



Recycling of PET trays

options and limitations

Brussels, 19 September 2017, Dr. Louis Jetten

Mixture of trays and bottles

- Mechanical behavior is different
- Bottle recycling process does not fit for trays
 - Other / extra unit operations required?
 - Adaptation of machine settings sufficient?
 - A combination of both?

Issues

- Sorting
- Debaling
- Adhering pollution
- Absorbent pads
- Multilayer trays
- Multilayer barrier films sealed to trays
- PET flakes with lower IV
- High rPET content in trays
- Design – design for recycling
- EFSA regulations – food approval

Issue details - 1

- **Sorting**
 - Can trays be separated by sorters?
 - What specification is required?
 - Is the specification of KIDV sufficient?
- **Debaling**
 - Singularization of nested trays
- **Adhering pollution**
 - Can this be removed?
 - Pollution of process equipment.
 - Cost of waste water.

Issue details - 2

- Absorbent Pads
 - How to remove these?
 - Adhesives!
- Multilayer trays
 - Effects of PE sealing layer?
- Multilayer barrier films sealed to trays
 - Thermal instability of barrier resins!
 - Can these films be removed?
- PET quality with lower IV
 - SSP will be required to produce a good rPET quality.

Issue details - 3

- High rPET content
 - What will be the effect on rPET quality?
- Design – design for recycling
 - Paper labels – big labels at the bottom
 - Label adhesives!
- EFSA regulations – food approval
 - Control of input: > 95% must be food approved.

Conclusions

- Recycling of PET trays is a challenge.
- Numerous technical issues have to be solved!
- 4PET Recycling is active in the search for a technically good and economically sound PET trays recycling process.
- Target: Tray recycling process must be operational in June 2018!