Innovating for the Future

Innovation continues to be the hallmark of U.S. ethanol producers. Over the past year, ethanol production facilities helped to commercialize a variety of new technologies, from co-product diversification to engineered yeast. These advances further increase ethanol yields and reduce the energy intensity of the process, leading to reduced greenhouse gas emissions.

One area of particular focus has been co-product diversification—including dry grind separation, dry fractionation and fiber separation. These technologies result in higher valued and tailored feed products with enhanced feeding aspects for ruminants, swine and poultry. Aquaculture is also an area of growth for our co-products.

Driven in part by state low carbon fuel standards, plant efficiencies also continue to improve. New technologies that reduce carbon, like advanced motors, anaerobic digesters, co-generation of energy and carbon sequestration, are being adopted by facilities around the country. Enzyme manufacturers also continue to innovate, offering products with better properties that help producers control costs and reduce or even eliminate use of other chemicals.

The U.S. ethanol industry has come a long way since 1980 and is looking forward to continuing to grow the industry. Utilizing specialty enzymes, producers can be next-generation facilities fermenting fiber into cellulosic ethanol. And yeast has been modified to produce less glycerol and produce their own glucoamylase during fermentation. Beyond production, new uses for ethanol are also on the horizon. New technology allows ethanol to be used as feedstock for aviation fuel, and the industry is researching using ethanol as a diesel substitute and to generate electricity.

Total D3 RINs Generated

Source: RFA based on U.S. Environmental Protection Agency data
*Jan.-Nov.
Two of our nation’s newest ethanol plants are models of innovation. Since its opening in spring 2019, Ringneck Energy’s facility in Onida, South Dakota, quickly reached its nameplate capacity of 80 million gallons. Among its priorities are to improve access to the West Coast ethanol market with data collection to develop its carbon intensity score, increasing the value of its ethanol for blenders serving California and Oregon.

Not pictured: The Andersons and ICM, Inc. partnered together to create ELEMENT, LLC, a joint venture that in August 2019 completed a 70-million-gallon-per-year bio-refinery in Colwich, Kansas. The combination of ICM’s next-generation technologies and The Andersons’ merchandising, risk management and logistics expertise has the potential to produce high-efficiency, low-carbon-intensity ethanol.

Photos: Dakota Film Co.