

2. Technical Specifications

Specification for Jersey Embryos

Embryos required - 10

	Requirement	Please mention agreed/not agreed	Evident Document/ details are attached (Yes/No)	Remarks
1	Embryo Quality Standards			
	Grading: Excellent (or A Grade) - Embryos will exhibit exceptional morphology with consistent cell size distribution and a well-defined blastocoel cavity			
	Developmental Stage: Blastocyst stage embryos are preferred for their demonstrated superior viability following cryopreservation.			
	Age: 7 Days Old			
2	Donor Dam Specifications			
	Production Performance: Dams must possess Estimated Breeding Values (EBVs) with high reliability that significantly exceed breed averages. Specific EBV thresholds should be tailored to individual breeding objectives (e.g., Milk yield \geq +350 kg, Fat yield \geq +30 kg, Protein yield \geq +25 kg).			
	Health Certification: Dams and donor herds must be certified free of diseases relevant to the importing country and maintain strict biosecurity and herd health protocols.			
	Conformation: Dams must possess excellent udder and feet & leg conformation, substantiated by:			

	<p>-Superior linear type scores within key udder, feet, and leg composite traits.</p> <p>-Favorable classification reports, if available.</p>			
	<p>Reproductive History: Preference for dams with a proven track record of successful pregnancies and trouble-free calvings.</p>			
3	Sire Specifications			
	<p>Genetic Merit: Sires must exhibit EBVs (with high reliability) that meet or exceed breeding objectives for production and conformation traits.</p>			
	<p>Type Improvement: Emphasis on sires with a demonstrated ability to transmit superior udder, feet, and leg conformation.</p>			
	<p>Health Certification: Sires must be certified free of known deleterious genetic defects, including but not limited to BLAD, DUMPS, Citrullinemia, and Factor XI. Screening for additional genetic conditions is strongly recommended.</p>			
4	Pedigree and Documentation			
	<p>Lineage: Embryos must derive from pedigrees demonstrating a minimum of four generations without common ancestors for both the dam and sire.</p>			
	<p>Comprehensive Documentation (dam, sire, grandparents):</p> <p>-Names and official herd registration numbers.</p> <p>-Production records (lactation yields, components) and corresponding EBVs with reliability values.</p>			

	<p>-Linear type scores, classification reports, or relevant type evaluations.</p> <p>-Health certifications and genetic testing results.</p>			
5	Cryopreservation Specifications:			
	Type of Preservation: Deep Frozen			
	Freezing Medium: Ethylene Glycol - A well-established cryoprotectant proven effective for long-term storage of bovine embryos.			
	Straw Size: 0.25 ml Mini Straw - Standard industry format for efficient embryo storage and handling.			
	Storage and Transport: Liquid Nitrogen (-196°C) - Essential for maintaining embryo viability during storage and transportation.			
6	Additional Considerations			
	Disease-Free Status: All embryos will be accompanied by a comprehensive health certificate from a reputable veterinary laboratory. This certificate will verify freedom from major infectious diseases and genetic abnormalities and will ensure compliance with all disease-free requirements outlined in the health protocol established by the country's Veterinary Regulatory Division.			
	Herd Registration: Donors must originate from officially registered herds. Suppliers must provide Certificates of Registration, pedigrees, and production records.			
	Language: All documentation must be provided in English.			

Specifications for Friesian Embryos

Embryos required - 10

	Requirement	Please mention agreed/not agreed	Evident Document/ details are attached (Yes/No)	Remarks
1	Embryo Quality Standards			
	Grading: Excellent (or A Grade) - Embryos will exhibit exceptional morphology with consistent cell size distribution and a well-defined blastocoel cavity			
	Developmental Stage: Blastocyst stage embryos are preferred for their demonstrated superior viability following cryopreservation.			
	Age: 7 Days Old			
2	Donor Dam Specifications			
	Production Performance: Dams must possess Estimated Breeding Values (EBVs) with high reliability that significantly exceed breed averages. Specific EBV thresholds should be tailored to individual breeding objectives (e.g., Milk yield \geq +500 kg, Fat yield \geq +25 kg, Protein yield \geq +20 kg).			
	Health Certification: Dams and donor herds must be certified free of diseases relevant to the importing country and maintain strict biosecurity and herd health protocols.			

