



# Recycling Developments – The German Disposal System PAMIRA

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Nov | 28 | 2019

**Session: „System Developments Around the World“**

**3rd International Recycling Forum  
Wiesbaden, November 26 – 28, 2019**

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Industrieverband Agrar e.V. (IVA), Frankfurt am Main (<http://www.iva.de>)

# Where you can find PAMIRA:

Industrieverband

**Agrar**





## PAMIRA is Responsible Care (RC)

- PAMIRA is part of the voluntary RC-initiative of the chemical industry.
- RC-target: Continuously improvement in the sectors of environment, safety and health.
- PAMIRA: Founded in 1991 and introduced throughout Germany in 1996.
- PAMIRA has a clear legal basis in the German law now: § 15 VerpackG.

(Gesetz über das Inverkehrbringen, die Rücknahme und die hochwertige Verwertung von Verpackungen - Verpackungsgesetz (BGBl. I v. 12.07.2017, S. 2234))



**Responsible Care**®  
OUR COMMITMENT TO SUSTAINABILITY

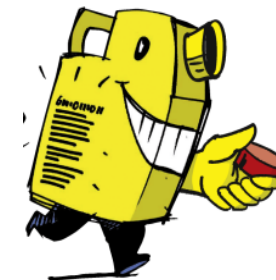






# PAMIRA and main supporters

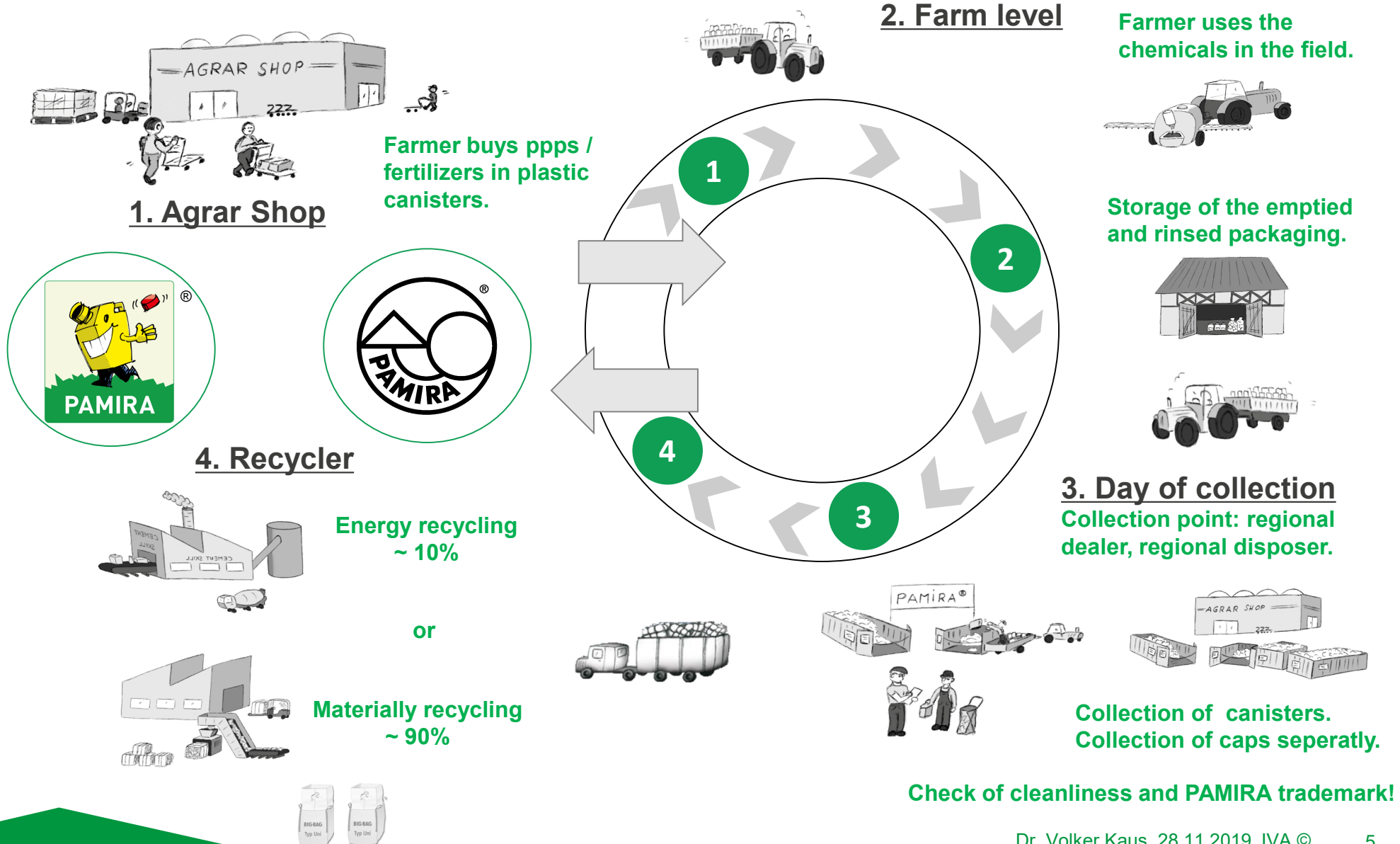
- Founded by IVA and the German ppp and fertilizer wholesale suppliers associations (BVA and DRV).
- Fully operated by RIGK GmbH, Wiesbaden.
- Financed by a license fee for using the PAMIRA circle trademark with the arrow (owner = IVA).
- Trademark users 2019 = 92
- Special service for the German farmers, free of charge.



