

# SUPERFILM

Kodak Kodachrome 25 vs. Fujichrome Velvia...  
Let the Film Wars Continue

## SHOOTOUT!

by Jack and Sue Drafahl

For years, discriminating photographers have required a yardstick with which to compare films to one another. This yardstick is usually the one film that clearly stands above the top of the heap. With color-negative films, this yardstick continually changes from one film to another depending on the new advances in color-negative technology. But, with slides, Kodachrome 25 has always been the film to match.

Is there a new color-slide yardstick to replace Kodachrome? We are referring to Fuji's newest slide-film release, Velvia. This newcomer was introduced at the 1990 PMA show in Las Vegas, and promises to be one of the most exciting E-6 films of this, or any year.

Before we start the shootout, we should note that Kodachrome is a unique patented process, and has no competition in its type of film processing. What we will be comparing in this shootout is the final results of the films, not the process required to get there. In each test scenario, we will describe the scene and how we perceived the test results, and give you a subjective look at how each film works in a specific situation.

### THE CONTENDERS

**KODAK KODACHROME 25:** Kodachrome was introduced in 1935 and has gone through several changes until reaching its present form today, namely Kodachrome 25. Kodachrome 40, 64, and 200 are manufactured in the same way but with higher ISOs, larger grain, and less sharp-

ness. Kodachrome is a black-and-white layered film with no color dyes in the emulsion. When the film is processed, the color dyes are chemically introduced in a special K-14 process. Kodachrome can withstand considerable heat abuse, because it is a black-and-white film. Archival quality of Kodachrome 25 is truly great, with a life span well over 50 years after processing.

**FUJICHROME VELVIA:** Velvia is an E-6-process slide film introduced in 1990. It boasts some of the newest technology on the market today. Velvia is a 17-layer film that uses the DIR couplers found in most color-negative films today. These new couplers enhance color edging and improve inter-layer effects. Combining these new DIR couplers with Fuji's double-structured silver-halide crystals, creates a very fine-grain, high-resolution color film that reproduces color in an unparalleled manner. Velvia has an ISO of 50 and can be easily pushed to EI 100 with little loss of quality.

### EXPOSURE LATITUDE

Using two Nikon N8008 bodies with MF-21 backs and a single 60mm macro lens, we set up our first test for exposure latitude. We set the data back to  $\pm 1$  stop and made a 5-step bracket of various flowers. Laying each film strip out on the light box, we noted that Velvia had at least a  $\frac{1}{3}$ -stop greater exposure latitude than Kodachrome on both the under and over sides. We felt that the  $\pm 1$  exposures on Velvia were more than

usable. Kodachrome, on the other hand, appeared to have a usable exposure latitude of  $\pm 0.7$  stops. We also noted that even though Velvia has a broader latitude, it also has a higher contrast, which is somewhat of a contradiction of facts. We had always assumed that increased contrast in slide films results in narrower exposure latitude.

### FLASH TESTS

A clown at a nearby market provided the material for our flash test. The higher color saturation of Velvia made the clown's bright colors stand out more than did Kodachrome. The difference in exposure latitude was again evident when we looked at the difference between the clown and its background. The Kodachrome background was noticeably darker than Velvia, even though both had the same density in the foreground. On closer inspection, we noticed that the Kodachrome reproduced the background wall more accurately (truer to life) than Velvia.

