Vegetable Oil - Improving Extraction Efficiency

BIOMICROGEL®

Sk Участник

OBJECTIVE

PALM OIL is the most widely consumed and produced vegetable oil in the world used in food industry and in household products. Palm oil extraction generates waste of oil and water (fruits and oil residues mixed with water) that are dumped into settling ponds where they decompose for decades having an adverse impact on the environment.

For a Palm oil processing plant with 60 ton of fruits/hour capacity, the oil losses equals 1 – 2%.

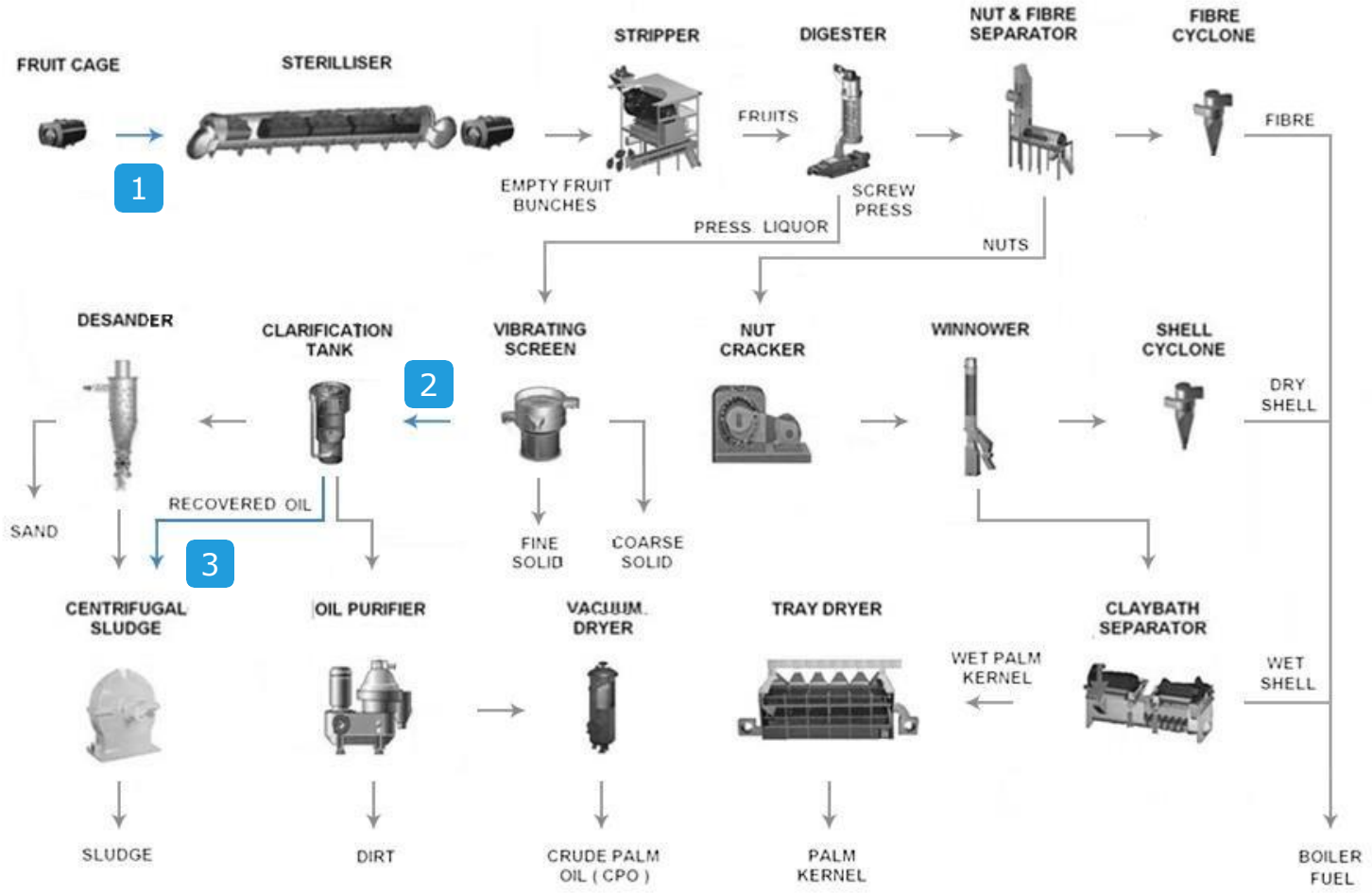
On average Palm oil mill produces daily 40 m^3 of liquid waste – POME (Palm Oil Mill Effluent) that can not be absorbed by soils and it takes years to decompose this waste.

