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**CO-PRODUCTS FROM
MAKING ALCOHOL**

By now, you know that I try to never waste anything. I always design any surplus in a system to produce another valuable product. In this section, we develop that idea more fully.

There are literally dozens, perhaps hundreds, of potential co-products from an alcohol plant. I've focused on a relatively small number of them to show how they can complement one another in the design of your own facility.

The most important thing to think about in this section is that the uses for surplus material and energy result in co-products, not byproducts. Terming something a "byproduct" means that you have made a judgment that it is of secondary importance to a "primary" product. Most manufacturers take a raw material, make it into a widget to sell, and throw away the remains (into the nearest river, if they can get away with it). That thrown-away part, that surplus, needs to have a designed use in your plant. Otherwise, it will create waste, pollution, and more work.

One of my engineer friends has told me, "Dave, you need to decide the one thing you're good at and do that. It doesn't work to try to be good at a variety of things because it means all of them would suffer." That's not true, in my experience. It has become vital to consider all the connections between parts of your operation to make the best use of everything. As the plant designer, you need to focus on the relationships between the components. That's what an ecologist does, and it's what successful businesspeople do.

So you will find that the co-products, when properly valued and designed into a productive use, will almost always be worth more money than the alcohol. What's going to be more important for some time to come is that the co-products will not suffer the volatility in price that auto fuel does. Having a well-developed co-product business protects your overall operation against failure.

But the best reason I can give for having a diverse operation is that it is a lot more fun to operate than simply making alcohol and throwing away the remains.