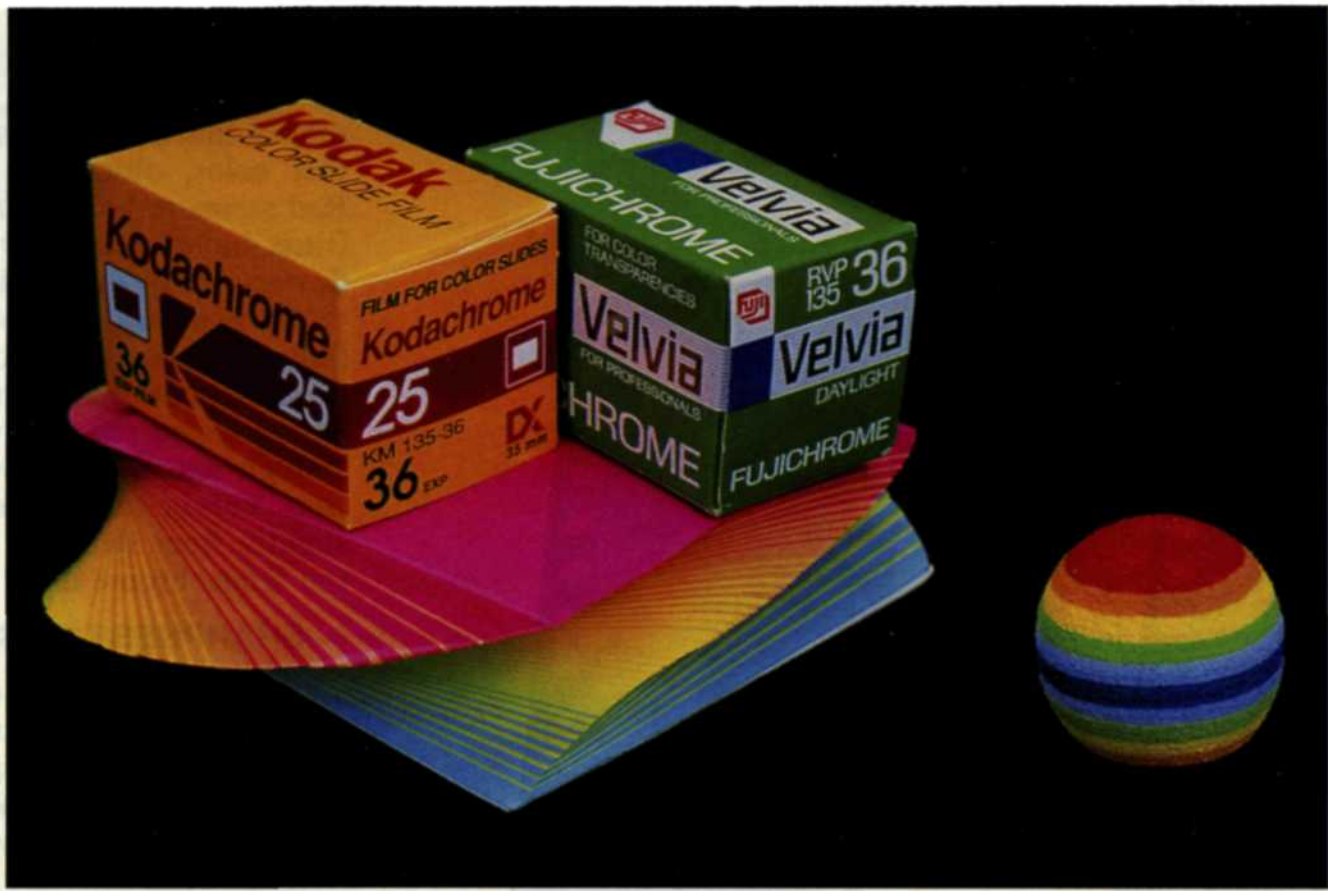
### NEUTRALITY

That made us wonder, what would happen if we tested both films on a subject that had very little color? A fountain in front of a colorless building made a perfect test site for

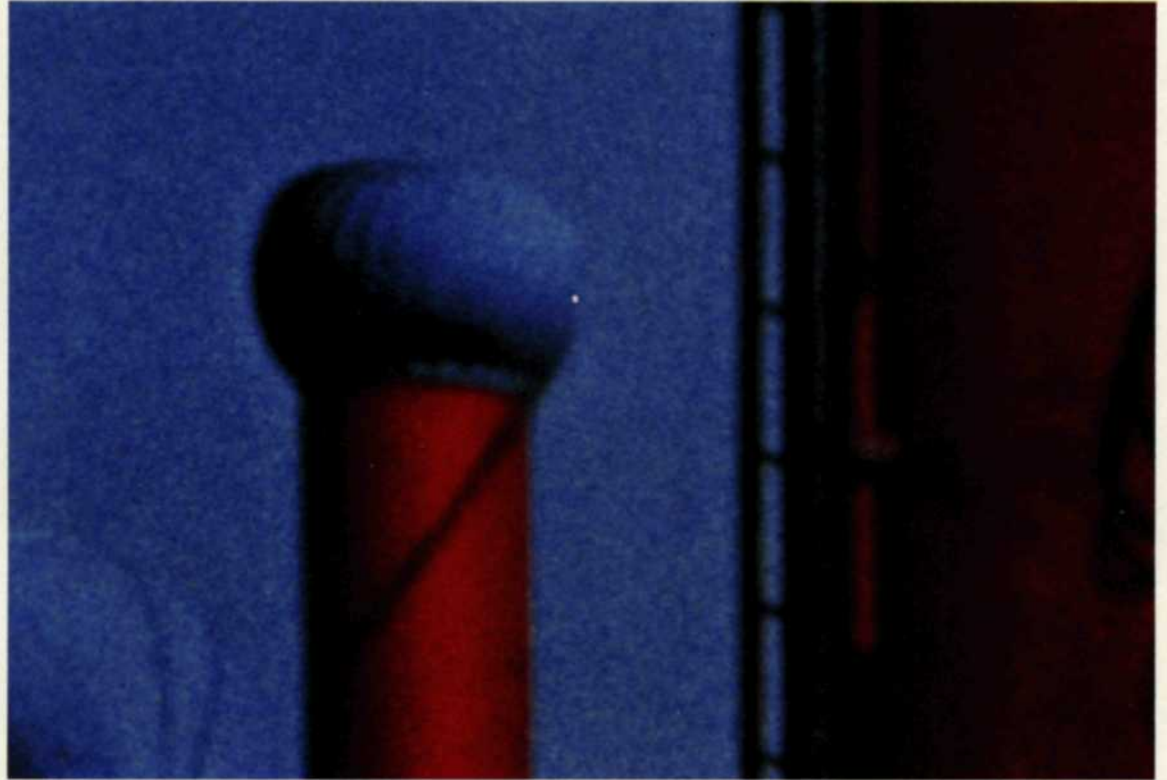
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A 30 $\times$  blowup from a section of each of these identical images shows that Velvia (top photos) compares very favorably to Kodachrome 25 in terms of image resolution and grain.





Velvia ▼



Kodachrome 25 ▼







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the colorless test. The light-blue sky seemed to be the only recognizable color in the scene. When we first looked at the Velvia slides, they seemed to have reproduced the neutral tones very well. That all changed when we laid the Kodachromes next

to them. Kodachrome had definitely reproduced the neutrals better and truer than Velvia, but did not reproduce the blue sky as well as Velvia. Confused yet? Wait till we get to the red-failure test.

## RED-FAILURE TEST

One of the primary concerns Fuji had when creating Velvia was to create a film that would not have color failures. This is when there is so much saturation of one color in a

subject that detail starts to blend into that color, obscuring image detail. Red seems to be the color that most films have trouble with, and red flowers are typically where most color failures appear. We tried both films on various red flowers and noticed that both Kodachrome and Velvia separated the reds very well, but at high magnification we did notice that Velvia tended to distinguish slightly finer detail in the red than the Kodachrome did.

## SHARPNESS/RESOLUTION

Our sharpness and grain tests were derived from extreme enlargements of various images taken on both films at the same time under identical situations. Several sets were tried to eliminate the possibility of movement in one of the shots. We even swapped camera bodies and used the same lens to validate our tests. We finally settled on a shot of a brick building with several windows at the top. With a 10× loupe we thought we could see all the detail possible, but still could not see any difference in grain or sharpness. When we got to a 30× enlargement we discovered that both films had resolved enough to show that the windows had venetian blinds. Closely comparing grain and resolution at 30× we could not find one film to be better than the other.

1.&2. A half-stop bracket test with each of the films shows Kodachrome (2) to be very neutral, while Velvia (1) is highly saturated. Both films, as one might expect, have slim latitude; although Velvia has slightly more latitude in the opinion of the authors. One interesting note is that the ISO of Kodachrome (25) was not fast enough to stop the moving water, while Velvia, one stop faster, was able to do it.

3.&4. Sometimes, when you compare Velvia (photo 4) and K25 (photo 3), there is very little difference. Here, reds are supersaturated, detail is crisp, and grays are neutral. About the only difference discernible is that Velvia has a little more fine detail visible, especially in the distant rows of pink flowers.

5.&6. Here is a comparison where Velvia (photo 6) and Kodachrome 25 (photo 5) look completely different. The difference here is in the contrast and the rendition of this particular shade of pink. Velvia seems to be more saturated than K-25.

7. One of the reasons pros and amateurs have cherished Kodachrome all these years is its unique palette. Note here the punch of the subtle splashes of green in an otherwise completely neutral field of browns and grays.





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1. One of Velvia's strengths is its ability to concisely differentiate adjacent colors. Look at the local contrast between tones on the mailbox.

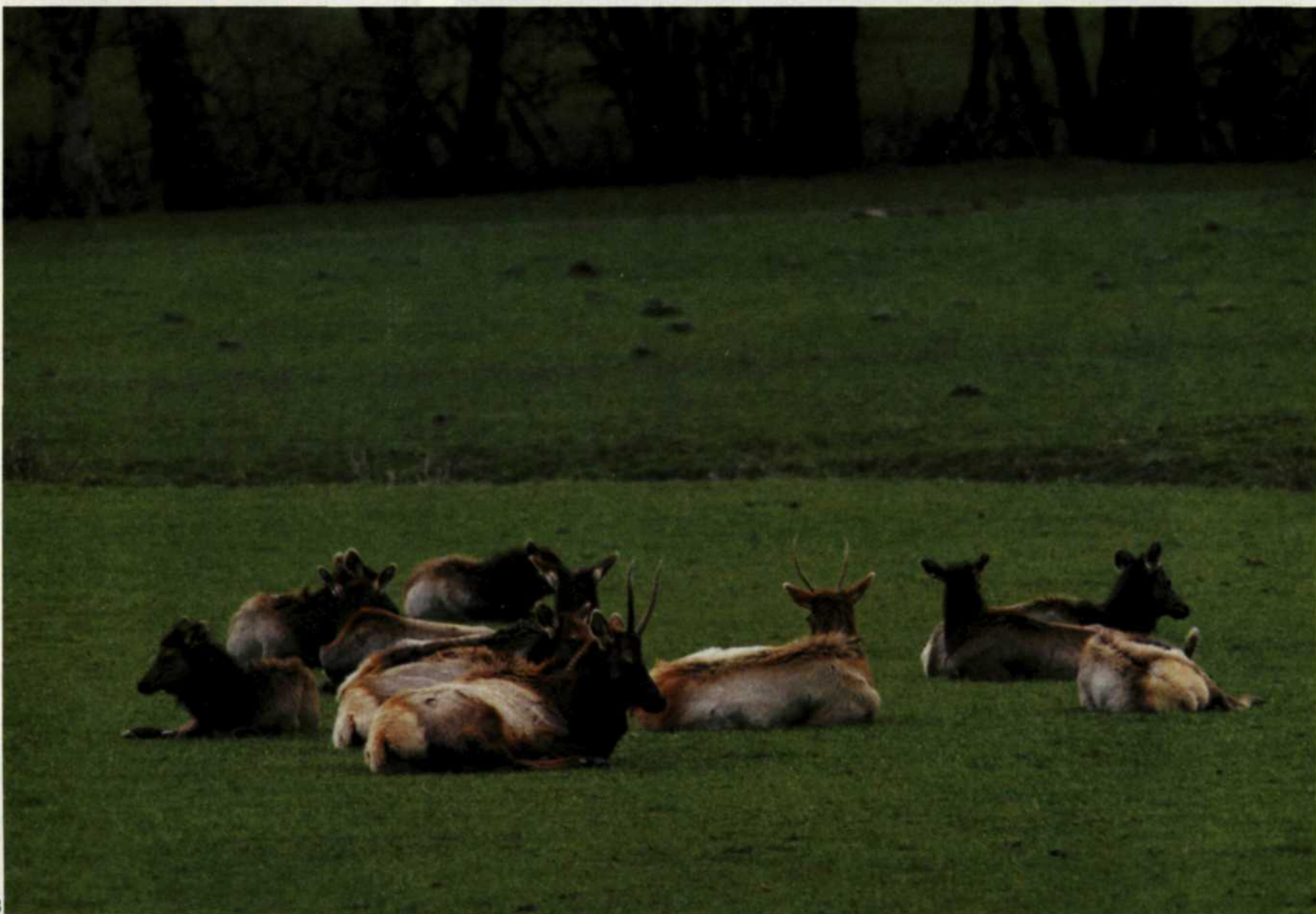


2

2. Velvia has the ability to hold a long tonal range. Note the detail in the slightly overexposed highlights of the windsock and the deep blue of the wall.

3. One of Kodachrome 25's great strengths is its neutrality. The Velvia version of this photo, while more saturated, had a slight green cast.

ALL PHOTOS BY THE AUTHORS



3



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## SOME THOUGHTS ON A WINNER