TABLE – COMMON CASES AND NATIONAL REGULATIONS

	POME	National Standards (example Malaysia)
COD	80,000 – 100,000 mg/L	Max. 50 mg/L
SS	19,000 – 50,000 mg/L	Max. 10 mg/L
Oil	0.7 – 2.0%	0.4 – 0.6%

PALM OIL PRODUCTION FLOWCHART

POSSIBLE BIOMICROGEL® BMG-C4 INJECTION POINTS



APPLICATION OF BMG-C4:

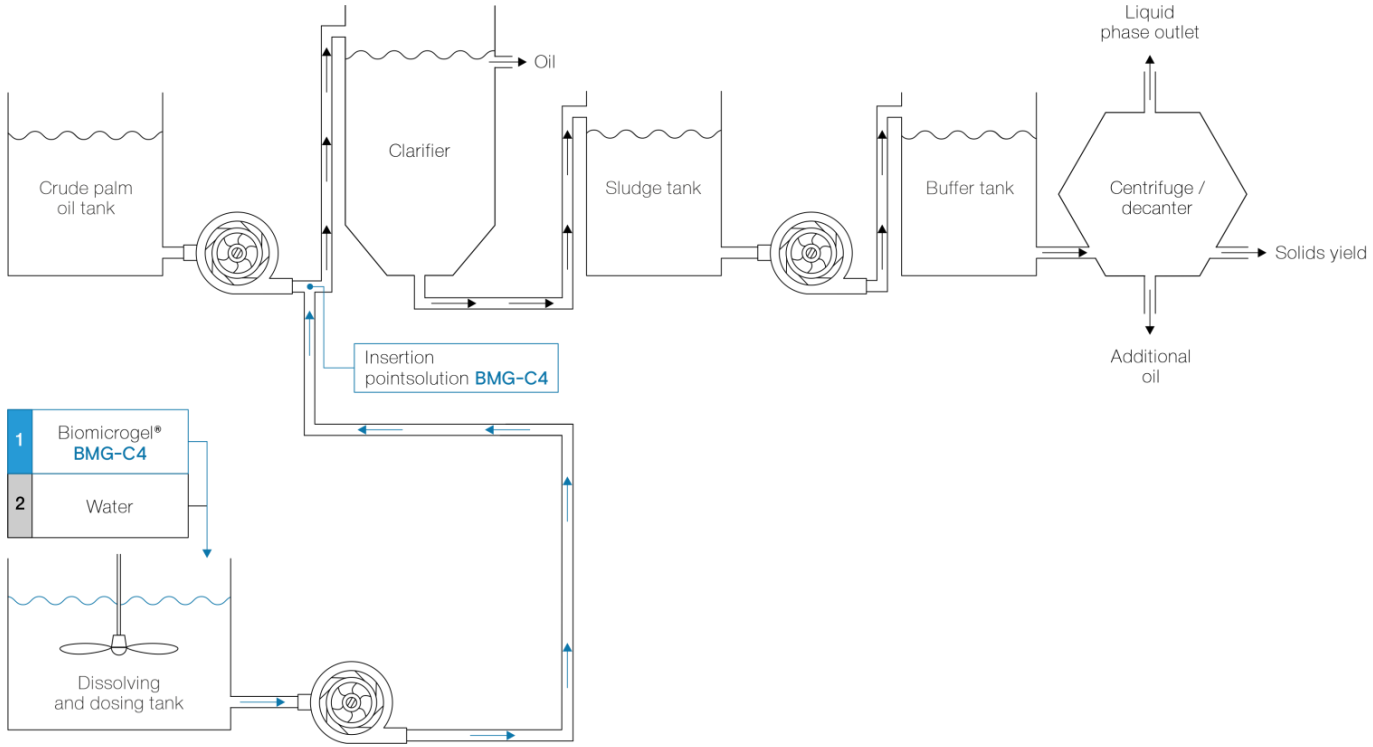
1. At Sterilization stage – oil loss reduction
2. At Clarification stage – extraction time reduction, hot water consumption reduction, high-grade oil extraction increase, process stabilization
3. At Centrifugation stage – high-grade oil extraction increase, oil loss reduction

