Plain Hypo solution prepared for selenium toning should work well for Solution A.)

The two solutions should have a long shelf life if stored in dark brown bottles. Once mixed, they have a short life of a few minutes.

Application:

METHOD 1: Cut a negative or print in half. One half remains untreated. Prewet the other half of the negative or print for at least one minute in water before treating. Mix 30 ml. of Solution B and 120 ml. Solution A in a clean tray immediately before use.

Health Hazard

Potassium Ferricyanide can release toxic (deadly) cyanide gas if exposed to strong acid or high heat! Keep away from concentrated stop bath, acid hardeners, and be sure to clean all utensils of contaminants before use. Work with adequate ventilation. Please be careful!

This makes a very strong mixture. Dilute the working solution with more water to work slower. Avoid working in intense daylight. Normal roomlight is OK. Immerse the negative or print with constant agitation, and remove the negative or print before the desired change occurs because reduction continues for a short time afterward. Rinse thoroughly in water, and refix, hypo clear, wash, and dry as usual. Discard used reducer solution by dumping it down the drain followed by a good flush of running water.

METHOD 2: Method two is not the official Farmer's Reducer treatment called for in most texts, but offers a much longer working life. The concentration of solution B (Ferricyanide) can be reduced to 5 gm. (about 1/4 teaspoon) per 500 ml. water to lessen the activity of the reducer with films or papers that react too quickly. (If you already have solution A mixed according to the directions on page one, then dilute 65ml of Solution B with 435 ml. of plain water). The two solutions remain separate in this method, and their working life is extended as a result.

Cut a negative or print in half. One half remains untreated for comparison. Immerse the negative or print in the hypo solution for one minute. Transfer the negative or print to the Potassium Ferricyanide solution and monitor the action. Just before the desired reduction is reached, remove the print or negative and rinse in water. If reduction does not progress far enough, repeat the procedure until the desired results are obtained. After treatment, be sure to refix and wash for permanence. If you are using fiber-based papers, use Perma Wash as usual before the final wash.

Some darkroom workers keep a small container of very dilute Potassium Ferricyanide in a small bottle by the fixer tray. If an area of an otherwise good print requires lightening, they swab the area with a ferricyanide-soaked Q-Tip while the print is still wet with fixer.

In either of the above methods, highlights of the print are the first to bleach. If the bleach is strong, the bleached area sometimes show a yellowish cast. This can be used to an aesthetic end, if thoughtfully performed.

Evaluation:

Both print halves are to be identified and mounted back together onto the back of a sheet of photo paper or thin mount board. If you choose a negative, the halves should be pieced back together in the enlarger and printed together as one negative. Negatives should be included with the print and clearly marked. Please note the method used, the time of treatment, the concentration of solution A, and the visual result of the treatment.

Process Notes:

Method used: .....
Concentration of Solution B: .....
Time of treatment: (min.).....
Describe the difference between the two print halves and explain: