

BASICS



Bob Scott

## Planning Ahead to Outsmart the Ink Guzzler

By LARRY MAGID

**H**ERE'S a riddle. Which is cheaper, a \$49 inkjet printer or a \$299 laser printer?

The answer depends on how much you print and how long you keep the printer. If you do a lot of printing, over a year or two, that inexpensive inkjet printer could turn out to be more costly than the laser printer.

The companies that make printers have long known they can make more money over the life of a printer on supplies than they can on the printer itself. It's a lesson taught by the inventor of the disposable razor blade: keep the razor inexpensive and make money on the blades.

The Hewlett-Packard Deskjet 3320 costs only \$49, but a black ink cartridge that produces about 220 pages of text costs \$17.99 or about 8.2 cents a page. Contrast that with the consumption of personal laser printers and some higher-end inkjet printers, some of which use less than 2 cents' worth of ink per text page.

But the number of pages that a printer maker says a user can expect from an ink or laser toner cartridge should be taken with a grain of salt. Like the miles-per-gallon estimates for cars, results depend on conditions. With inkjet printers, ink consumption depends on the type of paper, the mix of images, the text on the page and even how the printer's driver software is configured.

Cartridge life is even less predictable — and a lot shorter — when you print color photos, in which the size, color and density

of images vary significantly.

Laser printers are generally cheaper to use than inkjets. Inkjets use ink that is sprayed on the paper as it travels through the printer. Laser printers, like conventional photocopy machines, use toner powder that is fused to the paper by heat.

Laser printers used to cost a lot more than inkjet models, but Hewlett-Packard, Brother, Samsung and other companies now offer monochrome personal laser printers starting at about \$199, which is comparable to the price of many midrange inkjet printers. The downside of these low-cost laser printers is that they cannot print color, meaning they are not of much use for most digital photos.

Color laser printers, which start at about \$900, are also more economical than color inkjets. But they are a poor substitute for inkjet printers when printing digital pictures because the prints are not nearly as realistic as those produced by a good inkjet and glossy photo paper.

But when it comes to printing text, today's low-cost personal laser printers produce crisper pages and are cheaper to use than most inkjets.

Tests have shown the print quality of the \$299 Brother HL-5040 to be excellent. It is not the cheapest personal laser printer, but it is rugged and economical and produces excellent quality. A \$65.99 toner cartridge yields 3,300 pages of text, according to Brother, which comes out to about 2 cents per page. A high-capacity cartridge, which produces 6,500 pages, costs \$89.99 for about 1.4 cents a page.

It's also possible to get some relatively in-

expensive text pages from some inkjet printers. The \$33.90 black ink cartridge on the \$200 Hewlett-Packard Business Inkjet 2230/2280 series, according to Hewlett, yields about 1,500 pages, for an ink cost of 2.3 cents a page. The \$129 Epson Stylus C82 gets 1,240 pages on a \$31.35 cartridge or about 2.5 cents a page. Canon's i320 Color Bubble Jet Printer costs \$79 and yields about 300 pages from a \$7.95 black cartridge, for a cost of about 2.6 cents a page.

Of course, these figures are estimates based on manufacturers' claims.

Regardless of how a printer is rated,

**In the long run, a laser printer can be cheaper than an inkjet model. Still, there are ways to prolong ink cartridge life.**

there are ways to save money. The drivers that come with inkjets, for example, allow you to adjust the quality and speed of the printer. The settings vary, but the available options typically include "best," "normal," "draft," "everyday" and "fast draft." Whatever terms are used, as you descend the quality scale you decrease the amount of ink that is sprayed on the page, which results in a lower cost per page.

As a bonus, lowering the quality setting also increases the printer's speed because it spends less time laying down ink.

Laser printers also offer cost-saving settings. The Brother model, for example, has

a "toner saver mode" that cuts down considerably on toner, but the text is very light, making it a bit hard to read.

Another option with laser printers is to reduce the resolution, or dots per inch. Many laser printers offer up to 1,200 dots per inch, with a default of 600 d.p.i. But the higher the resolution, the more toner they use. You can reduce toner consumption by going into the printer driver settings area and setting the printer's configuration at 300 d.p.i. That will save toner without, in most cases, resulting in an unacceptable reduction in print quality.

There are other ways to reduce printing costs. If you are working with a long report or a multipage Web site and do not need to print the entire document, use the printer dialog box to print only the pages you need. If you are printing Web pages and color is not necessary, consider selecting the "gray scale" or "black" option to avoid wasting color ink.

Third-party software developed specifically to improve the economy of inkjet printers is another option. InkSaver (\$34.99 at [www.inksaver.com](http://www.inksaver.com)) allows you to adjust the amount of ink on a percentage basis, meaning you do not have to use 100 percent of the ink. The software works with both color and black ink and allows total control of settings.

You can also save money, and trees, by saving paper. Almost all printers allow you to print on both sides of a page, and some can be set to do that automatically.

To save ink and paper, consider printing more than one page on a single sheet. Some printers allow you to use their configuration software to reduce the size of the image so

you can, say, print two full pages on one sheet. Products like FinePrint (\$39.95 at [www.fineprint.com](http://www.fineprint.com)) let you print two, four or eight pages on a single sheet. For about \$50, BlueSquirrel ([www.bluesquirrel.com](http://www.bluesquirrel.com)) publishes ClickBook, a similar program for Windows 95 and later and Macintosh OS 9 and earlier.

All printer manufacturers urge you to use their supplies. Many companies offer cheaper alternatives, like remanufactured and refilled ink or toner cartridges or even kits that you can use to refill cartridges. Such companies assert that their products are equal to the original, while printer makers tend to argue that third-party products have drawbacks like poorer print quality, the clogging of the print heads or print that fades sooner than it would if the manufacturer's cartridge were used.

Claims on both sides are difficult to substantiate.

There are reasons to be cautious about third-party cartridges and refills, since some cartridges are not simply ink reservoirs but also include electronic components. Inkjet refill kits can save you a great deal of money, but you have to be careful not to spill the ink. Recycled laser cartridges seem to work well. But with a do-it-yourself refill kit, take care not to spill or inhale the fine laser powder.

King Camp Gillette, who patented the disposable razor in 1904, would no doubt be proud of the way the disposability principle has been embraced by printer manufacturers. But that shouldn't stop you from trying to shave a few pennies off the cost of printing.