Standard method for analyzing material flow, information flow and information loss in food supply chains

Forms appendix

(version 10)

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Process mapping no:	Previous form no:	This form no:	Next form no:

Table 1: Transport of ingredients and raw materials (duration) - Each type one table

	Question to transporter of ingredients and raw materials	*Answer, fill in*				Description or example
1.M01	What type of transport is used?					Truck / vessel / air plane / post / courier / etc.
1.M02	What type of delivery is it?					Distribution terminal or directly from supplier, either
1.K01	How is the vehicle identified?					Registration number of vehicle or name and address (or GLN)
1.K02	How is the trip identified?					SSCC, transporter code, delivery code, freight code, etc.
1.T01	Is there a link from vehicle / trip to delivery?					No / Yes, indirectly / Yes, directly
1.P01	What parameters are linked to this transport? How are they recorded; on Label, Paper, Fax, Electronically, Other? Are they received but ignored, re-recorded for own use only, given to the buyer or given back to the supplier?	1.P01.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate “Ignore”, “Own”, “Buyer” or “Suppl”. Alternatively provide a link to a form, a screen-shot, a report or similar.
		1.P01.2				
		1.P01.3				
		1.P01.4				
		1.P01.5				
1.F01	Which temperature control method was used?					None / iced / iced and refrigerated / refrigerated / etc.
1.F02	Is temperature logged during transportation?					No / Yes manually / Yes electronically

Hierarchy digit 0 refers to the whole transport.

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Table 2: Reception of ingredients and raw materials (transformation) – Each type one table

	Transformation questions, reception	*Answer, fill in*				Description or example
2.M01	From whom are shipments of this type received?					Name and address / GLN
2.M02	Where are shipments of this type received?					Name and address / GLN
2.M03	Description of total amount received?					Full/part containers, full/part trucks, full/part holds, etc
2.M04	Range of total amount received every time?					From-to in kg, ton / etc
2.M05	How often does reception take place?					Daily, weekly, etc
2.K01	How is the total received amount identified? What type of code and media? Is this identifier discarded or recorded and kept?					Trip number / SSCC / etc Unique / Non-unique. Sequential / Structured Bar-code / RF-ID / Direct reference (label) / Indirect reference, etc.
2.P01	What parameters are linked to the whole shipment? How are they transmitted; on Label, Paper, Fax, Electronically, Other? Are they recorded on reception?	2.P01.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate “Discarded”, “Kept” or “Repunched”. Alternatively provide a link to a form, a screen-shot, a report or similar.
		2.P01.2				
		2.P01.3				
		2.P01.4				
		2.P01.5				
2.K11	If received amount is divided into LUs; how is each LU identified? What type of code and media? Is this identifier discarded or recorded and kept?					Trip number / SSCC / none / etc Unique / Non-unique. Sequential / Structured Bar-code / RF-ID / Direct reference (label) / Indirect reference, etc.
2.T11	Can the producer link from the identification of the total amount to LU?					No / Yes indirectly / Yes directly (LU-ID recorded upon collection)
2.T12	If the answer above is yes, how is it linked?					Electronic / manual

Process mapping no:	Previous form no:	This form no:	Next form no:

2.P11	What parameters are linked to the each LU? How are they transmitted; on Label, Paper, Fax, Electronically, Other? Are they recorded on reception?	2.P11.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate "Discarded", "Kept" or "Repunched". Alternatively provide a link to a form, a screen-shot, a report or similar.
		2.P11.2				
		2.P11.3				
		2.P11.4				
		2.P11.5				
2.K21	If LU is divided into TUs; how is each TU identified? What type of code and media? Is this identifier discarded or recorded and kept?					GTIN+ / other Unique / Non-unique. Sequential / Structured Bar-code / RF-ID / Direct reference (label) / Indirect reference, etc.
2.T21	Can the producer link from TU-ID to LU-ID?					No / Yes indirectly / Yes directly (TU-ID recorded upon LU-ID)
2.T22	If the answer above is yes, how is it linked?					Electronic / manual
2.P21	What parameters are linked to the each LU? How are they transmitted; on Label, Paper, Fax, Electronically, Other? Are they recorded on reception?	2.P21.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate "Discarded", "Kept" or "Repunched". Alternatively provide a link to a form, a screen-shot, a report or similar.
		2.P21.2				
		2.P21.3				
		2.P21.4				
		2.P21.5				
2.F01	Does a temperature log accompany the shipment?					No / Yes
2.F02	Is the temperature of the shipment measured on reception?					No / Yes

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Table 3: Raw material / ingredient unpacking, pre production storage, mixing (duration) – Each type one table

