

# The value of co-products from carinata

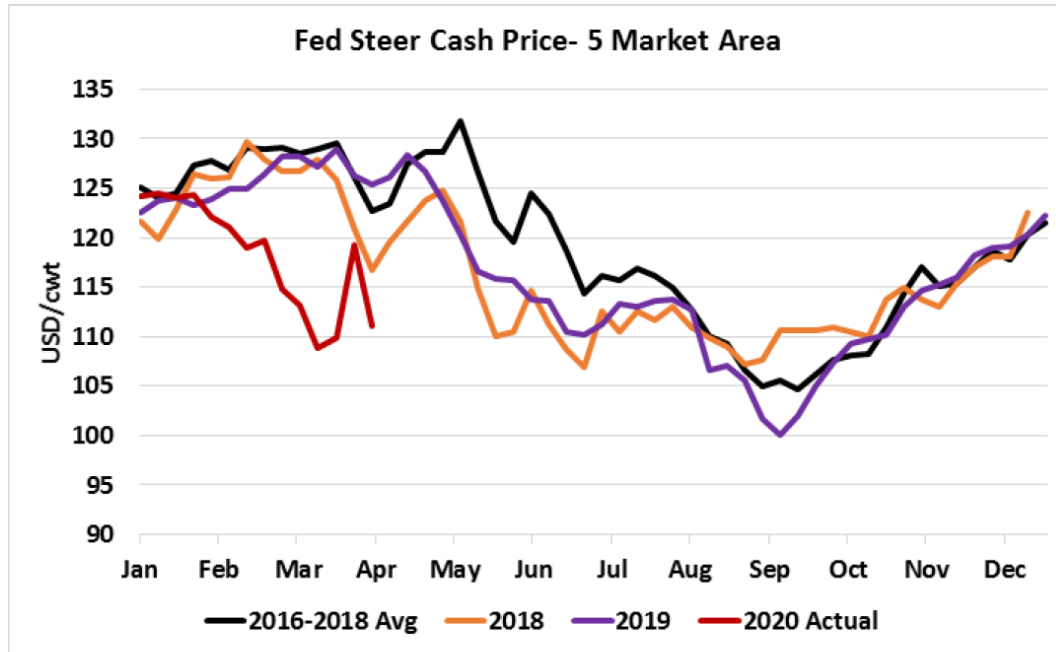


**Dr. Nicolas DiLorenzo**  
**University of Florida-NFREC**

# Changing the world...



# The perfect storm...



Source: USDA-AMS

Loses of **US\$9,200**  
millions due to  
**COVID-19** (to April 8, 2020)

biofuels  
international

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JUN 15, 2020

## US ethanol producer to stop production at one plant

US ethanol producer Flint Hills Resources will not resume production at its 120 million gallon a year ethanol plant in Camilla, Georgia.

The plant has been idle since May as the COVID-19 pandemic hit fuel ethanol demand as the world went into shutdown. Demand for fuel ethanol has since shown some signs of recovering, but it still remains about 20-30% lower when compared to this period last year.

Fuel ethanol producers have seen very little to no profit margins for some time, forcing many to mothball their plants or permanently cut production altogether.

Ethanol is used as a gasoline blendstock, in pharmaceuticals, and in food and beverage applications, such as hand sanitisers and vodka.

Flint Hills Resources is the fifth largest ethanol producer in the US. Its biofuels and ingredients business operates six ethanol plants in Iowa and Nebraska with a combined annual capacity of over 725 million gallons.



The plant has been idled since May

UF|IFAS  
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**Or the greatest opportunity for carinata meal?**