With this type of test report, we try to present the facts so that you can make the proper decisions on which films to use. We hope that you can do so from the information and photos we present. Keep in mind that ever since we have been in photography, Kodachrome 25 has been one of our mainstay films. We feel that with Velvia's high color saturation, wide exposure latitude, higher ISO rating, and grain/sharpness levels equal to Kodachrome 25, we would choose Velvia in most situations. This is primarily because we are part of the "I need it yesterday" crowd. We think that most photographers no longer want to wait the extra time it takes to get Kodachrome processed, when an E-6 processing lab is probably around the corner and would have Velvia done in a few hours. An additional point in Velvia's favor is that the film comes in 35mm, 120, 220, and sheet films up to 11x14 inches. With the introduction of Velvia, we feel that the competition in the slide-film market will definitely heat up, and you the photographer will be the benefactor.

Keep in mind, however, that Kodachrome has been around for 55 years, and a product that good won't and shouldn't go away gracefully. There are reasons why pros and amateurs have been so faithful to Kodachrome. The unique palette that Kodachrome 25 produces is unmistakable, and as good a reason as any why photographers continue to use this film. Second, not everyone wants or needs their film back "yesterday." Many people are content to wait the day or so extra that Kodachrome processing takes; and in some large cities, Kodachrome labs with two-hour service exist. Lastly, since Kodachrome is a three-layer black-and-white film, that, when processed, is converted to a color image using special crystalline chemical dyes which are extremely durable, processed Kodachrome images have been proven to last more than 50 years when properly stored. Velvia, which uses non-crystalline dyes, of course, does not have the proven archival performance. Time will tell, but certainly, Kodachrome 25 aficionados will persist...probably well into the next century. ■

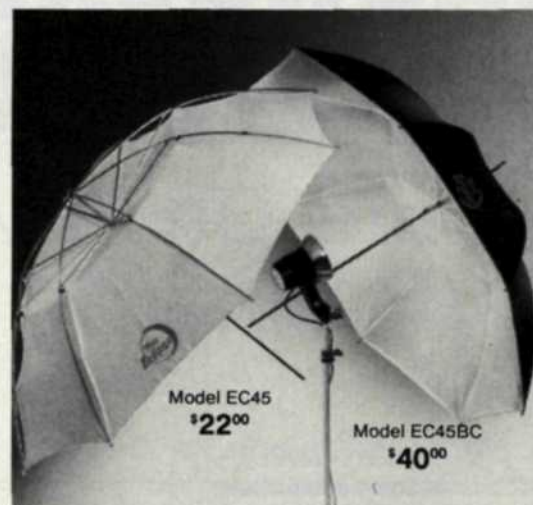
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