

Table 3.1 Properties of the Amylose and Amylopectin Components of Starch^a

| Property | Amylose | Amylopectin |
|-------------------------------------------------------|--------------------|----------------|
| General structure | Essentially linear | Branched |
| Color with iodine | Dark blue | Purple |
| λ_{\max} of iodine complex | ~650 nm | ~540 nm |
| Iodine affinity | 19–20% | <1% |
| Average chain length (glucosyl units) | 100–10 000 | 20–30 |
| Degree of polymerization (glucosyl units) | 100–10 000 | 10 000–100 000 |
| Solubility in water | Variable | Soluble |
| Stability in aqueous solution | Retrogrades | Stable |
| Conversion to maltose by crystalline β -amylase | ~70% | ~55% |

^a Adapted from Marshall,⁴¹⁶ Williams,⁶⁶ and Radley⁴¹⁷