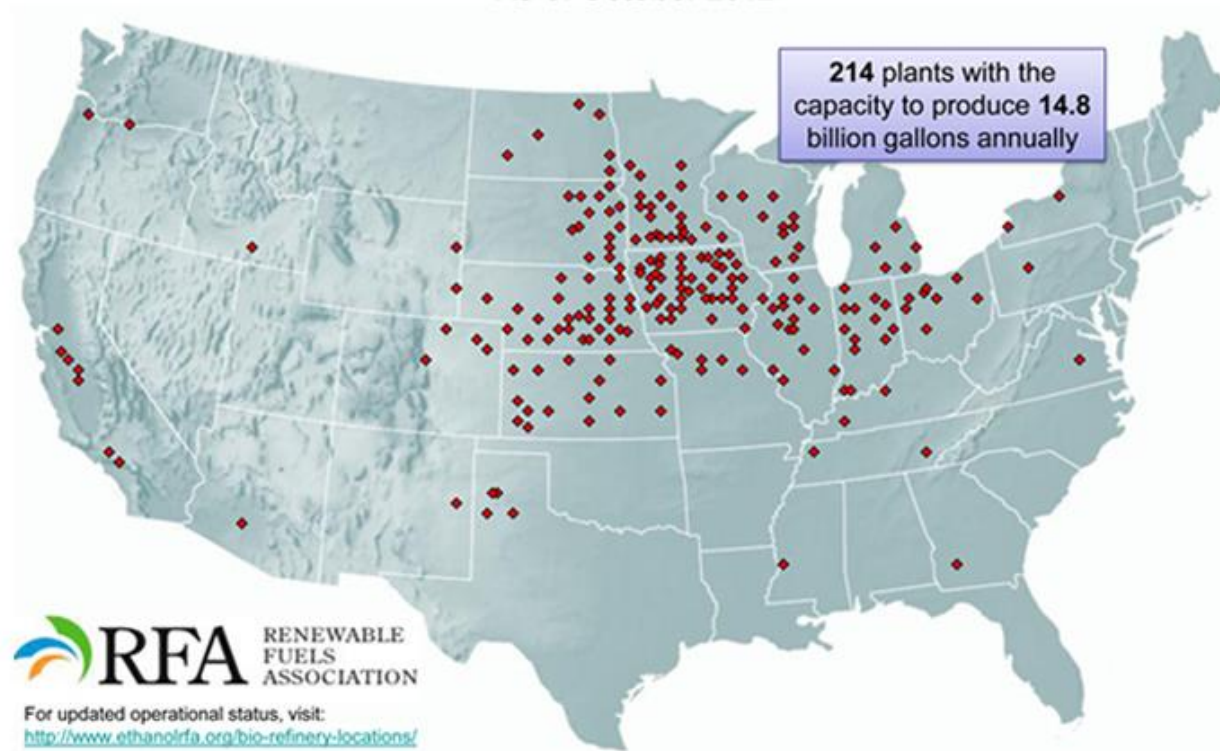


# The ethanol industry... a model to follow

Expansion from 2008 to 2014

## U.S. Ethanol Plants

As of October 2012



Source: RFA, November 2012

214 ethanol plants



2012 = 55,944 million liters of ethanol ~ 40 million tons of distillers grains

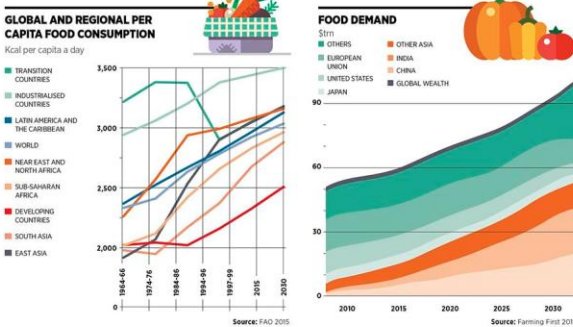
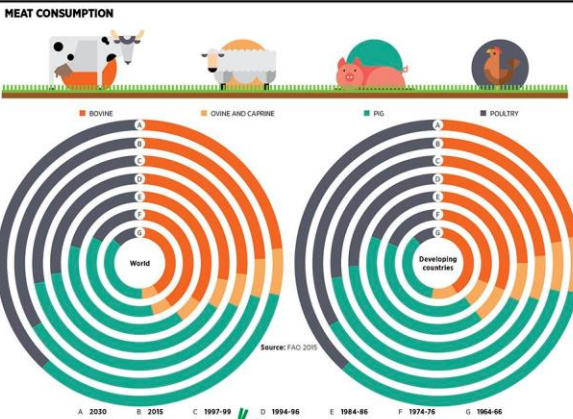
