

U.S. Dairy Cows Upcycle Byproducts Into Dairy Foods



Dairy cows upcycle nutrients found in foods that humans can't or won't eat to make nutritious milk.

A study published in the *Journal of Cleaner Production* quantified milking cows byproduct (BP) consumption. The survey data described 33.5% of U.S. lactating cows* - making this the most comprehensive survey of U.S. BP usage in dairy cows.¹

- BP comprise almost 30% of the world's agricultural production. For decades, BP have been fed to dairy cows providing them valuable nutrients.
- **The average U.S. dairy cow consumes an estimated 26.5 pounds of BP each day**, supplying valuable nutrients for the cow that they turn into nutritious milk for human consumption.

Further, **BP feeding results in considerably less methane and nitrous oxide than landfill disposal or composting.**

**2,617,110 out of a total 7,801,830 cows.*



up·cy·cle

/ˈəp,sɪkəl/ verb:

to recycle (something) in such a way that the resulting product is of a higher value than the original item : to create an object of greater value from (a discarded object of lesser value).²

Key Takeaway:

Feeding byproducts to dairy cows benefits human life with reduction in food waste, minimization of environmental impact and production of nutritious milk.



National Dairy Council's (NDC) mission is to bring to life the dairy community's shared vision of a healthy, happy, sustainable world with science as our foundation. On behalf of America's dairy farmers and importers, NDC strives to help people thrive across the lifespan through science-based information on dairy's contributions to nutrition, health and sustainable food systems.

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Did You Know?

Cows can upcycle these byproducts:

- Almond hulls
- Beet pulp
- Corn meal
- Potato skin
- and more!
- Bakery leftovers
- Brewer's grains
- Cottonseed
- Rice bran
- Cereal
- Citrus pulp
- Peanut hulls
- Soybean hulls

Orange Cream Chiller

Makes 2 servings

Ingredients

- 3 ounces orange juice
- 1 cup milk
- 1/2 cup plain Greek yogurt
- 1 small frozen banana or 3 frozen strawberries
- 1 teaspoon honey
- 1/2 teaspoon vanilla extract

Instructions

1. Combine the orange juice, milk, yogurt, frozen banana, honey and vanilla in a blender. Blend on high until smooth.
2. Divide between two 12-ounce glasses.

Serve immediately.



Consider This!

- When processing oranges or grapefruit for juice, **nearly 45 to 60%** of the fruit is left as a peel or seeds. Citrus byproducts can provide valuable nutrients to dairy cows for milk production.³
- Byproduct feed varies regionally based on local production.¹

References

1. de Ondarza, M.B., and J. Tricarico. 2021. Nutritional contributions and non-CO2 greenhouse gas emissions from human-inedible byproduct feeds consumed by dairy cows in the United States. *J Clean Prod.* 315.
2. "Upcycle." *Merriam-Webster.com Dictionary*, Merriam-Webster, <https://www.merriam-webster.com/dictionary/upcycle>. Accessed 25 Aug. 2021.
3. U.S. Department of Agriculture. 1962. *Chemistry and technology of citrus, citrus products, and by-products*. Washington, D.C. Agriculture Handbook No. 98. 99 p.