BMG-C4 recommended injection points

SOLUTION

BIOMICROGEL® BMG-C4 can be injected before centrifuge/decanter to increase oil extraction and reduce oil losses

EQUIPMENT FLOWCHART



PRODUCT USED:

- BIOMICROGEL® BMG-C4 Continue to web-site

The BMG-C4 solution is prepared in the *BMG PDS* series preparation and dosing unit and is introduced at various stages of palm oil production

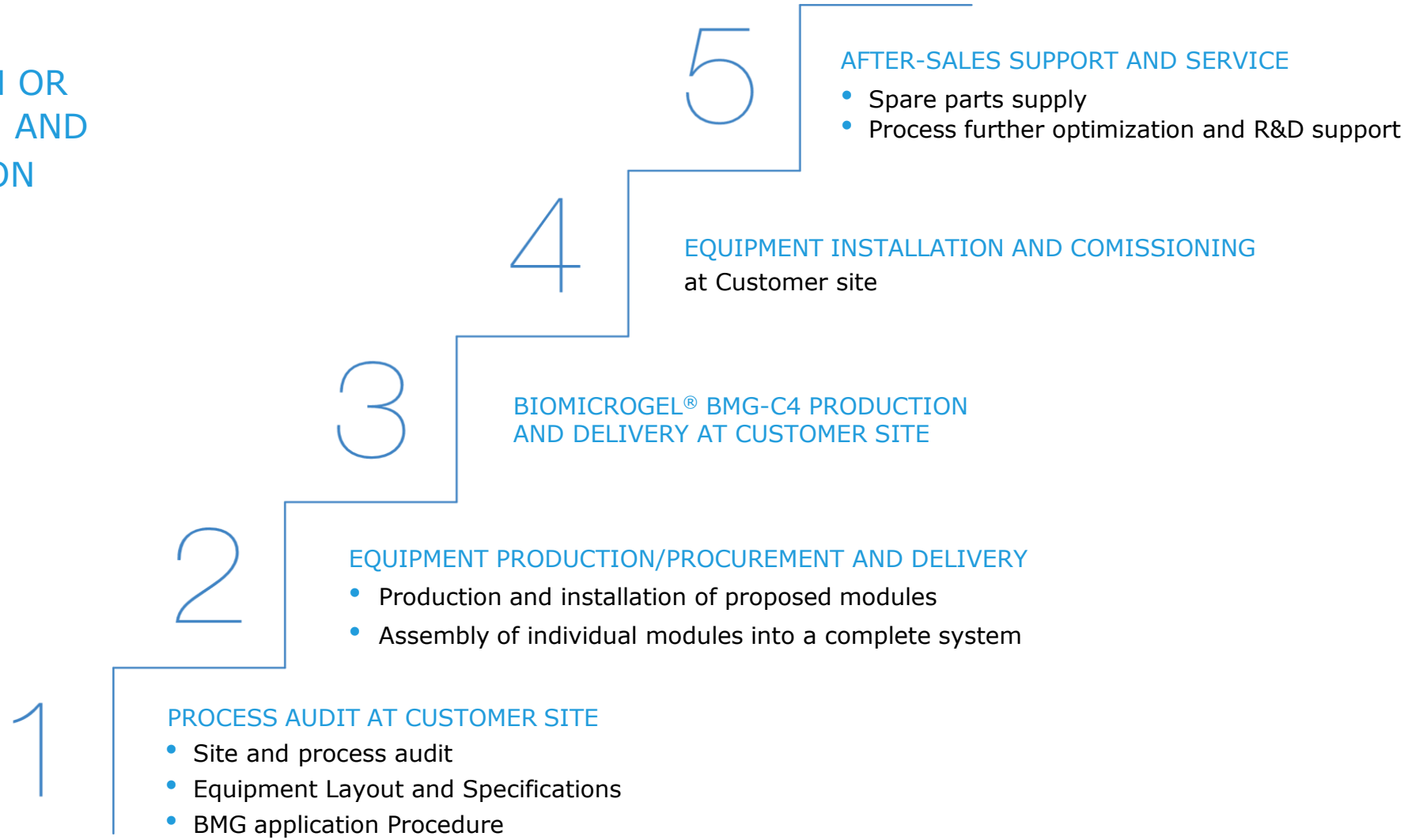
The economic effect of using BMG-C4 for a factory with a capacity of 60 tons of fruits per hour is up to

