



# AGT 2200



MAIN MENU

AGT MENU

OPERATION PRINCIPLE

APPLICATION

TECHNOLOGY ADVANTAGES

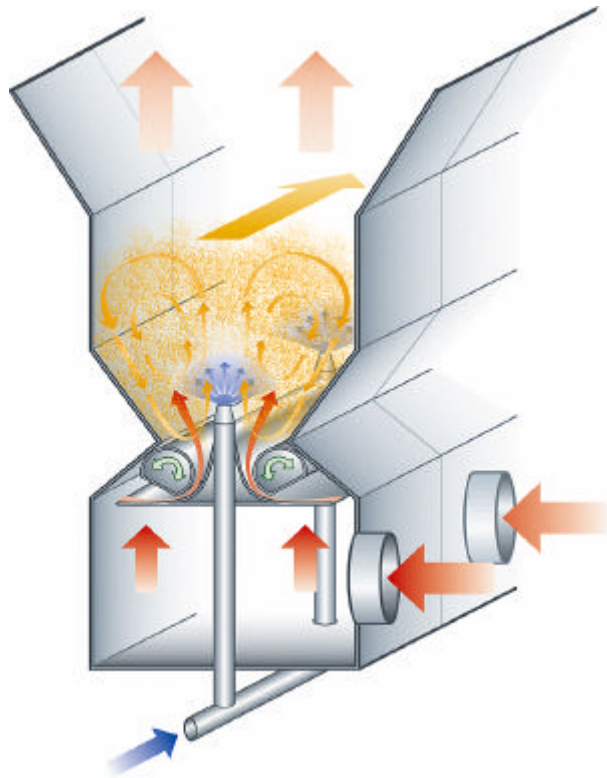
PRODUCT CHARACTER

STANDARD PLANT

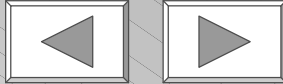
AGT 2200



# Continuous Spouted Bed - ProCell



- General features
- Advantages
- ProCell 20



MAIN MENU

ProCell Menue

GENERAL  
FEATURES

REGION OF  
OPERATION

ADVANTAGES

ProCell 20



# ProCell - General Features

- no bottom screen

air enters via slots in the side

- 
- processing chamber is widening towards top

sharp decrease of air velocity in the processing chamber

- 
- nozzles centrally arranged either in top spray or bottom spray position

spraying always at the point of highest energy input



MAIN MENU

ProCell Menue

GENERAL  
FEATURES

REGION OF  
OPERATION

ADVANTAGES

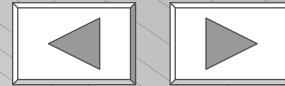
ProCell 20



# ProCell: Advantages

## sharp decrease of air velocity in processing chamber

- small particles can be fluidized down to 50  $\mu\text{m}$
- large particles can be fluidized with small process air volumes safe energy costs – design air volume for drying process rather than for fluidization
- irregular particles can be fluidized e.g. cotton seeds, lumps do not interfere with the process, sticky products can be granulated



MAIN MENU

ProCell Menue

GENERAL  
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REGION OF  
OPERATION

ADVANTAGES

ProCell 20

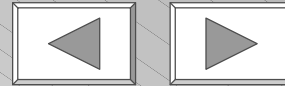


# ProCell: Advantages

same temperature in the entire processing chamber

hot air enters in the center and is cooled by spray liquid, at the sides, where no spray is cooling, the energy input is much lower

- faster evaporation in the center
- high spray rates on small amount of bed material possible
- shorter residence time = shorter processing time
- gentle drying for temperature sensitive products



MAIN MENU

ProCell Menue

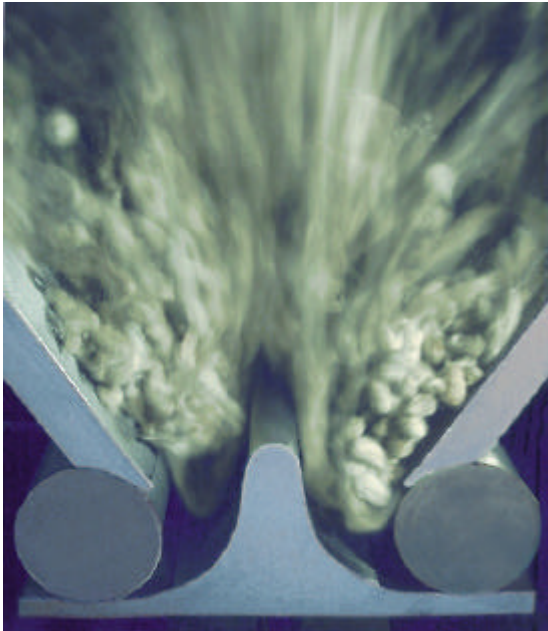
GENERAL  
FEATURES

REGION OF  
OPERATION

ADVANTAGES

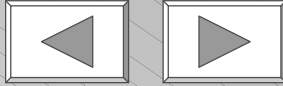
ProCell 20





## Equipment

- no bottom screen  
-> easy cleaning
- compact design  
-> especially if compared to spray driers



MAIN MENU

ProCell Menue

GENERAL  
FEATURES

REGION OF  
OPERATION

**ADVANTAGES**

ProCell 20





# Pilot plant ProCell 20



MAIN MENU

ProCell Menue

GENERAL FEATURES

REGION OF OPERATION

ADVANTAGES

**ProCell 20**



# Laboratory Units & Pilot Plants

Lab Unit  
AGT 150



USE

Lab Unit  
GPCG 3



USE



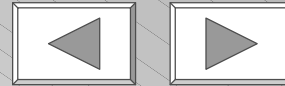
USE



Pilot Plant  
ProCell 20/GF 20

Pilot Plant  
AGT 400

Pilot Plant  
AGT mobile



MAIN MENU

GENERAL

GRANULE  
FORMATION

GF MENU

AGT MENU

LAB / RENTAL  
UNITS

EXAMPLES





# Laboratory Units

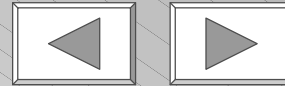
- Use**
- Feasibility tests of continuous granulation processes
  - Development of formulation recipes
  - Production of small product samples



