



IFPRI PROJECT / REVIEW BRIEF TEMPLATE

1.0	(Working) Title	Review of the decision-making process in the selection of batch, semi-batch, and continuous processing from a product quality, productivity, flexibility, agility and economic perspective.
1.1	Project or Review	Review
1.2	Technical Area ¹	System Engineering
2.0	Submitted by	Ian Leavesley, Paul Mort, Watano-san
2.1	Member company/ies	Lilly / P&G
2.2	Idea creation date	14-June-2016 AGM
2.3	Last modification date	15-June-2016
3.0	Short goal description	Review of the decision-making process in the selection of batch, semi-batch, and continuous processing from a product quality, productivity, flexibility, agility and economic perspective.
3.1	Objectives	Provide an analytical and holistic analytical approach to guide strategic decision making on the optimal use of batch, semi-batch and/or continuous processing to meet the specified business objectives.
3.2	Scope	In scope: Systems that have particles / colloids as a significant component of the process flow. Multi-unit operation systems. Include process control elements.
4.0	Contractor(s) with contact information	Marianthi Ierapetritou – Rutgers University USA
4.1	Comments / experiences	While she has been involved with continuous pharmaceutical manufacturing recently, she has most of her experience outside of pharma and equally divided between batch and continuous.

¹ One or more from the following list: W = wet systems; D = dry systems; F = particle formation; SR = size reduction; M = modeling; SE = systems engineering



IFPRI PROJECT / REVIEW BRIEF TEMPLATE

1.0	(Working) Title	Empty Gels
1.1	Project or Review	Review
1.2	Technical Area ¹	Wet Systems
2.0	Submitted by	Judith Bonsall
2.1	Member company/ies	Unilever
2.2	Idea creation date	14/06/16
2.3	Last modification date	
3.0	Short goal description	<p>Wilson Poon has shown that for traditional colloidal systems it is not possible to produce to stable gel at low volume fractions, however for industry the challenge remains to be able to suspend particles in a “liquid” without the tradition high phase volume colloidal system.</p> <p>There is also a requirement for the material to be shear thinning but with a negligible hysteresis in rebuilding of the structure</p>
3.1	Objectives	Review of the anisotropic materials available to make shear thinning gels at a low phase volume with a yield stress capable of suspending particles up to 50µm
3.2	Scope	Low phase volume – less than 1% “structuring” particles
4.0	Contractor(s) with contact informatio	<p>Associate Professor Patrick Spicer University of New South Wales (Australia) p.spicer@unsw.edu.au</p> <p>Prof. Dr.-Ing. habil. Dr. h.c. Stefan Heinrich Technische Universität Hamburg Feststoffverfahrenstechnik und Partikeltechnologie Denickestraße 15 (K) 21073 Hamburg</p> <p>Ulrich Kulozik TU München, Chair for Food Process Engineering and Dairy Technology, Germany</p>

4.1	Comments / experiences	

IFPRI PROJECT / REVIEW BRIEF TEMPLATE

1.0	(Working) Title	EFFECT OF GRINDING AIDS IN INORGANIC DRY GRINDING
1.1	Project or Review?	Brief
1.2	Technical Area	Size Reduction
2.0	Submitted by	Jeff Hoffmann, Paul O. Abbe Mojtaba Ghadiri, University of Leeds Charles Compson, Almatis Hugh Stitt, Johnson Matthey Akihiko Ema, Nisshin Lisa Taylor, Pfizer.com Alvaro Janda, Particle-Analytics
2.1	Member company/ies	
2.2	Date Idea creation	14-June-2016
2.3	Date -Last modification	
3.0	Short goal description	Review current state of the use of grinding aids in dry milling of inorganic and organic materials.
3.1	Objectives (at least three)	What are the purposes of the use of grinding aids and what are the known mechanism and efficacy.
3.2	Scope	
4.0	Contractor (two or three)	Heekyn Choi, Chnagwan Nat. Univ., South Korea P. Somasandran, Columbia Univ., New York Robert Flatt, ETH, Zurich, Swiss
4.1	Comments about Contractors	
5.0	Voting @ AGM	Selected / Rejected
5.1	# of Votes	



IFPRI PROJECT / REVIEW BRIEF TEMPLATE

1.0	(Working) Title	Online real-time monitoring of blend quality
1.1	Project / Review	Review
1.2	Technical Area	Characterization
2.0	Submitted by	Vidya Vidyapati, Mike Gentzler, Navin Venugopal, Jeff Bodycomb
2.1	Member company/ies	P&G, Merck, Corning, Horiba
2.2	Idea creation date	June 14, 2016
2.3	Last modification date	June 14, 2016
3.0	Short goal description	Identify suitable methods/probes/mechanism for monitoring blend quality online and real-time
3.1	Objectives	Identify scope of application and effective, economical use of various methods/sensors for measuring blend uniformity in a process
3.2	Scope	Technology currently available like NIR, UV, fluorescence, X-rays, PAT (Process Analytical Technology) etc.
4.0	Contractor	Dr. Johannes Khinast, Graz University of Technology, Austria; Dr. Thomas De Beer, Ghent University, Belgium; Dr. Fernando Muzzio, Rutgers University, USA;
4.1	Comments / experiences	



IFPRI PROJECT / REVIEW BRIEF TEMPLATE

1.0	(Working) Title	Biomass Review –Wet Processing of Living Biomaterials
1.1	Project or Review	Review
1.2	Technical Area ¹	Wet Systems
2.0	Submitted by	Rajeev Gorowara
2.1	Member company/ies	DuPont, Syngenta
2.2	Idea creation date	IFPRI AGM 2015
2.3	Last modification date	Re-submitted AGM 2016
3.0	Short goal description	<p>Effects of processing on viability, growth, rheology, mixing of living organisms in suspension.</p> <ol style="list-style-type: none"> 1. Organism growth: effects of agitation power, mixing time, sparging, and mixing efficiency, etc... 2. Mixing equipment effect: container dimension, rotor/impeller design, et al. 3. Stress analysis on rotor/impeller, mixer reaction forces 4. Rheological measurements of living systems
3.1	Objectives	<p>To find the fundamental principles for maximizing growth and yield of product:</p> <ul style="list-style-type: none"> • the effects of mixing and sparging • the effects of various process equipment • the key scale-up factors
3.2	Scope	<p>Live bioderived materials such as bacteria, fungi, and algae. Production of chemical and pharmaceutical products, possibly including particles.</p> <p>Scale: Lab to commercial production, batch or continuous.</p>
4.0	Contractor(s) with contact information	<p>Liberatore (Toledo) Cranston (McMaster) http://chemeng.mcmaster.ca/faculty/emily-cranston</p>
4.1	Comments / experiences	

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