	<p>Conformation: Dams must possess excellent udder and feet & leg conformation, substantiated by:</p> <ul style="list-style-type: none"> -Superior linear type scores within key udder, feet, and leg composite traits. -Favorable classification reports, if available. 			
	<p>Reproductive History: Preference for dams with a proven track record of successful pregnancies and trouble-free calvings.</p>			
3	Sire Specifications			
	<p>Genetic Merit: Sires must exhibit EBVs (with high reliability) aligning with breeding objectives for production traits, especially milk yield.</p>			
	<p>Type Improvement: Emphasis on sires with a demonstrated ability to transmit superior udder, feet, and leg conformation.</p>			
	<p>Health Certification: Certified free of known deleterious genetic defects, including but not limited to BLAD, DUMPS, Citrullinemia, Factor XI, CVM, and Brachyspina. Additional screening is strongly recommended.</p>			
4	Pedigree and Documentation			
	<p>Lineage: Embryos must derive from pedigrees demonstrating a minimum of four generations without common ancestors for both the dam and sire.</p>			
	<p>Comprehensive Documentation (dam, sire, grandparents):</p> <ul style="list-style-type: none"> -Names and official herd registration numbers. 			

	<p>-Production records (lactation yields, components) and corresponding EBVs with reliability values.</p> <p>-Linear type scores, classification reports, or relevant type evaluations.</p> <p>-Health certifications and genetic testing results.</p>			
5	Cryopreservation Specifications:			
	Type of Preservation: Deep Frozen			
	Freezing Medium: Ethylene Glycol - A well-established cryoprotectant proven effective for long-term storage of bovine embryos.			
	Straw Size: 0.25 ml Mini Straw - Standard industry format for efficient embryo storage and handling.			
	Storage and Transport: Liquid Nitrogen (-196°C) - Essential for maintaining embryo viability during storage and transportation.			
6	Additional Considerations			
	Disease-Free Status: All embryos will be accompanied by a comprehensive health certificate from a reputable veterinary laboratory. This certificate will verify freedom from major infectious diseases and genetic abnormalities and will ensure compliance with all disease-free requirements outlined in the health protocol established by the country's Veterinary Regulatory Division.			
	Herd Registration: Donors must originate from officially registered herds. Suppliers must provide			

	Certificates of Registration, pedigrees, and production records.			
	Language: All documentation must be provided in English.			

Specifications for Sahiwal Embryos

Embryos required - 10

	Requirement	Please mention agreed/not agreed	Evident Document/ details are attached (Yes/No)	Remarks
1	Embryo Quality Standards			
	Grading: Excellent (or A Grade) - Embryos will exhibit exceptional morphology with consistent cell size distribution and a well-defined blastocoel cavity			
	Developmental Stage: Blastocyst stage embryos are preferred for their demonstrated superior viability following cryopreservation.			
	Age: 7 Days Old			
2	Donor Dam Specifications			
	Production Performance: Dams must possess Estimated Breeding Values (EBVs) with high reliability that significantly exceed breed averages. Specific EBV thresholds should be tailored to individual breeding objectives (e.g., Milk yield \geq +500 kg, Fat yield \geq +25 kg, Protein yield \geq +20 kg).			
	Health Certification: Dams and donor herds must be certified free of diseases relevant to the importing country and maintain strict biosecurity and herd health protocols.			

	<p>Conformation: Dams must possess excellent udder and feet & leg conformation, substantiated by:</p> <ul style="list-style-type: none"> -Superior linear type scores within key udder, feet, and leg composite traits. -Favorable classification reports, if available. 			
	<p>Heat Tolerance: Emphasize dams with a demonstrated ability to produce and thrive under high heat-stress conditions. This may be evidenced by:</p> <ul style="list-style-type: none"> Production records are maintained in hot climates. EBVs or indices specifically addressing heat tolerance, if available. 			
	<p>Parasite Resistance: If available, prioritize dams with favorable EBVs or indices for parasite resistance, capitalizing on Sahiwal's known resilience.</p>			
	<p>Reproductive History: Preference for dams with a proven track record of successful pregnancies and trouble-free calvings.</p>			
8	Site Specifications			
	<p>Genetic Merit: Sires must exhibit EBVs (with high reliability) aligning with breeding objectives for production traits, especially milk yield.</p>			
	<p>Type Improvement: Emphasis on sires with a demonstrated ability to transmit superior udder, feet, and leg conformation.</p>			
	<p>Health Certification: Certified free of known deleterious genetic defects, including but not limited to BLAD,</p>			

	DUMPS, Citrullinemia, Factor XI, CVM, and Brachyspina. Additional screening is strongly recommended.			
4	Pedigree and Documentation			
	Lineage: Embryos must derive from pedigrees demonstrating a minimum of four generations without common ancestors for both the dam and sire.			
	Comprehensive Documentation (dam, sire, grandparents): <ul style="list-style-type: none"> -Names and official herd registration numbers. -Production records (lactation yields, components) and corresponding EBVs with reliability values. -Linear type scores, classification reports, or relevant type evaluations. -Health certifications and genetic testing results. 			
5	Cryopreservation Specifications:			
	Type of Preservation: Deep Frozen			
	Freezing Medium: Ethylene Glycol - A well-established cryoprotectant proven effective for long-term storage of bovine embryos.			
	Straw Size: 0.25 ml Mini Straw - Standard industry format for efficient embryo storage and handling.			
	Storage and Transport: Liquid Nitrogen (-196°C) - Essential for maintaining embryo viability during storage and transportation.			
6	Additional Considerations			
	Disease-Free Status: All embryos will be accompanied by a comprehensive health certificate from a reputable			