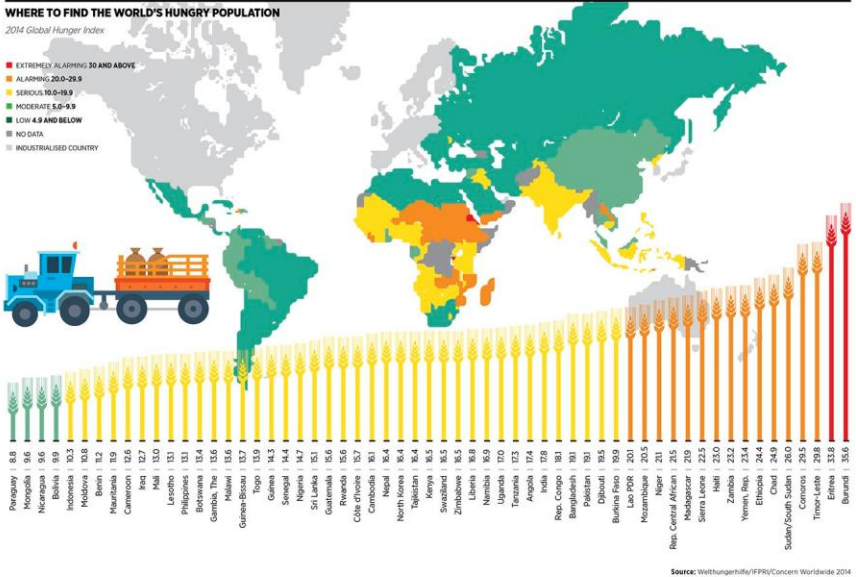
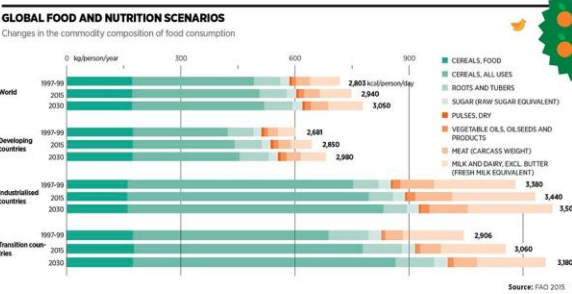
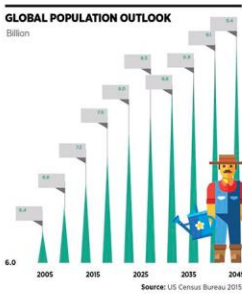
2019: 68,268 million liters (54% of the world's production)

# We need to move on...but is not that easy

Going from December 2020 to January 2021?



# Global food outlook



Current  
outlook scary  
at best...  
sustainability  
of food  
production  
systems will  
be imperative