$ 300 000 – 500 000 annually

*This solution is offered with all required cerifications and approval documents

OUR OFFER

TURNKEY SOLUTION OR CUSTOMER' GUIDED AND PROCURED SOLUTION



SOLUTION IMPLEMENTATION RESULTS

KEY PROCESS INDICATORS AFTER IMPLEMENTATION*

	Before	After
CPO loss	0.9 – 2%	0.3 – 0.5%
Additional oil extraction volume		Up to 5%
POME oil content reduction		2-3 times

*Analysis method: laboratory and field tests

IMPLEMENTATION BENEFITS / ADVANTAGES:

- Net economic effect
  $ 300 000 – 500 000 annually
- 100% eco-friendly product
- Operating temperature range up to +95°C allows to use BIOMICROGEL® BMG-C4 in Sterilizer and Clarifier
- Low capital costs and short payback period

REFERENCES:

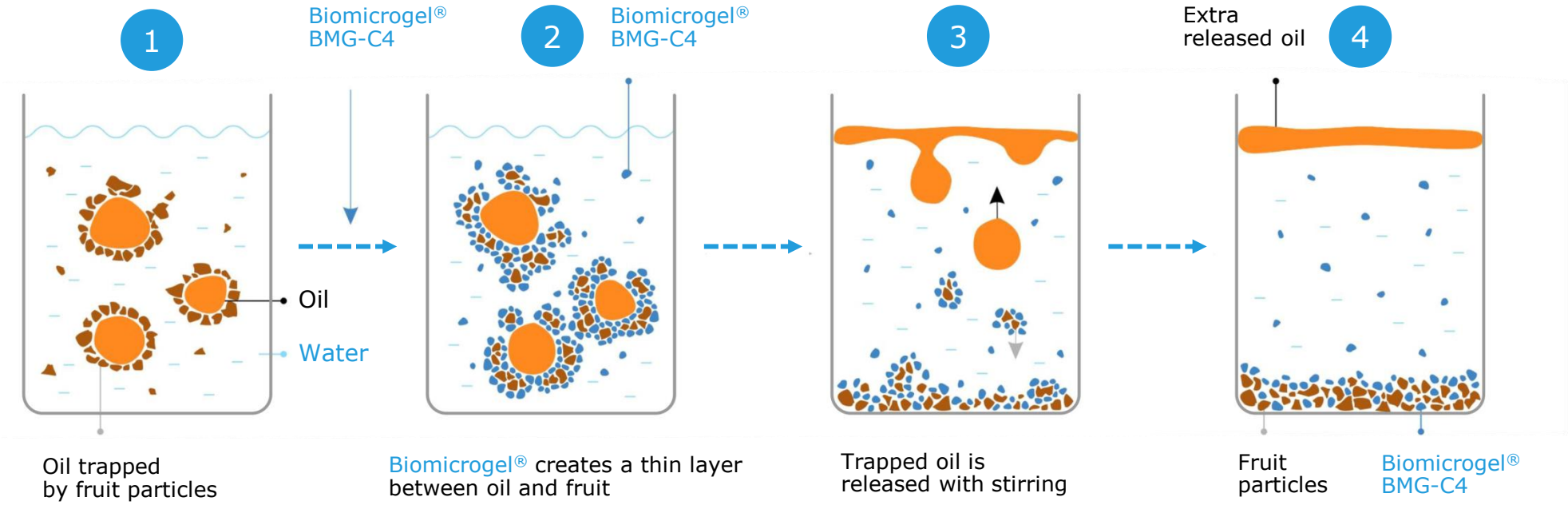
KEMINDO YOUR SOLUTION PARTNER®

textima

ChemiCoaching

MahkotaGroup
Global Crude Palm Oil and Palm Kernel Manufacturer

BMG FOR PALM OIL – PRINCIPLE OF OPERATION



- When the Biomicrogel® solution is added, the microgel particles displace the fruit particles from the surface of the oil droplets.

BMG particles help to release oil trapped between fruit residues

WHERE TO START?

UPON DRAWIN UP THE INITIAL TERMS OF REFERENCE:

1

We will provide samples to conduct lab tests

2

We offer an on-site lab test service

(you just pay the experts' work)

3

We offer an on-site industrial test service

(you just pay for the product and work of specialists)

After passing these stages, the solution will be implemented as efficiently as possible and will show the best result.

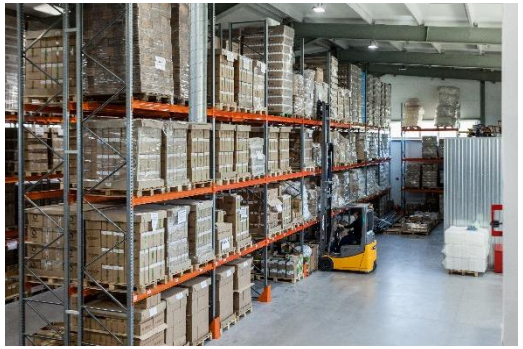
ABOUT COMPANY

Operates both in Russia and abroad:
South-East Asia, the European Union, the USA, Australia, and Brazil.