# PAMIRA and the life-cycle of the packaging

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# PAMIRA and terms of acceptance

- Farmers have to bring their emptied and rinsed (if possible) plastic canisters - dry - to defined collecting points.
- Cleanliness of and the PAMIRA-trade-mark on the packaging: Checked at the collecting points by RIGK-inspectors. (= no dangerous waste!)
- The packaging has to be separated from the caps/fasteners and seals.
- 371 collecting points in 2019. In principle located at retailers - 1 to 4 days open / year.



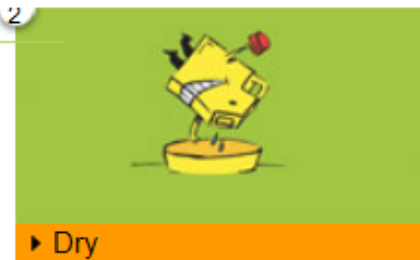
# Terms of acceptance on the PAMIRA-Website:

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So that PAMIRA can guarantee that the recovered agricultural pesticide packaging is disposed of and recycled in a safe and environmentally-friendly manner, a few things should always be borne in mind when handing over this:



## Packaging

► must carry the PAMIRA trademark 

► must be rinsed,

► must be dry (allow to drip-dry),

► must be sorted according to plastic, metal and bags,

► the fasteners must be delivered separately,

► and containers above 50 litres must be cut through.

► Flexible-volume packaging, such as sacks, bags and cartons made of plastic and paper are also accepted.

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Wiesbaden

When delivering such packaging at the collection point, this is checked by trained staff. Unfortunately, agricultural pesticide packaging that does not fulfil the acceptance requirements must be rejected.



## Detection of the packaging at a collection point:







# From plastic canisters to a new product:

## New product from PAMIRA-canisters

- Cable protection tube
- Drain cover
- Water drain

## Regranulat for new products

## Recycled regrind

## Shredder PAMIRA-canisters





# PAMIRA: Forecast 2019 returned quantities



## Interim results PAMIRA 2019

status: Oct. 31, 2019 provisionally

|   | 2019 | 2018      |
|---|------|-----------|
| Collections finished  |      |           |
| - Official collection points  | 371  | 367       |
| - Pre-collection with registration form   | 150  | 181       |
| 400 collections at all<br>366 collections finished<br>Result of 314 collections (78%) |      | 2.458,38t |

## Finished federal states

provisionally

| Federal state          | 2019 | 2018 | 2017 | Δ % |
|------------------------|------|------|------|-----|
| Brandenburg            | 183  | 200  | 218  | -9  |
| Mecklenburg-Vorpommern | 248  | 239  | 271  | 4   |
| Schleswig-Holstein     | 207  | 158  | 206  | 31  |

Tendency:  
ca. 2.800 - 2.850t

# PAMIRA: Development of the returned quantities

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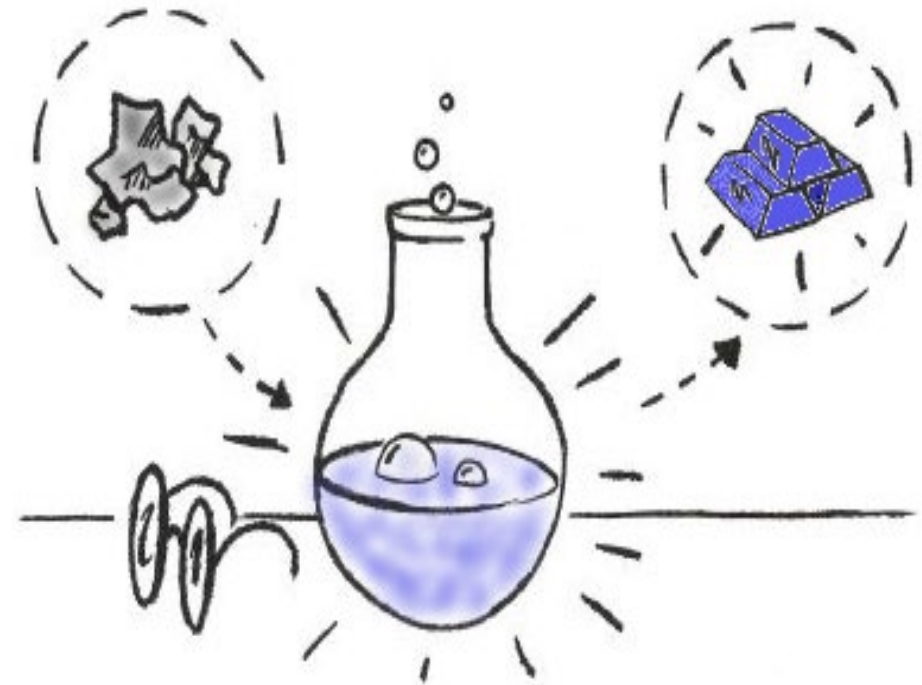
# Chemical recycling:

- Political and legal discussions in Germany regarding packaging waste because of special German packaging legislation („Verpackungsgesetz“) that
  - only mechanical recycling is accepted as materialwise recycling.
  - only with mechanical recycling the materialwise recycling quotas can be fulfilled.
- Our opinion: This would be a discrimination of chemical recycling!
  - Materialwise recycling is not limited to mechanical recycling.
  - Chemical recycling could generate identical new material.
  - Separation between technical methods level and waste-law level is necessary.
- Chemical recycling complements mechanical recycling!
- Technology openness is required for all waste streams including packaging waste!



## PAMIRA and chemical recycling:

- Supports chemical recycling of the collected plastic canisters and plastic caps!
- Is involved in a pilot project organized by the KIT (Karlsruhe Institute of Technology). KIT asked PAMIRA to add the waste stream (not more than 500 kg) to the project to check what remains in the crude oil obtained by pyrolysis.



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Thank you for your patience and attention!