# Successful models of Livestock-byproducts integration

The New York Times



# Successful models of Livestock-byproducts integration



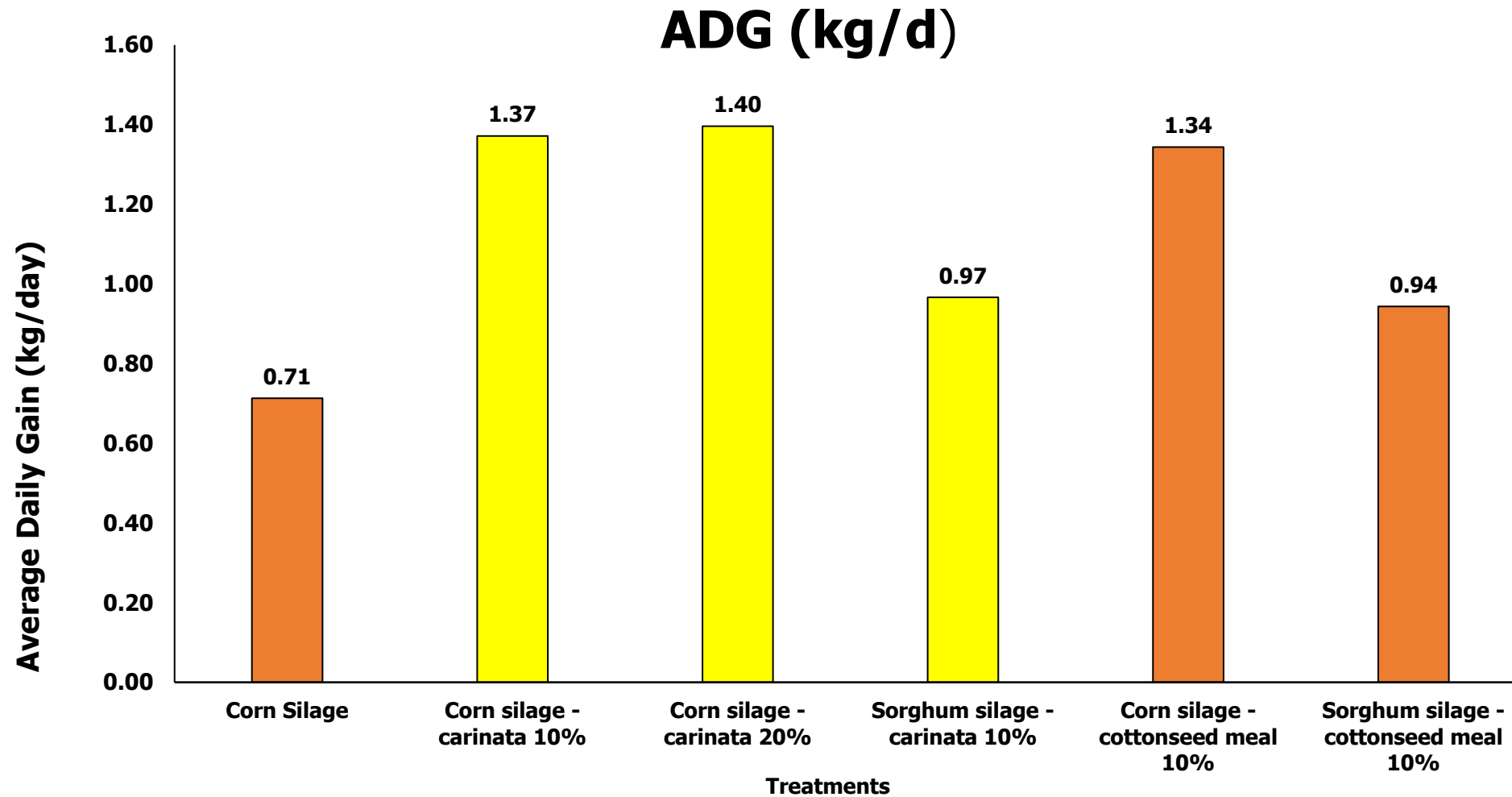
# August 24, 2020

## *B. carinata* meal arriving at UF





## Average daily weight gain (ADG) in beef heifers fed carinata meal



# Carinata meal appears to be a high-quality protein source for beef cattle



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Ruminant Nutrition



## RUMINANT NUTRITION

### Evaluation of *Brassica carinata* meal as a protein supplement for growing beef heifers<sup>1,2</sup>

Tessa M. Schulmeister,<sup>†</sup> Martin Ruiz-Moreno,<sup>†</sup> Gleise M. Silva,<sup>†</sup> M. Garcia-Ascolani,<sup>†</sup> Francine M. Ciriaco,<sup>†</sup> Darren D. Henry,<sup>‡</sup> Graham Cliff Lamb,<sup>||</sup> Jose C. B. Dubeux Jr.,<sup>†</sup> and Nicolas DiLorenzo<sup>†,3</sup>

### Evaluation of *Brassica carinata* meal on ruminant metabolism and apparent total tract digestibility of nutrients in beef steers<sup>1,2</sup>

Tessa M. Schulmeister,<sup>†</sup> Martin Ruiz-Moreno,<sup>†</sup> Gleise M. Silva,<sup>†</sup> M. Garcia-Ascolani,<sup>†</sup> Francine M. Ciriaco,<sup>†</sup> Darren D. Henry,<sup>‡</sup> Graham Cliff Lamb,<sup>||</sup> Jose C. B. Dubeux, Jr.,<sup>†</sup> and Nicolas DiLorenzo<sup>†,3</sup>

<sup>†</sup>Department of Animal Sciences, North Florida Research and Education Center, University of Florida, Marianna, FL 32446-7906; and <sup>‡</sup>Department of Animal and Food Sciences, Texas Tech University, Lubbock, TX 79409-2141; <sup>||</sup>Department of Animal Science, Texas A&M University, College Station, TX 77843-2471

**ABSTRACT:** *Brassica carinata* is a new oilseed crop an internal marker. Blood and ruminal fluid samples



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Ruminant Nutrition

## RUMINANT NUTRITION

### Characterization of dietary protein in *Brassica carinata* meal when used as a protein supplement for beef cattle consuming a forage-based diet