AGT 150



GPCG 3



MAIN MENU

LAB / RENTAL  
UNITS

LAB UNITS USE

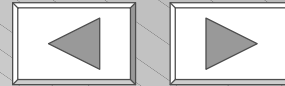
PILOT PLANTS USE



# Technical Data: Lab Unit AGT 150



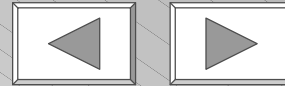
- bottom screen: .....ø 150 mm
- inlet air temperature: .... max. 300 °C
- air flow velocity: ..... max. 5 m/s
- grain sizes: ..... 0.2 ... 5 mm
- mater flow: ..... max. 2 kg/h
- process insert „ProCell“ (standard):
  - spray granulation
  - agglomeration
  - encapsulation
  - coating
  - drying
- process insert „AGT“ (option):
  - spray granulation



# Technical Data: Lab Unit GPCG 3



- bottom screen: ..... ø 200 mm
- inlet air temperature: ... max. 100 °C
- air flow velocity: ..... max. 2 m/s
- grain sizes: ..... 0.2 ... 3 mm
- material flow: ..... max. 7.5 l/batch
- processes:
  - fluid bed agglomeration
  - fluid bed drying
  - fluid bed coating
  - fluid bed pelletizing



MAIN MENU

LAB / RENTAL  
UNITS

LAB UNITS USE

PICTURE

DATA



# Pilot Plants

## Use

- Process development
- Determination of process parameters for scale-up
- Production of product samples



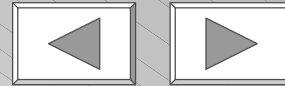
ProCell 20 / GF 20



AGT 400



AGT mobile



MAIN MENU

LAB / RENTAL  
UNITS

LAB UNITS USE

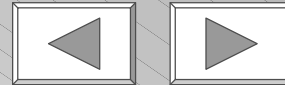
PILOT PLANTS USE



# Technical Data: Pilot Plant ProCell 20 / GF 20



- bottom screen: ..... 0.2 m<sup>2</sup> (20 dm<sup>2</sup>)
- inlet air temperature: .....20 ... 200 °C
- air volume: ..... 400 ... 2000 m<sup>3</sup>/h
- air flow velocity: ..... 0.5 ...3.5 m/s
- grain sizes: ..... 0.1 ... 3 mm
- material flow: ..... 10 ... 200 kg/h
- process insert „ProCell“ (standard):
  - spray granulation
  - agglomeration
  - encapsulation
  - coating
  - drying
- process insert „AGT“ (option):
  - spray granulation



MAIN MENU

LAB / RENTAL  
UNITS

PILOT PLANTS USE

PICTURE

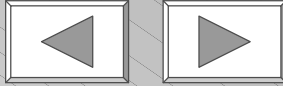
DATA



# Technical Data: Pilot Plant AGT 400



- bottom screen: .....  $\varnothing$  400 mm
- inlet air temperature: ..... 50 ... 500 °C
- air volume: ..... max. 2000 m<sup>3</sup>/h
- air flow velocity ..... max. 5 m/s
- grain sizes: ..... 0.2 ... 10 mm
- material flow: ..... max. 50 kg/h
- processes:
  - fluid bed spray granulation



MAIN MENU

LAB / RENTAL  
UNITS

PILOT PLANTS USE

PICTURE

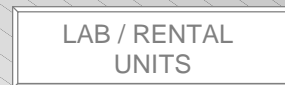
DATA



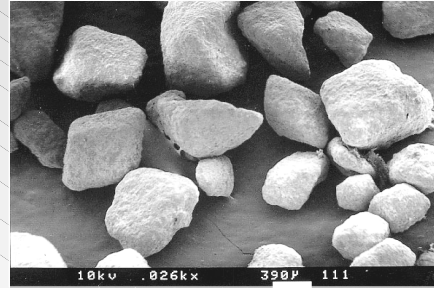
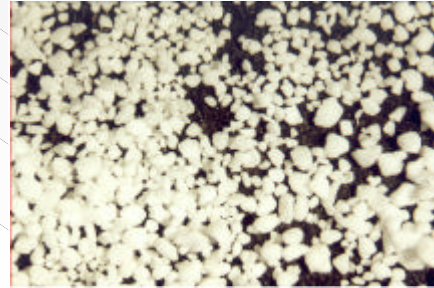
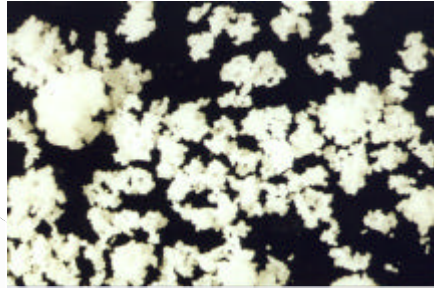
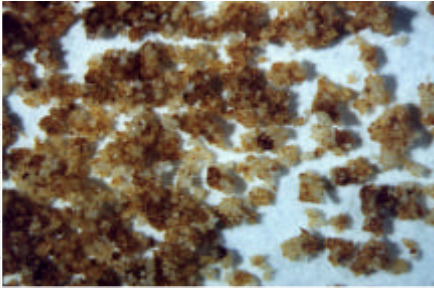
# Technical Data: Pilot Plant AGT mobile



- bottom screen: ..... ø 400 mm
- inlet air temperature: ..... 50 ... 300°C
- air volume: ..... max. 1500 m<sup>3</sup>/h
- air flow velocity: ..... max. 3 m/s
- grain sizes: ..... 0.2 ... 5 mm
- material flow: ..... max. 50 kg/h
- processes:
  - fluid bed spray granulation
- installed in three 20 - feet - ISO-standard containers
- transport on two 40 - feet articulated trucks
- can be installed indoors and outdoors
- installation, start-up and training carried out by Glatt