	Questions pre-production	*Answer, fill in*			Description or example
3.M01	Storage type for this raw material / ingredient as it enters production?				Whole shipment as received / each LU as received / each TU as received, in local tank, etc.
3.T01	Relationship from the above to received shipments?				1:1 with shipment / LU / TU, split, joined, mixed, added in queue, etc.
3.K01	Identification of this raw material / ingredient as it enters production?				As before, by date/time, by tank number, by other reference
3.P01	What quality control checks are linked to the raw materials / ingredients pre-production? How are they recorded; on paper, punched into computer system, automated data gathering?	3.P01.1			List of parameters. For each parameter, indicate “Paper”, “ComPunch” or “ComAuto”. Alternatively provide a link to a form, a screen-shot, a report or similar.
		3.P01.2			
		3.P01.3			
		3.P01.4			
		3.P01.5			
3.F01	Which temperature control method was used?				None / iced / iced and refrigerated / refrigerated / etc.
3.F02	Is the storage / display temperature shown or recorded?				No / Shown only / Recorded manually / Recorded electronically

Hierarchy digit 0 refers to the whole raw material / ingredient storage.

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Table 4: Application of ingredients and raw materials (transformation) - Each type one table

	Transformation questions, into production	*Answer, fill in*			Description or example
4.T01	Can the producer link from identification of ingredients and raw materials to identification of lot / batch?				No / Yes indirectly / Yes directly (ingredients and raw materials ID recorded under production)
4.T02	If the answer above is yes, how is it linked?				Electronic / manual
4.T03	Is the ingredient / raw material split up, joined together or kept as one?				Split up / joined together / kept as one
4.P01	What parameters are recorded to document the application of this ingredient / raw material? How are they recorded; on paper, punched into computer system, automated data gathering?	4.P01.1			List of parameters. For each parameter, indicate “Paper”, “ComPunch” or “ComAuto”. Alternatively provide a link to a form, a screen-shot, a report or similar.
		4.P01.2			
		4.P01.3			
		4.P01.4			
		4.P01.5			

Hierarchy digit 0 refers to one instance of application of one ingredient / raw material batch.

Process mapping no:	Previous form no:	This form no:	Next form no:

Table 5: During production (duration)

	Questions production	*Answer, fill in*	Description or example
5.M01	How are the batches separated during production?		Physically, staged mixing, continuous mixing, etc
5.T01	1 batch only or many in parallel?		One / Many
5.T02	If many, are they ever mixed?		No / Yes
5.K01	How are batches identified during production?		Unique / Non-unique. Code structure. Internal / Visible number
5.K02	Is this identifier retained or referred to after production?		No / Yes

Hierarchy digit 0 refers to the whole production run.

Process mapping no:	Previous form no:	This form no:	Next form no:

Table 6: Production ends (transformation)

	Transformation questions, from production	*Answer, fill in*			Description or example
6.M01	What type of lot / batch is used for finished product?				Daily / weekly / etc
6.M02	What is the lot / batch amount?				From-to in kg / ton / etc
6.K01	How is the lot / batch identified?				Unique / Non-unique. Code structure. Internal / Visible number
6.T01	Can the producer link from identification of lot / batch to shipment of finished product?				No / Yes indirectly / Yes directly (Lot / batch-ID recorded after production and linked to TU-ID)
6.T02	If the answer above is yes, how is it linked?				Electronic / manual
6.T03	Is the finished lot / batch split up, joined together or kept as one?				Split up / joined together / kept as one
6.P01	What parameters are linked to the finished production batch? How are they recorded; on paper, punched into computer system, automated data gathering?	6.P01.1			List of parameters. For each parameter, indicate “Paper”, “ComPunch” or “ComAuto”. Alternatively provide a link to a form, a screen-shot, a report or similar.
		6.P01.2			
		6.P01.3			
		6.P01.4			
		6.P01.5			

Hierarchy digit 0 refers to the whole production run.

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7. Post production storage, quality control, packaging, labelling (duration)

	Questions post-production	*Answer, fill in*			Description or example
7.M01	What is the name/type of the product?				Identifying description or name of the product
7.M02	What is the product condition?				Ambient / chilled / frozen / etc
7.M03	Which storage method is used post-production?				Boxed / bulked / seawater tanks / brine tanks / cold storage / etc.
7.M04	What type of transport from process to packaging is used?				Not needed / Flow line / Fork-lift / By hand / etc.
7.M05	Is a label used, if so, what type?				Clear text, barcode / Radio Frequency Identification-number (RFID) / none / etc.
7.P01	If a label is used, what information is on it?	7.P01.1			Name of the company / date and time of production / date of durability etc
		7.P01.2			
		7.P01.3			
		7.P01.4			
		7.P01.5			
7.P02	What quality control checks are linked to the finished product? How are they recorded; on paper, punched into computer system, automated data gathering?	7.P08.1			List of parameters. For each parameter, indicate “Paper”, “ComPunch” or “ComAuto”. Alternatively provide a link to a form, a screen-shot, a report or similar.
		7.P08.2			
		7.P08.3			
		7.P08.4			
		7.P08.5			
7.F01	Which temperature control method was used?				None / iced / iced and refrigerated / refrigerated / etc.
7.F02	Is the storage / display temperature shown or recorded?				No / Shown only / Recorded manually / Recorded electronically

Hierarchy digit 0 refers to the whole production run.

