Berries, Goose- and Currants

Revised 2000

Thermal Properties

	Currants (red and white)		Currants (European black)		Gooseberries	
	English	**Metric**	**English**	**Metric**	**English**	**Metric**
Moisture, %	83.95	--	81.96	--	87.87	--
Protein, %	1.40	--	1.40	--	0.88	--
Fat, %	0.20	--	0.41	--	0.58	--
Carbohydrate, %	13.80	--	15.38	--	10.18	--
Fiber, %	4.30	--	0.00	--	4.30	--
Ash, %	0.66	--	0.86	--	0.49	--
Specific Heat Above Freezing	0.92 Btu/lb*°F	3.85 kJ/(kg*K)	0.89 Btu/lb*°F	3.71 kJ/(kg*K)	0.94 Btu/lb*°F	3.95 kJ/(kg*K)
Specific Heat Below Freezing	0.47 Btu/lb*°F	1.98 kJ/(kg*K)	0.47 Btu/lb*°F	1.95 kJ/(kg*K)	0.47 Btu/lb*°F	1.96 kJ/(kg*K)
Latent Heat of Fusion	120 Btu/lb	280 kJ/kg	118 Btu/lb	274 kJ/kg	126 Btu/lb	293 kJ/kg

Storage Conditions

	Fresh	Frozen	
Temperature	31 to 32°F (-0.6 to 0°C)	0°F (-18°C)	-10°F (-23°C)
Relative Humidity	90-95%		
Storage Period: **Currants** **Gooseberries**	 1-2 weeks 2-4 weeks	 18 months with sugar 12 months without sugar	 24 months with sugar 18 months without sugar
Highest Freezing Point	30.2°F (-1.1°C)		

Fresh Berries

Fresh currants and gooseberries should be firm, bright, and free of mechanical injury and incipient decay. There are no United States grade standards for these fruits. Currants and gooseberries are not stored except when it is necessary to hold them for processing. Both types of berries should be cooled to 32°F (0°C) soon after picking to retard deterioration. A temperature of 31 to 32°F (-0.6 to 0°C) is

recommended for both currants and gooseberries with a relative humidity of 90-95%. Currants in good condition can be stored 1 to 2 weeks. Black currants, which are different in character from red and white currants, have been stored up to 4 weeks in air + 40% CO2 in the United Kingdom. Gooseberries in good condition may have a storage life of 2 to 4 weeks, but eventually there will be some collapsing berries. Gooseberries stored for as long as 3 to 4 weeks at the recommended temperature should be processed immediately after removal from storage. Storage of hard-green gooseberries for longer periods at 32°F (0°C) in perforated polyethylene bags is possible if some CO2 is allowed to accumulate. They are not injured by 8% CO2.

Since their implication as hosts to the white pine blister rust, currants and gooseberry production in the US has all but disappeared, only to be increased in the UK and other north European countries where much of the fruit goes into the manufacture of juice. Only small quantities of currants or gooseberries are frozen as whole berries. Red currants are processed largely for juice concentrate to be used for jelly and bakery filling jellies within the US.

Diseases

Cladosporium Mold	Olive green color, superficial on outside of berry, causing little or no flesh decay, but makes the fruit unacceptable for marketing. **Control:** Careful handling and prompt cooling and shipment at as close to 32°F (0°C) as possible.
Gray Mold Rot (Botrytis)	The fungus at first forms small brown spots usually on one side of the fruit which enlarge and become soft. The fruit becomes covered with the characteristic gray spore mass. **Control:** Preharvest sprays with fungicides. Field and packinghouse sanitation. Prompt cooling after harvest with storage at 32°F (0°C). Elevated CO2 atmospheres are fungistatic to Botrytis.

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