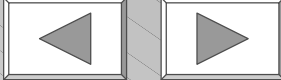
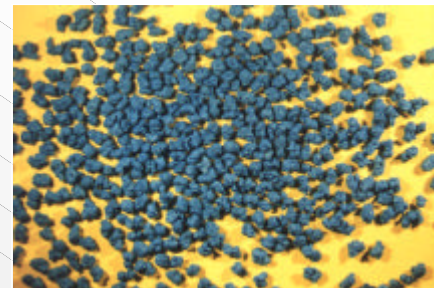
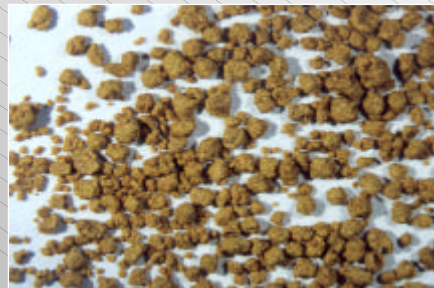
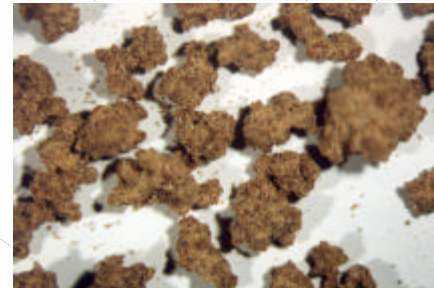
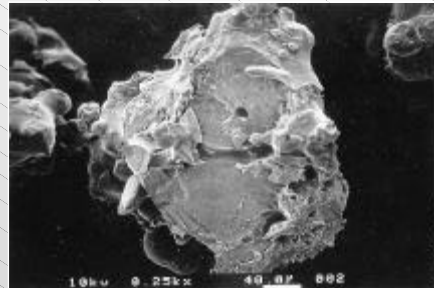
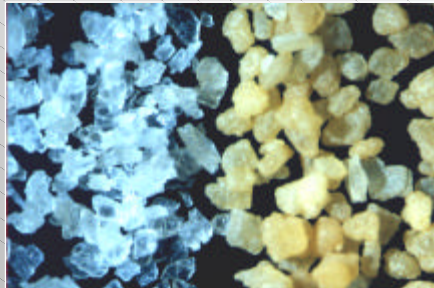


# Product Examples



**GF**

**AGT**



MAIN MENU

GENERAL

GRANULE FORMATION

GF MENU

AGT MENU

LAB / RENTAL UNITS

**EXAMPLES**





# Product Examples (GF)

- Instant Tea
- Milk Powder
- Dietary Food
- Sweetener
- Disodium Phosphate
- Feed
- Baby Food
- Chocolate
- Chicken Soup
- Xanthane



MAIN MENU

GENERAL

GRANULE  
FORMATION

GF MENU

AGT MENU

LAB / RENTAL  
UNITS

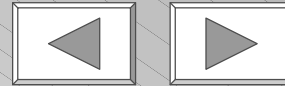
EXAMPLES GF

EXAMPLES AGT



# Product Examples (AGT)

- Detergent Component
- Potash
- Amino Acid
- Fertilizer
- Pigment
- Polymere
- Pesticide
- Choline Chloride



