

Table 1. Scheme of incoming quality control of raw materials of vegetable and animal origin.

No	Name of Raw Material	Control place	Controlled indicators	Frequency control	Responsible for control	Quality control procedure	Normative Document
1	Feeding flour of animal origin (meat, meat-and-bone, feather)	Wagons, cars, warehouse, production laboratory	Appearance, color, odor	Each batch	Production laboratory "BioLab"	GOST P 50257-92	GOST 17536-82
			Mass ratio of protein			GOST P 51417-99	
			Fat ratio			GOST 13496.15-97	
			Mass ratio of fiber			GOST 17681-82	
			Mass ratio of moisture			GOST 17681-82	
			Mass ratio of ashes			GOST 26226-95	
			Mass ratio of calcium			GOST 26570-95	
			Mass ratio of phosphorus			GOST 26657-97	
			acid number			GOST 13496.18-85	
			peroxide number			GOST P 53024-2008	
			coarseness of grinding			GOST 17681-82	
			Mass ratio of impurities			GOST 17681-82	
			The presence of pathogenic microorganisms			"Rules of bacteriological research of feed"	
			toxicity		GOST P 52337-2005		
2	Fish feeding flour	Wagons, cars,	Appearance, color, odor	Each Batch	Production	GOST 7636-85	GOST 2116-

		warehouse, production laboratory	Mass ratio of protein Fat ratio Mass ratio of moisture Mass ratio of ashes Mass ratio of calcium Mass ratio of phosphorus acid number peroxide number coarseness of grinding Mass ratio of impurities The presence of pathogenic microorganisms toxicity		Laboratory "BioLab"	GOST P 51417-99 GOST 13496.15-97 GOST 13496.3-92 GOST P 51418-99 GOST 26570-95 GOST 26657-97 GOST 13496.18-85 GOST P 53024-2008 GOST 7636-85 GOST 7636-85 "Rules of bacteriological research of feed" GOST P 52337-2005	2000
3	Milk powder (whey powder)	Cars, warehouse, production laboratory	Appearance and consistence Color, flavor, odor Mass ratio of protein Mass ratio of moisture Mass ratio of lactose (milk sugar)	Each batch	Production laboratory "BioLab"	GOST P 52791-2007 GOST P 52791-2007 GOST 30648.2-99 GOST 29246-91 GOST 29248-91	GOST P 52791-2007 GOST P 53492-2009
4	Toasted Feeding Soy	Wagons,	Appearance, color, odor	Each batch	Production	GOST 13979.4-68	GOST P 53799-

	bean meal	warehouse, production laboratory			laboratory "BioLab"		2010
			Mass ratio of crude protein, dry matter basis			GOST P 51417-99	
			Mass ratio of crude fat, dry matter basis			GOST 13496.15-97	
			Mass ratio of crude fiber			GOST P 52839-2007	
			Mass ratio of moisture and volatiles			GOST 13979.1-68	
			Mass ratio of ashes insoluble in hydrochloric acid			GOST 13979.6-69	
			Urea enzyme activity			GOST 13979.9-69	
			Mass ratio of metal impurities			GOST 13979.5-68	
5	Sunflower meal	Cars, warehouse, production laboratory	Appearance, color, odor	Each batch	Production laboratory "BioLab"	GOST 13979.4-68	GOST 11246-96
			Mass ratio of metal impurities			GOST 13979.5-68	
			Mass ratio of moisture and volatiles			GOST 13979.1-68	
			Mass ratio of crude protein, dry matter basis			GOST P 51417-99	
			Mass ratio of crude fiber, dry matter basis			GOST P 52839-2007	

			Mass ratio of crude fat, dry matter basis			GOST 13496.15-97	
			Mass ratio of ashes insoluble in hydrochloric acid			GOST 13979.6-69	
6	Feed full-fat soy bean	Cars, warehouse, production laboratory	Odor, color	Each batch	Production laboratory "BioLab"	GOST 10967-90	Technical specifications 9296-038-00932117-2004
			Coarseness			GOST 13496.8-72	
			Mass ratio of crude protein, dry matter basis			GOST P 51417-99	
			Mass ratio of crude fiber			GOST P 52839-2007	
			Mass ratio of crude fat, dry matter basis			GOST 13496.15-97	
			Mass ratio of moisture			GOST 13496.3-92	
			Mass ratio of ashes insoluble in hydrochloric acid			GOST P 51418-99	
			Urea enzyme activity			GOST 13979.9-69	
			Pest contamination			GOST 10853-88	
			Metallomagnetic impurities			GOST P 53011-2008	
7	Dry corn gluten	Cars, warehouse, production laboratory	Appearance, color, odor	Each batch	Production laboratory "BioLab"	Technical Specifications 9189-001-55958380-02	Technical Specifications 9189-001-55958380-02
			Mass ratio of moisture			GOST 13496.3-92	