Tessa M. Schulmeister,<sup>†</sup> Martin Ruiz-Moreno,<sup>†</sup> Gleise M. Silva,<sup>†</sup> Mariana Garcia-Ascolani,<sup>†</sup> Francine M. Ciriaco,<sup>‡</sup> Darren D. Henry,<sup>‡</sup> G. Cliff Lamb,<sup>||</sup> Jose C. B. Dubeux Jr.,<sup>†</sup> and Nicolas DiLorenzo<sup>†,1</sup>

<sup>†</sup>North Florida Research and Education Center, Department of Animal Sciences, University of Florida, Marianna, FL 32446-

# Economic impact of *B. carinata* meal supplementation in FL

1,062 million head  $\times$  4 lb of BCM/d  $\times$  90 d/yr = 191,160 tons/yr

👉 \$57.3 million/yr



Photo credit: Orlando Sentinel

# We are not leaving dairies out of the picture...

Study at NCSU by Dr. Stephanie Ward, replacing soybean meal with carinata meal. Recently completed... results coming soon.

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UNIVERSITY



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UNIVERSITY of FLORIDA

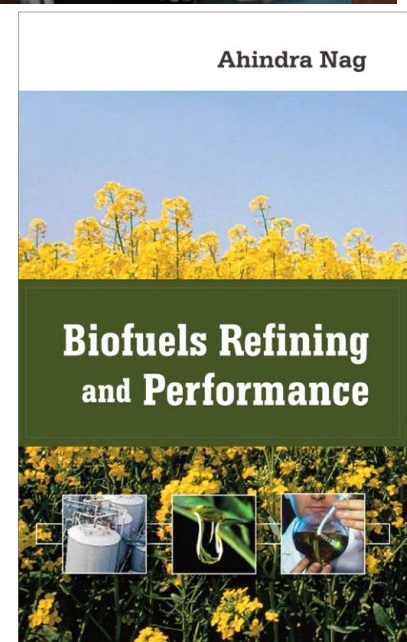
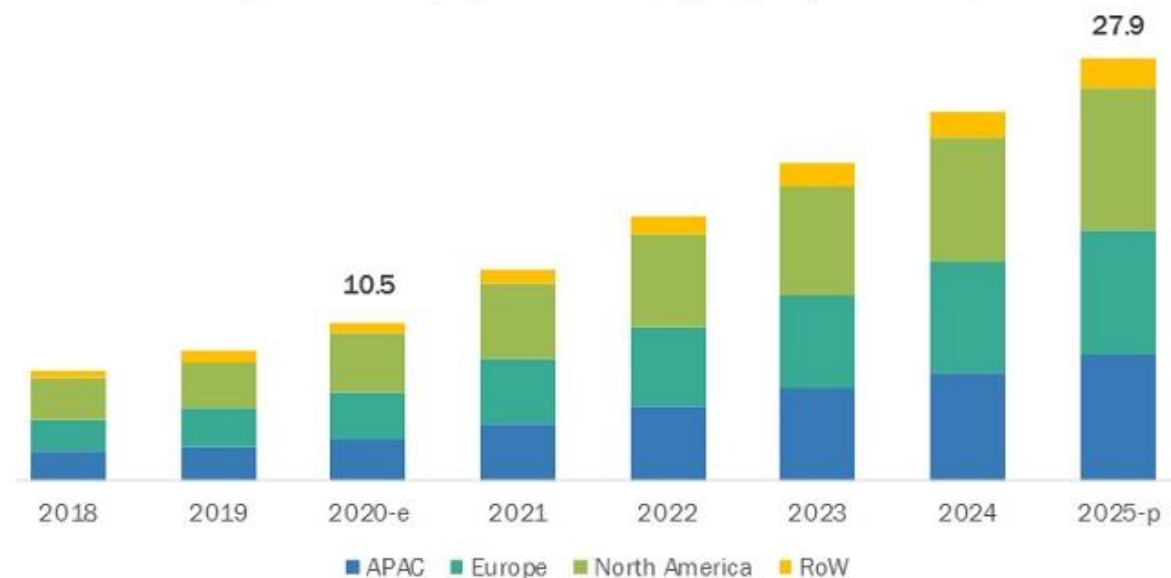


# Is not all about livestock feed...

## The importance of the coproducts



Bioplastics & Biopolymers Market, By Region (USD Billion)



More valuable than as livestock feed!!

# The future is bright for carinata meal



We are not done yet!  
Much work to do.  
SPARC is just the  
beginning...