MAIN MENU

GENERAL

GRANULE  
FORMATION

GF MENU

AGT MENU

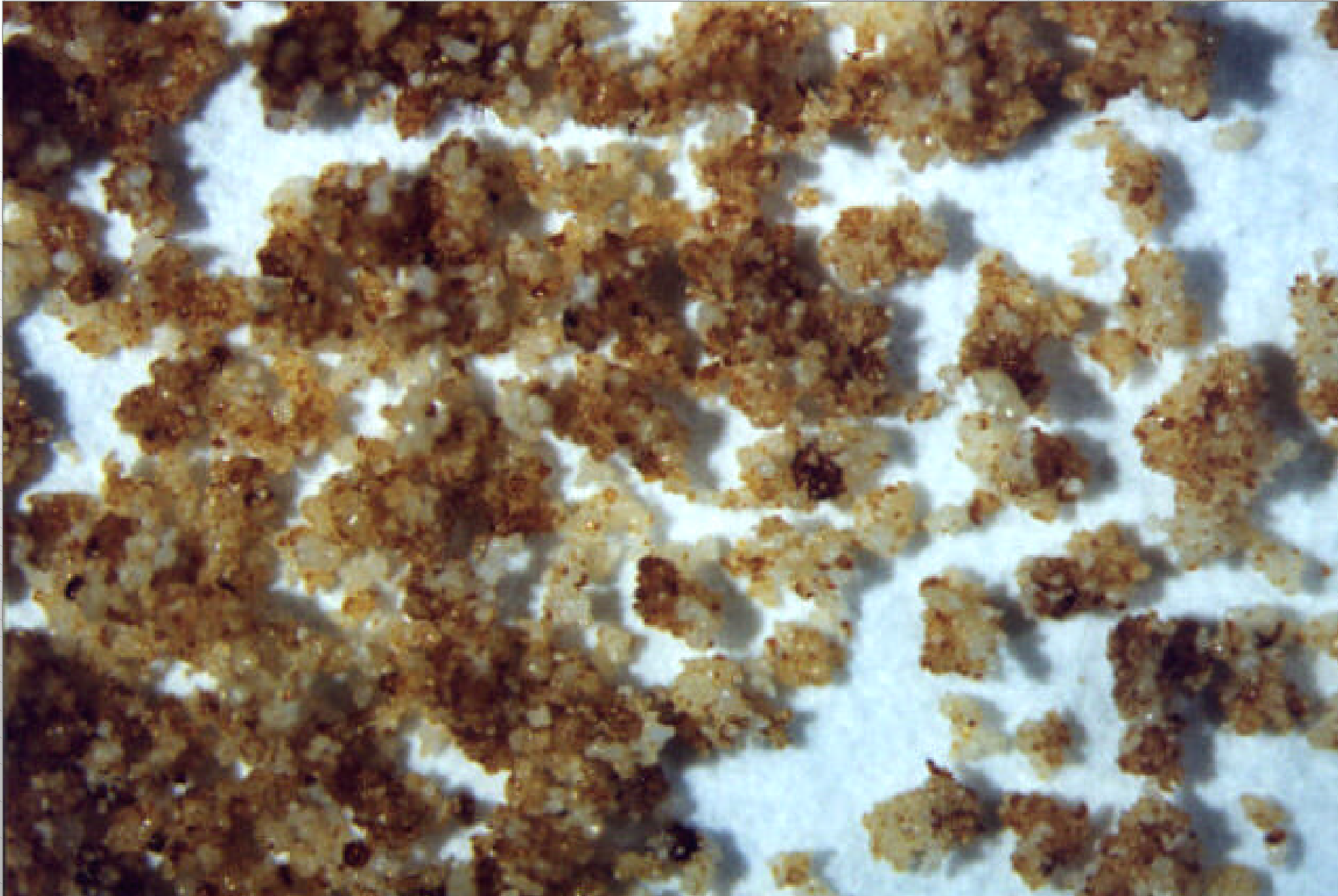
LAB / RENTAL  
UNITS

EXAMPLES GF

EXAMPLES AGT



# Product Example: Instant Tea (GF)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

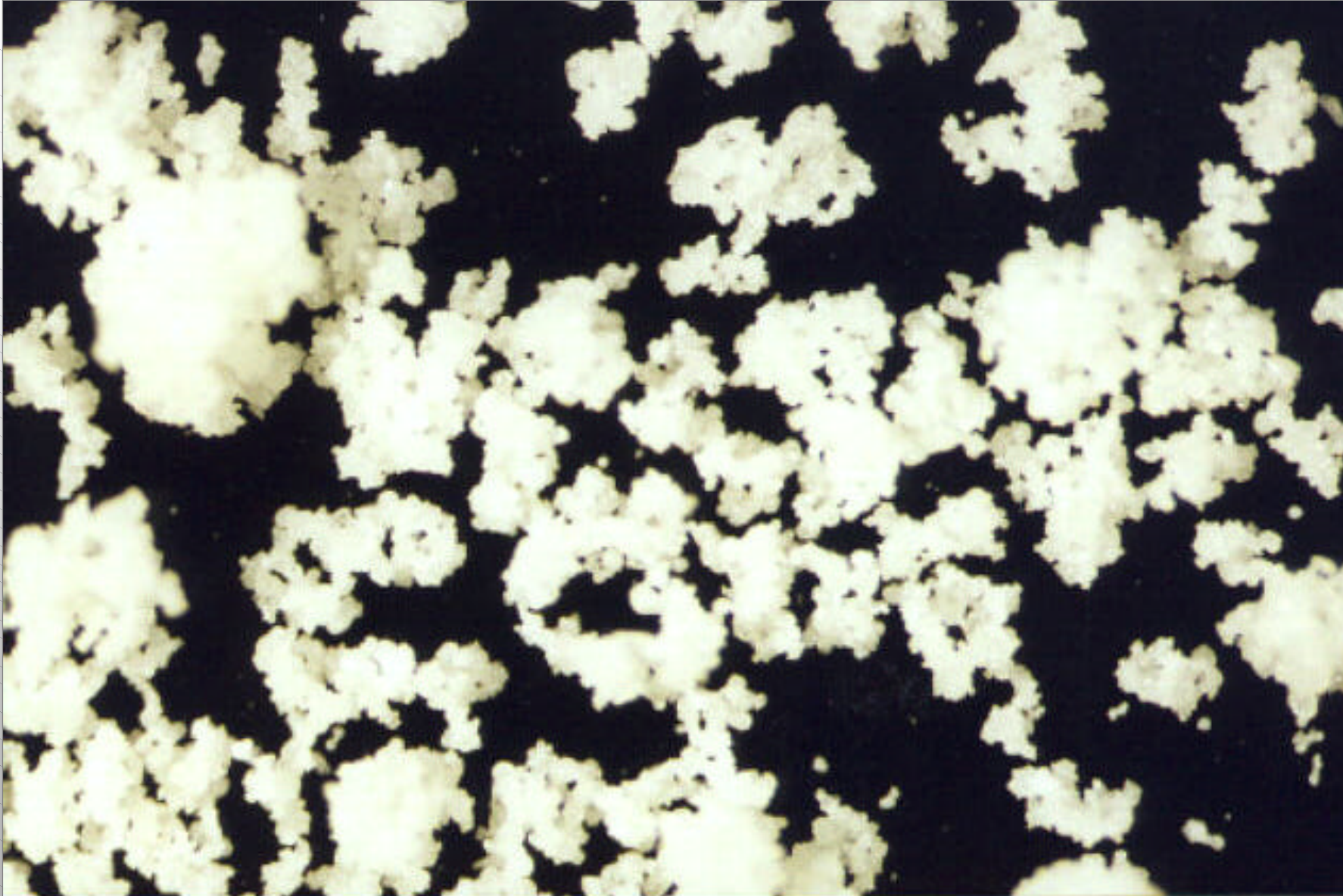
PICTURE

REM

DATA



# Product Example: Milk Powder (GF)



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EXAMPLES GF