<p>veterinary laboratory. This certificate will verify freedom from major infectious diseases and genetic abnormalities and will ensure compliance with all disease-free requirements outlined in the health protocol established by the country's Veterinary Regulatory Division.</p>			
<p>Herd Registration: Donors must originate from officially registered herds. Suppliers must provide Certificates of Registration, pedigrees, and production records.</p>			
<p>Language: All documentation must be provided in English.</p>			

Specifications for Gir Embryos

Embryos required - 15

	Requirement	Please mention agreed/not agreed	Evident Document/ details are attached (Yes/No)	Remarks
1	Embryo Quality Standards			
	Grading: Excellent (or A Grade) - Embryos will exhibit exceptional morphology with consistent cell size distribution and a well-defined blastocoel cavity			
	Developmental Stage: Blastocyst stage embryos are preferred for their demonstrated superior viability following cryopreservation.			
	Age: 7 Days Old			
2	Donor Dam Specifications			
	Production Performance: Dams must possess Estimated Breeding Values (EBVs) with high reliability that significantly exceed breed averages. Specific EBV thresholds should be tailored to individual breeding objectives (e.g., Milk yield \geq +500 kg, Fat yield \geq +25 kg, Protein yield \geq +20 kg).			
	Health Certification: Dams and donor herds must be certified free of diseases relevant to the importing country and maintain strict biosecurity and herd health protocols.			

<p>Conformation: Dams must possess excellent udder and feet & leg conformation, substantiated by:</p> <ul style="list-style-type: none"> -Superior linear type scores within key udder, feet, and leg composite traits. -Favorable classification reports, if available. 			
<p>Heat Tolerance: Emphasize dams with a demonstrated ability to produce and thrive under high heat-stress conditions. This may be evidenced by:</p> <ul style="list-style-type: none"> Production records are maintained in hot climates. EBVs or indices specifically addressing heat tolerance, if available. 			
<p>Parasite Resistance: If available, prioritize dams with favorable EBVs or indices for parasite resistance, capitalizing on Sahiwal's known resilience.</p>			
<p>Reproductive History: Preference for dams with a proven track record of successful pregnancies and trouble-free calvings.</p>			
3	Sire Specifications		
<p>Genetic Merit: Sires must exhibit EBVs (with high reliability) aligning with breeding objectives for production traits, especially milk yield.</p>			
<p>Type Improvement: Emphasis on sires with a demonstrated ability to transmit superior udder, feet, and leg conformation.</p>			
<p>Health Certification: Certified free of known deleterious genetic defects, including but not limited to BLAD.</p>			

	DUMPS, Citrullinemia, Factor XI, CVM, and Brachyspina. Additional screening is strongly recommended.			
4	Pedigree and Documentation			
	Lineage: Embryos must derive from pedigrees demonstrating a minimum of four generations without common ancestors for both the dam and sire.			
	Comprehensive Documentation (dam, sire, grandparents): <ul style="list-style-type: none"> -Names and official herd registration numbers. -Production records (lactation yields, components) and corresponding EBVs with reliability values. -Linear type scores, classification reports, or relevant type evaluations. -Health certifications and genetic testing results. 			
5	Cryopreservation Specifications:			
	Type of Preservation: Deep Frozen			
	Freezing Medium: Ethylene Glycol - A well-established cryoprotectant proven effective for long-term storage of bovine embryos.			
	Straw Size: 0.25 ml Mini Straw - Standard industry format for efficient embryo storage and handling.			
	Storage and Transport: Liquid Nitrogen (-196°C) - Essential for maintaining embryo viability during storage and transportation.			
6	Additional Considerations			
	Disease-Free Status: All embryos will be accompanied by a comprehensive health certificate from a reputable			

<p>veterinary laboratory. This certificate will verify freedom from major infectious diseases and genetic abnormalities and will ensure compliance with all disease-free requirements outlined in the health protocol established by the country's Veterinary Regulatory Division.</p>			
<p>Herd Registration: Donors must originate from officially registered herds. Suppliers must provide Certificates of Registration, pedigrees, and production records.</p>			
<p>Language: All documentation must be provided in English.</p>			