What are their postharvest requirements?

http://www.friedas.com/product.cfm
For Specialty, Specialty Crops, Make Educated Guesses

1. Is the crop of tropical or temperate origin?  **Chilling sensitivity.**
2. Is the crop a leaf, root or fruit?  **Water loss susceptibility; Packaging.**
3. If the crop is a fruit, are there “ripening” changes after harvest?  **Deterioration rate; Ethylene production.**
4. Are you harvesting the crop when it is rapidly?  **High respiration and deterioration rates.**
5. If the crop is a leafy product, are there rapid color changes?  **Deterioration rate; Ethylene sensitivity**
6. What are the postharvest characteristics of a related product (another species of the same genus, another genus of the same family, etc.)?  Refer to tables at [http://postharvest.ucdavis.edu](http://postharvest.ucdavis.edu) for information on related products.
7. What is the estimated storage temperature?  Try to place the product into one of the following categories:
   - **Low temperature** (32-41°F)  **Moderate** (41-50°F)  **Moderately high** (50-60°F)
8. What is the estimated shelf-life?  Try to categorize into one of following categories:
   - **Short shelf-life**: 1-6 days  **Moderate**: 7-21 days  **Long**: 3-12 weeks or longer
9. Is the product very tender and delicate?  Does it bruise easily?  **Appropriate packaging.**
Special Postharvest Treatments Organic Products

- **Flotation aids**: lignin sulfonates
- **Carbon dioxide** for MA and CA is permitted
- **Waxes**: may not contain synthetic substances; carnauba and other natural waxes acceptable; waxed products must be labeled
- **Ethylene treatment** from catalytic generators only for bananas; use ripening fruits
- **Ethylene removal**: KMnO4 air filtration systems allowed if strict separation from product; UV light-ozone system
"Fresh-cut produce" is defined as any fresh fruit or vegetable or any combination thereof that has been physically altered from its original form, but remains in a fresh state. Regardless of commodity, it has been trimmed, peeled, washed and cut into 100% usable product that is subsequently bagged or prepackaged to offer consumers high nutrition, convenience and value while still maintaining freshness.

International Fresh-cut Produce Association
IFPA http://www.fresh-cuts.org
Maintain Quality & Shelf-life of Fresh-cut Vegetable Products

1. Use highest quality raw material
2. Minimize mechanical damage; sharp knives
3. Rinse cut surfaces; remove excess water
4. Maintain strict sanitation; chlorinated water
5. Use appropriate package and atmosphere
6. Maintain product temperature at 1-2°C (33-35°F)
Current Challenge:

Fresh-cut Fruit Products
8. Streamlining handling and distribution

At retail: 140 products 1979
325 products 1999
Specialty Crops in Retail and Foodservice Distribution

• Warehousing
• Distribution
• Transportation
• Information
• Logistics

Packaging: common footprint fewer types

Storage conditions & compatibilities
• 0-2°C (32-36°F)
• 7-10°C (45-50°F)
• 16-18°C (60-65°F)
8. Microbial food safety
Raw foods contain microorganisms

Microbes present an "invisible challenge"

- You can't see them
- They don't usually change the appearance, taste or odor of food.
What Does UCD foodsafety.edu Recommend?

Don’t Monitor the Product

Do Monitor the Process
• Compost Process
• Water quality
• Disinfection
• Cleaning and Sanitizing
• Temperature

ucgaps.ucdavis.edu
food safety.ucdavis.edu
Good Agricultural Practices
Focus on Water Use in Postharvest Handling

- Evaluate clean water quality
- Minimize soil carryover on harvest containers
- Wash and pack in a timely manner
- Disinfect recycled wash and cooling water
- Use redundant system of monitoring
Consider briefly:

1. **Adhere to basic handling principles**
2. **Improve temperature management; Cold Chain**
3. **Increased use of modified atmospheres**
4. **Control detrimental ethylene effects**
5. **Improve sensory & nutritional quality**
6. **Increased product diversity; value-added**
7. **Streamline handling and distribution**
8. **Ensure microbial food safety**

http://postharvest.ucdavis.edu