Developer and patent holder of solutions based on microgels under Biomicrogel® brand (>60 patents, >50 countries).

2 production sites, 4 chemical laboratories and an experimental site.
Own an R&D facility, engineering department and technical support service.

Resident of the Skolkovo Innovation Center (Moscow, Russia).
Resident of "Nadezhdinskaya" Priority Development Area (Vladivostok, Russia).


ALL BMG PRODUCTS

- Biomicrogel® BMG-P1 sorbent — Continue to web-site
- Biomicrogel® BMG-P2 coagulant — Continue to web-site
- Biomicrogel® BMG-C2 flocculant — Continue to web-site
- Biomicrogel® BMG-C3 soil and sand cleaning agent — Continue to web-site
- Biomicrogel® BMG-C4 oil extraction agent — Continue to web-site
- Biomicrogel® BMG-C6 solid surface cleaning agent — Continue to web-site
- Spilltex® dip net for petroleum products collection from water surface — Continue to web-site
- Spilltex® filter cloth for laying sumps — Continue to web-site
- Spilltex® filter barrier cloth for shallow rivers — Continue to web-site
- Spilltex® universal filter cloth — Continue to web-site

ALL BMG SOLUTIONS

- Industrial and storm drains cleanup from oils, fats and petroleum products — Continue to web-site
- Coolant processing in metallurgy and pipe rolling — Continue to web-site
- Coolant processing in mechanical engineering — Continue to web-site
- Performance gains in vegetable oil extraction — Continue to web-site
- Oil and petroleum product spill cleanup — Continue to web-site
- Clean up of solid surfaces from oils and petroleum products — Continue to web-site
- Soil washing from petroleum products — Continue to web-site
- Purification of bottom and produced water — Continue to web-site

CONTACT DETAILS

BIOMICROGELS GROUP

info@biomicrogel.com

+ 44 1865 60 0460

BIOMICROGEL®