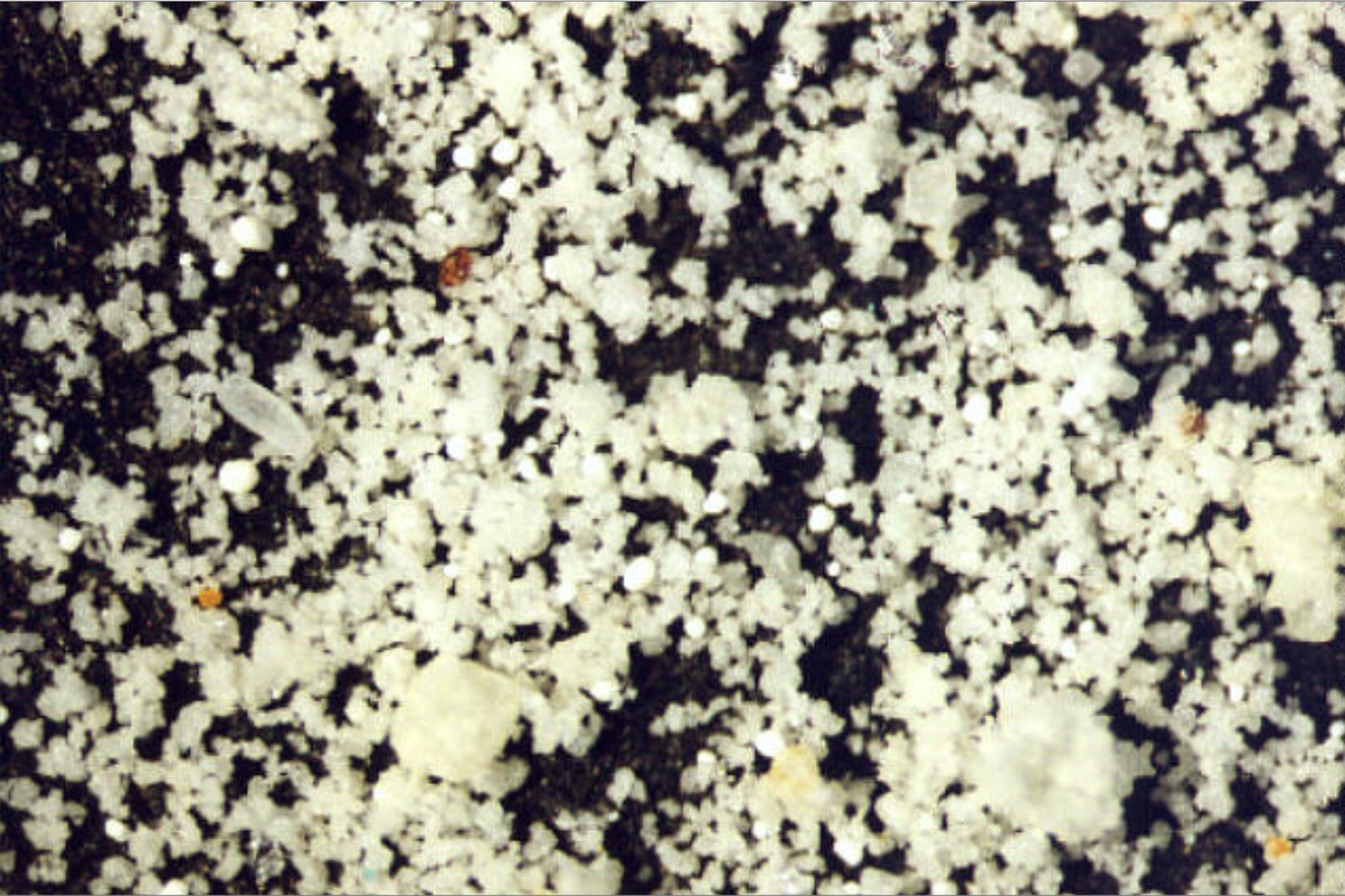
EXAMPLES AGT

PICTURE

DATA



# Product Example: Dietary Food (GF)



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EXAMPLES GF

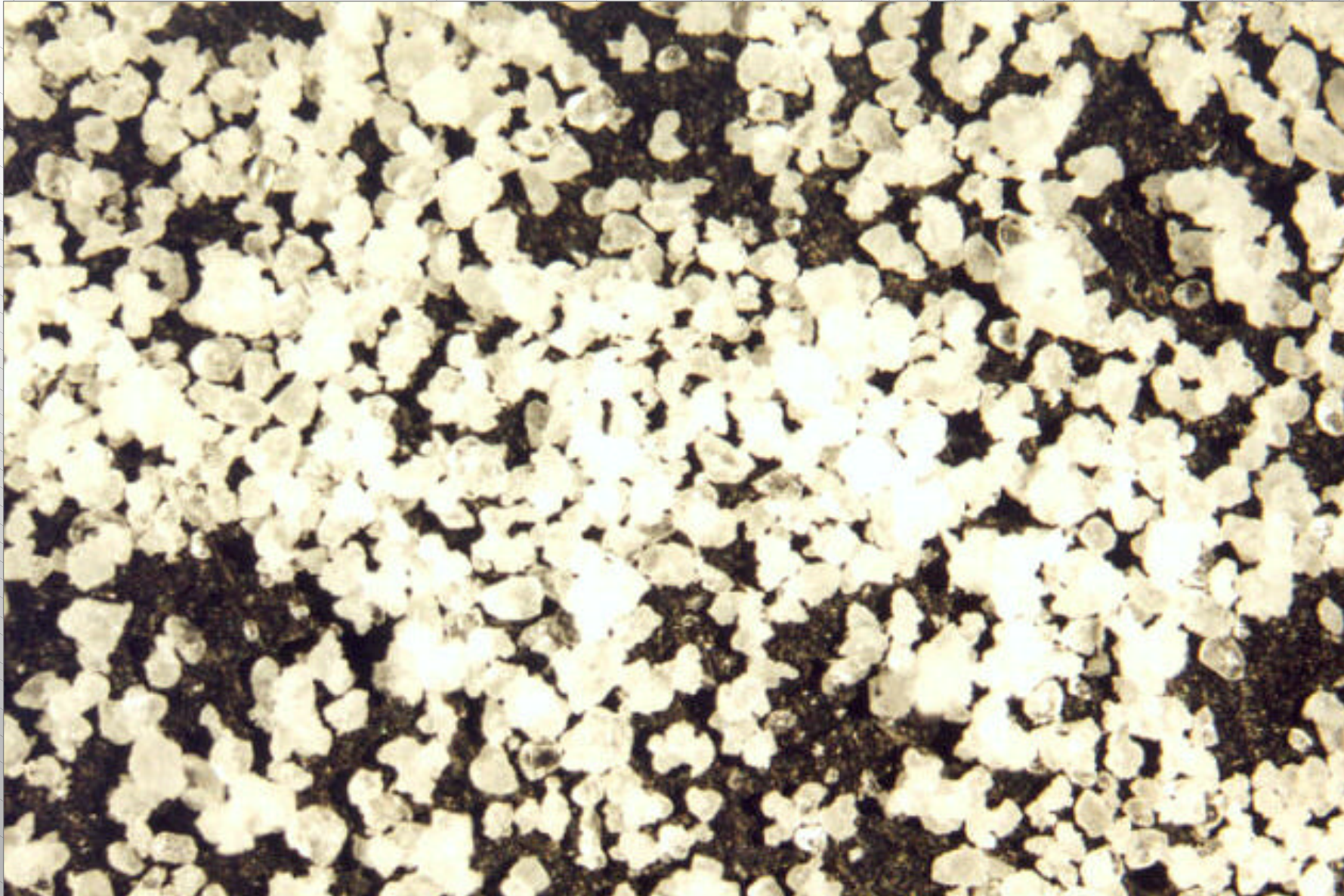
EXAMPLES AGT

PICTURE

DATA



# Product Example: Sweetener (GF)



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EXAMPLES GF

EXAMPLES AGT

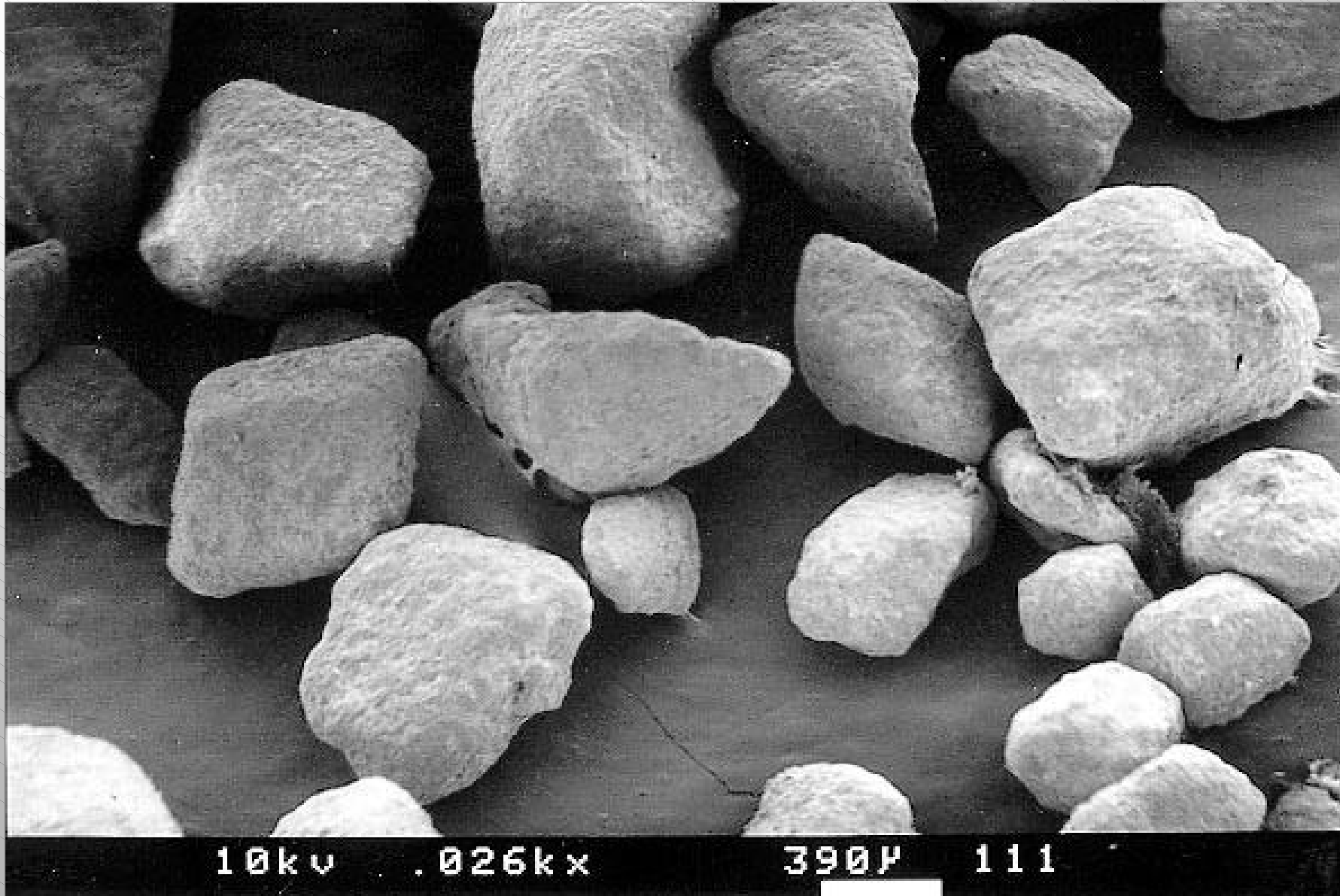
PICTURE