Process mapping no:	Previous form no:	This form no:	Next form no:

Table 8: Collection of finished product (transformation)

	Transformation questions, shipping	*Answer, fill in*				Description or example
8.M01	To whom are shipments of this type delivered?					Name and address / GLN
8.M02	From where are shipments of this type shipped?					Name and address / GLN
8.M03	Description of the total amount collected?					Full/part containers, full/part trucks, full/part holds / etc
8.M04	Range of total amount collected every time?					From-to in kg / ton / other number relating to TU/LU
8.M05	How often does collection take place?					Daily / weekly / etc
8.K01	How is the total collected amount identified? What type of code and media?					Trip number / SSCC[1] / etc Unique / Non-unique. Sequential / Structured Bar-code / RF-ID / Direct reference (label) / Indirect reference, etc.
8.P01	What parameters are linked to the whole shipment? How are they transmitted; on Label, Paper, Fax, Electronically, Other? Are they kept for own use only, given to the transporter, sent directly to the buyer, or sent to the buyer via the transporter?	8.P01.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate "Own", "Tran", "Sent" or "Via". Alternatively provide a link to a form, a screen-shot, a report or similar.
		8.P01.2				
		8.P01.3				
		8.P01.4				
		8.P01.5				
8.K11	If collected amount is divided into LUs; how is each LU identified? What type of code and media?					Trip number / SSCC / none / etc Unique / Non-unique. Sequential / Structured Bar-code / RF-ID / Direct reference (label) / Indirect reference, etc.
8.T11	Can the producer link from the identification of the total amount to each LU?					No / Yes indirectly / Yes directly (LU-ID recorded upon collection)

[1] Each logistic unit is often marked with a ***Serial Shipping Container Code*** **(SSCC)** which uniquely identifies the company and the particular logistic unit.

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8.T12	If the answer above is yes, how is it linked?					Electronic / manual
8.P11	What parameters are linked to each LU? How are they transmitted; on Label, Paper, Fax, Electronically, Other? Are they kept for own use only, given to the transporter, sent directly to the buyer, or sent to the buyer via the transporter?	8.P11.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate "Own", "Tran", "Sent" or "Via". Alternatively provide a link to a form, a screen-shot, a report or similar.
		8.P11.2				
		8.P11.3				
		8.P11.4				
		8.P11.5				
8.K21	If LU is divided into TUs; how is each TU identified? What type of code and media?					GTIN+ / other Unique / Non-unique. Sequential / Structured Bar-code / RF-ID / Direct reference (label) / Indirect reference, etc.
8.T21	Can the producer link from TU-ID to LU-ID?					No / Yes indirectly / Yes directly (TU-ID recorded upon LU-ID)
8.T21	If the answer above is yes, how is it linked?					Electronic / manual
8.P21	What parameters are linked to each TU? How are they transmitted; on Label, Paper, Fax, Electronically, Other? Are they kept for own use only, given to the transporter, sent directly to the buyer, or sent to the buyer via the transporter?	8.P21.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate "Own", "Tran", "Sent" or "Via". Alternatively provide a link to a form, a screen-shot, a report or similar.
		8.P21.2				
		8.P21.3				
		8.P21.4				
		8.P21.5				
8.F01	Does a temperature log accompany the shipment?					No / Yes
8.F02	Is the temperature of the shipment measured on collection?					No / Yes

Hierarchy digit 0 refers to the whole collection / delivery, 1 refers to each LU in the delivery, 2 to each TU in each LU.

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Table 9: Transport of finished goods to distribution terminal or directly to customer (duration)

	Question to transporter of finished goods	*Answer, fill in*				Description or example
9.M01	What type of transport is used?					Truck / vessel/ air plane / post / courier / etc.
9.M02	What type of delivery is it?					Distribution terminal or directly to supplier, either
9.K01	How is the vehicle identified?					Registration number of vehicle or name and address (or GLN)
9.K02	How is the trip identified?					SSCC, transporter code, delivery code, freight code, etc.
9.T01	Is there a link from vehicle / trip to delivery?					No / Yes, indirectly / Yes, directly
9.P01	What parameters are linked to this transport? How are they recorded; on Label, Paper, Fax, Electronically, Other? Are they kept for own use only, given to the buyer or given back to the supplier?	9.P01.1				List of parameters. For each parameter, indicate L/P/F/E/O for type of transmission. For each parameter, indicate “Own”, “Buyer” or “Suppl”. Alternatively provide a link to a form, a screen-shot, a report or similar.
		9.P01.2				
		9.P01.3				
		9.P01.4				
		9.P01.5				
9.F01	Which temperature control method was used?					None / iced / iced and refrigerated / refrigerated / etc.
9.F02	Is temperature logged during transportation?					No / Yes manually / Yes electronically

Hierarchy digit 0 refers to the whole transport.