			Mass ratio of crude protein, dry matter basis			GOST P 51417-99	
			Mass ratio of crude fat, dry matter basis			GOST 13496.15-97	
			Mass ratio of crude fiber			GOST P 52839-2007	
			Mass ratio of ashes			GOST 13979.6-69	
			Mass ratio of impurities			GOST P 53011-2008	
8	Wheat bran	Wagons, Cars, warehouse, production laboratory	Color, odor, flavor	Each batch	Production laboratory “BioLab”	GOST 27558-87	GOST 7169-66
			Moisture			GOST 9404-88	
			Metallomagnetic impurities			GOST 20239-74	
			Pest contamination and infestation			GOST 27559-87	
			Mass ratio of crude protein			GOST P 51417-99	
			Mass ratio of crude fiber			GOST P 52839-2007	
9	Wheat	Wagons, Cars, warehouse, production laboratory	Condition, color, odor	Each batch	Production laboratory “BioLab”	GOST 10967-90	GOST P 52554- 2006
			Impurity			GOST 30483-97	
			Grain impurity			GOST 30483-97	
			Mass ratio of moisture			GOST 13586.5-93	
			Mass ratio of protein			GOST 10846-91	
			Mass ratio of crude fat			GOST 13496.15-97	
			Mass ratio of crude fiber			GOST P 52839-2007	

10	Barley	Wagons, Cars, warehouse, production laboratory	Odor, color, condition	Each batch	Production laboratory “BioLab”	GOST 10967-90	GOST P 53900- 2010
			Pest contamination			GOST 30483-97	
			Impurity content			GOST 30483-97	
			Grain impurity content			GOST 30483-97	
			Dry matter content			GOST P 52838-2007	
			Mass ratio of protein			GOST P 51417-99	
			Mass ratio of crude fat			GOST 13496.15-97	
			Mass ratio of crude fiber			GOST P 52839-2007	
			Mass ratio of crude ashes			GOST 26226-95	
11	Oat	Wagons, Cars, warehouse, production laboratory	Color	Each batch	Production laboratory “BioLab”	GOST 10967-90	GOST 28673-90
			Impurity content			GOST 30483-97	
			Grain impurity content			GOST 30483-97	
			Moisture			GOST 13586.5-93	
			Mass ratio of protein			GOST P 51417-99	
			Mass ratio of crude fiber			GOST P 52839-2007	
12	Sunflower oil	Warehouse, production laboratory	acid number	Each batch	Production laboratory “BioLab”	GOST P 52110-2003	GOST P 52465- 2005
			peroxide number			GOST P 51487-99	

Table 2. Scheme of incoming quality control of raw materials of mineral origin.

No	Name of Raw Material	Control place	Controlled indicators	Frequency control	Responsible for control	Quality control procedure	Normative Document
1	Chalky flour, chalky grit	Wagons, cars, warehouse, production laboratory	Total Mass ratio of calcium carbonate and magnesium carbonate	Each batch	Production laboratory "BioLab"	GOST 14050-93	GOST 26826-86
			Metallomagnetic impurities			GOST 13496.9-96	
			Mass ratio of moisture			GOST 14050-93	
2	Feeding defluorinated phosphate	Wagons, cars, warehouse, production laboratory	Mass ratio of calcium	Each batch	Production Laboratory "BioLab"	GOST 24596.4-81	Technical Specifications 2182-686-00209438-2007
			Mass ratio of phosphorous			GOST 24596.2-81	
			Mass ratio of moisture			GOST 24596.6-81	
3	Table Sodium Chloride	Cars, warehouse	Mass ratio of sodium chloride	Each batch	Production Laboratory "BioLab"	GOST 13685-84	GOST P 51574-2000
			Appearance			GOST P 51574-2000	
4	Manganese oxide, 60-62 %	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	Technical Specifications 1-251-10
5	Blue copper, mark A	Cars, warehouse	Mass ratio of base material	Each batch	Production Laboratory "BioLab"	GOST 19347-99	GOST 19347-99
6	Ferric sulphate, mark A	Cars,	Mass ratio of base	Each batch	Production	GOST 6981-94	GOST 6981-94

		warehouse	material		Laboratory "BioLab"		
7	Zinc oxide, mark A	Cars, warehouse	Mass ratio of base material	Each batch	Production Laboratory "BioLab"	GOST 202-84	GOST 202-84
8	Cobalt sulphate	Cars, warehouse	Mass ratio of base material	Each batch	Production Laboratory "BioLab"	GOST 4462-78	GOST 4462-78
9	Calcium iodate	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	Technical Specifications 6-09-02-279-78
10	Sodium selenite	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	Technical Specifications 6-09-17-209-88