REM

DATA



# Product Example: Disodium Phosphate (GF)



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EXAMPLES GF

EXAMPLES AGT

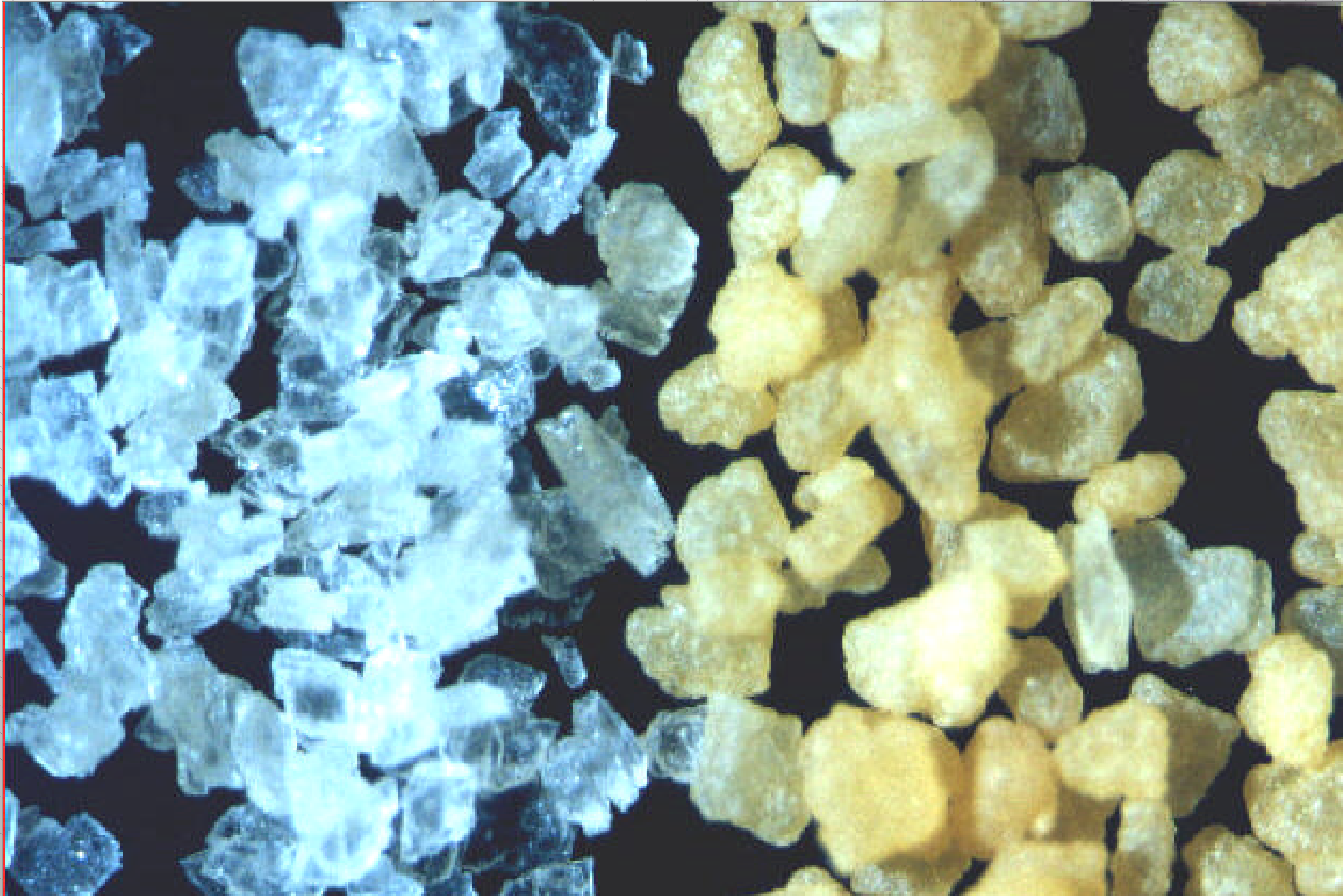
PICTURE

REM

DATA



# Product Example: Feed (GF)



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EXAMPLES GF

EXAMPLES AGT

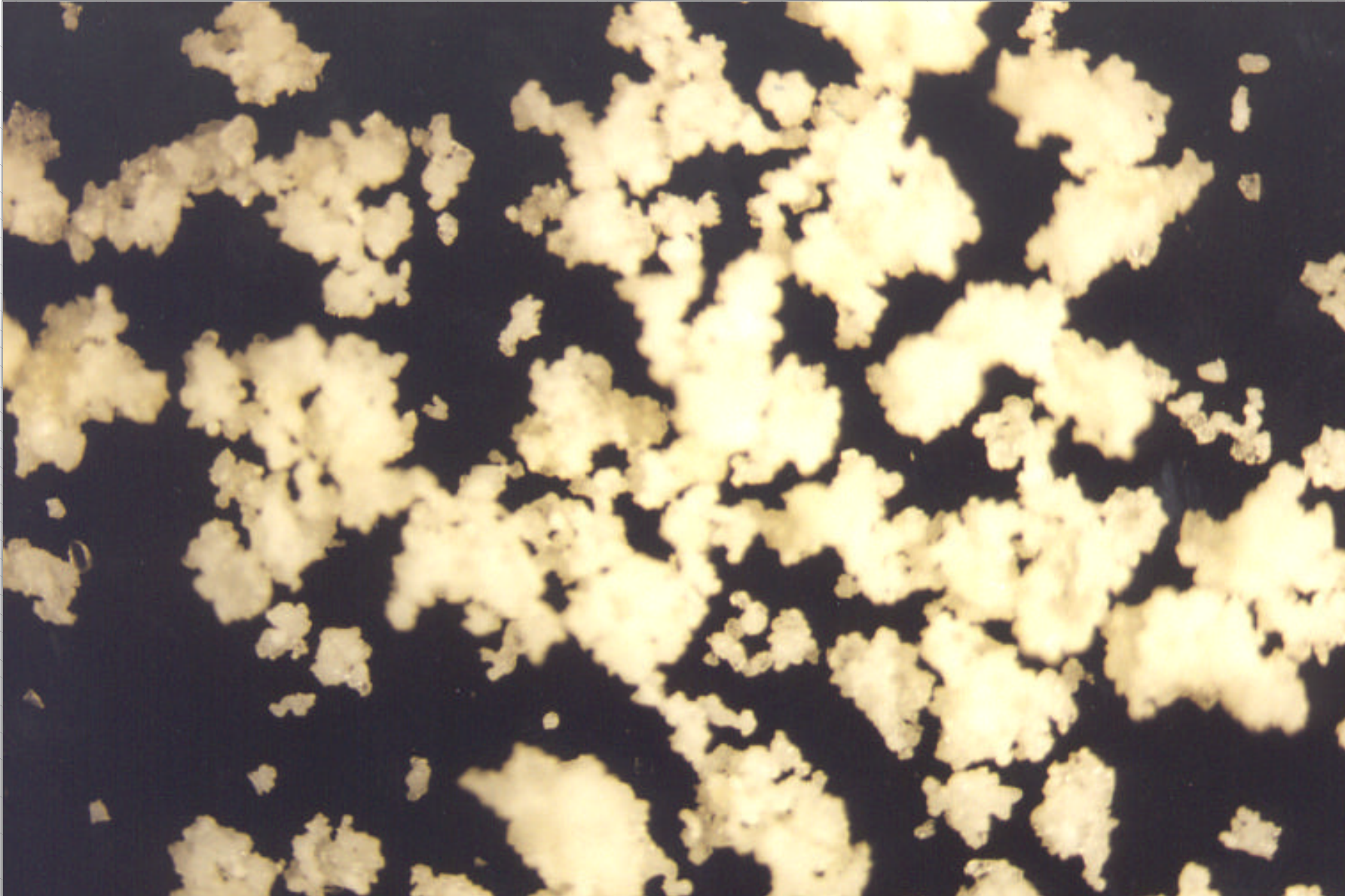
PICTURE

DATA





