

The background of the slide is a close-up photograph of a natural stone surface, likely marble or granite. It features intricate, swirling patterns of light beige, cream, and grey tones, with some darker, brownish veins and spots. The texture appears slightly rough and uneven.

# Survey of Grass Fed and Conventional Beef Liver Mineral Content

## Summary



## RUMBA MEATS

- A division of Cargill, focusing on Hispanic meats
- [Website](#)
- Cargill is the largest meat company in the US, with 2021 sales of \$134.4 billion
- Available in supermarkets



## TENDER YEAR

- A division of American Foods Group
- [Website](#)
- 540 day shelf life from production date
- Available at Walmart
- Tested 9 weeks post processing



## PRICE CHOPPER MARKETS

- Described as previously frozen
- May be a Cargill Meats product
- In store only periodically



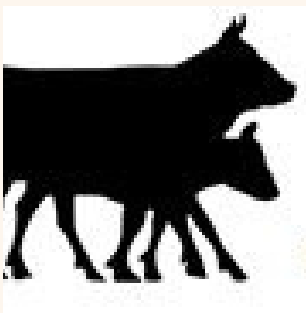
CONVENTIONAL  
BRANDS  
TESTED





## SWEET TREE

- Carlisle, NY
- [Website](#)
- Uses cross bred steers and half Angus calves
- Slaughter about 24 months for heifers, 30 - 36 months for steers
- Pastured, grass finished, with mineral blocks and loose mineral supplements



## LEWIS WAITE

- Greenwich, NY
- [Website](#)
- Uses cross bred steers
- Slaughter at 2 -2 1/2 years
- Pastured, grass finished, with loose mineral and mineral block supplements



## HERONDALE

- Ancramdale, NY
- [Website](#)
- Uses British White and Murray Gray cattle
- Grass fed, grass finished
- Sample from tag #8625
- Lot # 188-N



GRASS  
FED  
FARMS  
TESTED





# MINERAL SUPPLEMENTS USED

## SWEET TREE FARM

VitaFerm Cattleman's Blend  
Generic salt block

## LEWIS WAITE FARM

Generic trace minerals  
Redmond selenium

## HERONDALE

Did not respond



# COPPER RESULTS



Conventional

Rumba	1030 ppm
Tender Year	305 ppm
Price Chopper	421 ppm

Grass Fed

Sweet Tree	15 ppm
Lewis Waite	78 ppm
Herondale	367 ppm

All results on DM basis  
Full results can be found on page 7



# QUESTIONS RAISED BY THE RESULTS

- 01 WHAT IS THE ROLE OF FEEDING CATTLE SUPPLEMENTAL MINERALS?
- 02 COULD BREED PLAY A PART IN COPPER ABSORPTION & RETENTION?
- 03 SHOULD SOIL TESTING PARALLEL FUTURE LIVER TESTING?
- 04 SHOULD SPLIT SAMPLES BE USED TO CONFIRM LABORATORY RESULTS?



# FREEZE DRIED BEEF LIVER TREAT TESTING

In a parallel project, three brands of nationally available freeze dried beef liver treats were previously tested at the same laboratory. None had any ingredient listed other than liver, and none made grass fed claims. Copper levels were 314 ppm, 349 ppm, and 457 ppm on a DM basis.

By calculation, it was estimated that 7- 8 average chunks of the products would meet the FEDIAF maximum copper amount per day for a 40 pound dog.

# FULL RESULTS

Brand	Moisture	DM	CP	Ca %	P %	Mg %	K %	Na %	Cl %	S %	Fe ppm	Zn ppm	Cu ppm	Mn ppm	Mb ppm	Co ppm
Rumba	72.1	27.9	72.2	0.02	1.39	0.07	1.1	0.28	0.37	0.91	128	131	1030	11	2.7	0.16
Price Chopper	70.8	29.2	71.5	0.01	1.43	0.07	1.14	0.222	0.34	0.85	162	135	421	10	2.6	0.16
Tender Years	70.3	29.7	72.3	0.04	1.4	0.07	1.09	0.236	0.33	0.85	160	136	305	13	3.9	0.5
Sweet Tree GF	69.8	30.2	77.3	0.02	1.52	0.08	1.24	0.238	0.33	0.87	147	167	15	10	4.7	0.1
Lewis Waite GF	71.3	28.7	73.4	0.02	1.41	0.07	1.18	0.272	0.37	0.86	191	143	78	14	4.2	0.25
Herondale GF	69.8	30.2	69.1	0.02	1.54	0.07	1.16	0.222	0.3	0.83	334	152	367	10	4.2	0.29
Stewart FD Treat	9.1	90.9	71.1	0.08	1.32	0.06	1.09	0.243	0.41	0.91	275	181	447	13	3.9	1.03
Wag FD Treat Amazon	8.6	91.4	74.3	0.04	1.37	0.06	1.12	0.253	0.33	0.94	223	172	314	10	5	0.94
Stella & Chewy FD	10	90	70.1	0.03	1.29	0.06	1.14	0.273	0.47	0.87	334	329	359	9	3.8	1.13
GF= grass fed																
FD= freeze dried																

Results expressed on a DM basis.





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FRESH LIVER TESTING  
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# PROJECT TEAM