Table 3. Scheme of incoming quality control of bioactive substances (vitamins, amino acids, enzymes).

No	Name of Raw Material	Control place	Controlled indicators	Frequency control	Responsible for control	Quality control procedure	Normative Document
1	Fat soluble vitamins: A, E, D3, K3	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062
2	Water soluble vitamins: B1, B2, B3, B4, B5, B6, B9, B12, H	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062
3	L-lysine hydrochloride feed	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062
4	DL-methionine feed	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062
5	L-threonine feed	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062
6	L-tryptophan	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute	Current Normative Documents	ND №13-5-2/1062

					of BPPM RAS		
7	Belfeed Beta (xylanase, beta-glucanase)	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062
8	Belfeed B (xylanase)	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062
9	VemoZyme F (phytase)	Cars, warehouse	Mass ratio of base material	Each batch	CCU "Symbiosis" of Institute of BPPM RAS	Current Normative Documents	ND №13-5-2/1062

Table 4. Scheme of quality control of finished production.

No	Name of Raw Material	Control place	Controlled indicators	Frequency control	Responsible for control	Quality control procedure	Normative Document
1	Protein-Vitamin-Mineral Concentrates	Work shop, finished products warehouse, production laboratory	Appearance, color, odor	Optional (at least one diet a day)	Technologist, Production Laboratory "BioLab"	GOST P 51551-2000	GOST P 51551-2000
			Pest contamination of cereal stock			GOST 13496.13-75	
			Metallomagnetic impurities			GOST P 53011-2008	
			Coarseness			GOST 13496.8-72	
			Mass ratio of moisture			GOST 13496.3-92	
			Mass ratio of crude protein			GOST P 51417-99	
			Mass ratio of crude fat			GOST 13496.15-97	
			Mass ratio of crude fiber			GOST P 52839-2007	
			Mass ratio of ashes			GOST P 51418-99	
			Mass ratio of calcium			GOST 26570-95	
			Mass ratio of phosphorous			GOST 26657-97	
			Mass ratio of sodium chloride			GOST 13496.1-98	
			Acid number			GOST 13496.18-85	
			Peroxide number			GOST P 53024-2008	
Mass ratio of carbamide	GOST 29113-91						

			Mass ratio of micro elements		CCU “Symbiosis” of Institute of BPPM RAS	GOST P 51637-2000	
			Vitamins, amino acids, enzymes			Current Normative Documents	
2	Premixes	Work shop, finished products warehouse, production laboratory	Appearance, color, odor	Optional (at least one diet a day)	Technologist, Production Laboratory “BioLab”	GOST P 51095-97	GOST P 51095- 97
			Mass ratio of moisture			GOST 13496.3-92	
			Coarseness			GOST 26573.3-85	
			Metallomagnetic impurities			GOST P 53011-2008	
			Mass ratio of micro elements			GOST P 51637-2000	
			Vitamins, amino acids, enzymes			Current Normative Documents	
3	Compound feed	Work shop, finished products warehouse, production laboratory	Appearance, color, odor	Each batch	Technologist, Production Laboratory “BioLab”	GOST P 50257-92	
			Pest contamination			GOST 13496.13-75	
			Metallomagnetic impurities			GOST P 53011-2008	
			Coarseness of crumbled compound feed			GOST 13496.8-72	
			Mass ratio of whole grains			GOST 13496.8-72	
			Mass ratio of moisture			GOST 13496.3-92	
			Mass ratio of crude protein			GOST P 51417-99	

		Mass ratio of crude fat	GOST 13496.15-97
		Mass ratio of crude fiber	GOST P 52839-2007
		Mass ratio of ashes	GOST P 51418-99
		Mass ratio of calcium	GOST 26570-95
		Mass ratio of phosphorous	GOST 26657-97
		Mass ratio of sodium chloride	GOST 13496.1-98