# Product Example: Baby Food (GF)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

PICTURE



# Product Example: Detergent Component (AGT)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

PICTURE

REM

DATA



# Product Example: Potash (AGT)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

PICTURE

REM

DATA



# Product Example: Amino Acid, Feed (AGT)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

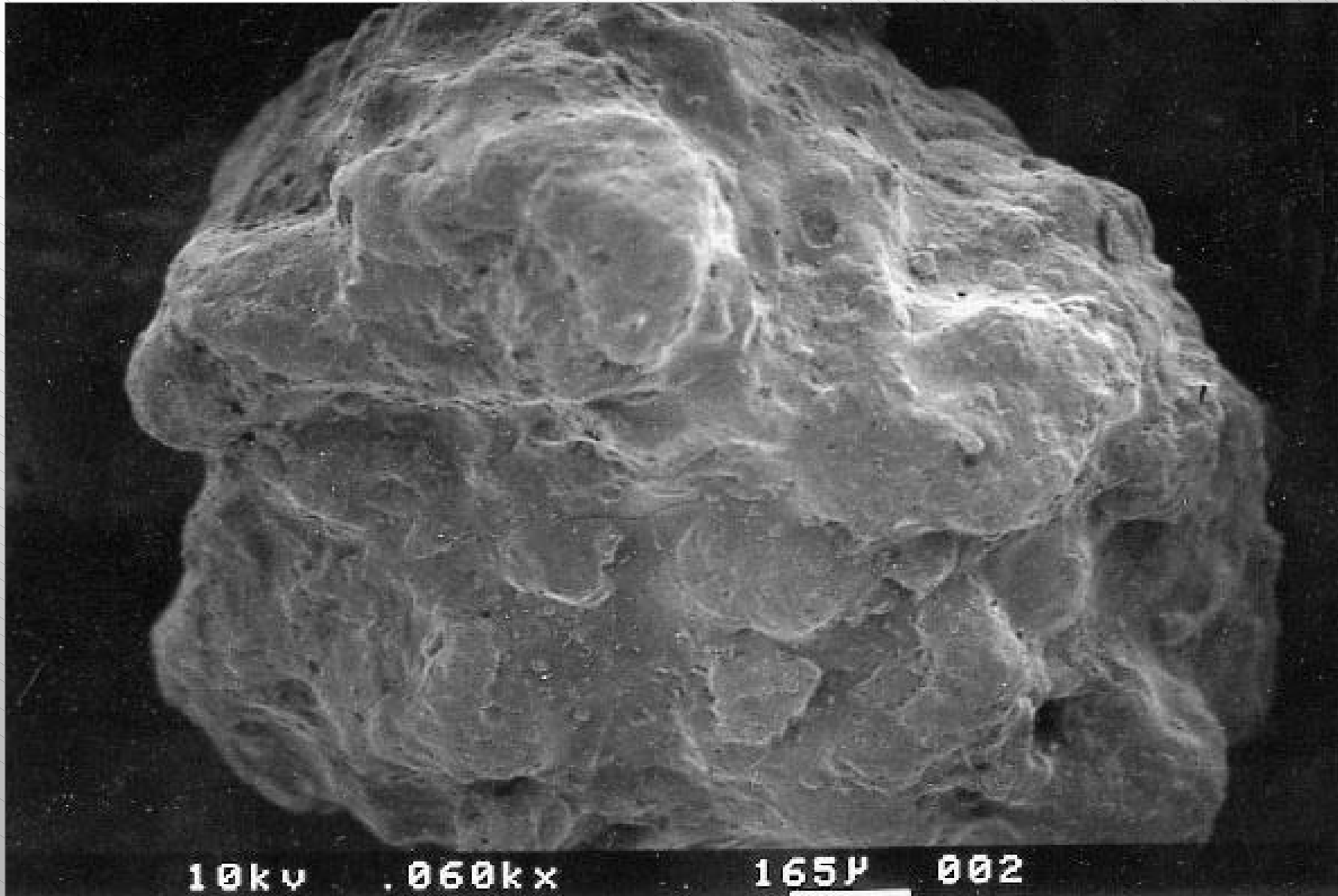
PICTURE

REM

DATA



# Product Example: Amino Acid, Feed (AGT)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

PICTURE

REM

DATA



# Product Example: Fertilizer (AGT)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

PICTURE

DATA



# Product Example: Polymer (AGT)



MAIN MENU

EXAMPLES GF

EXAMPLES AGT

PICTURE

REM



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MAIN MENU

END

