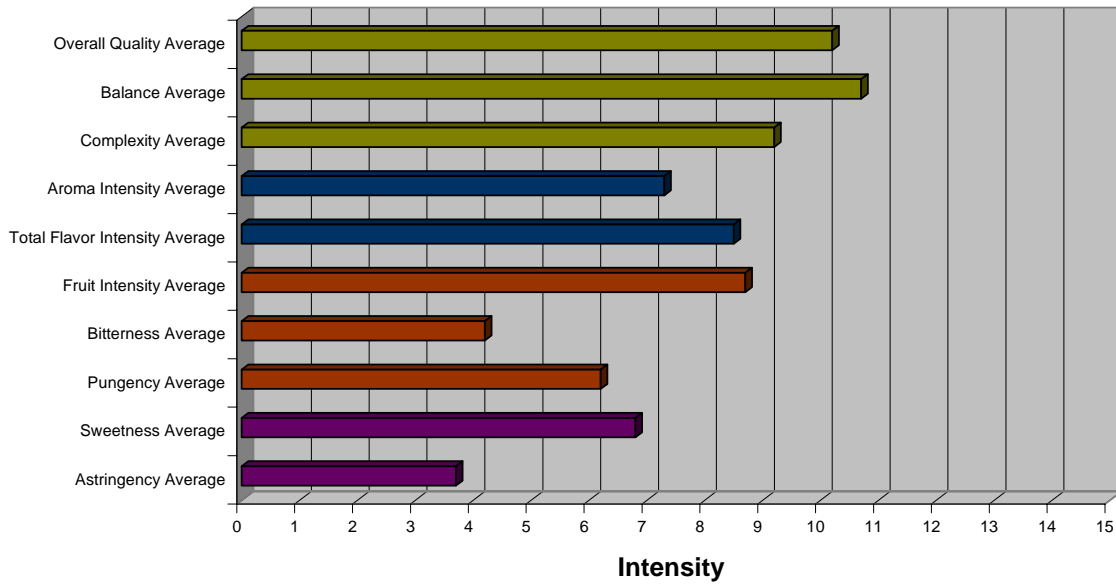


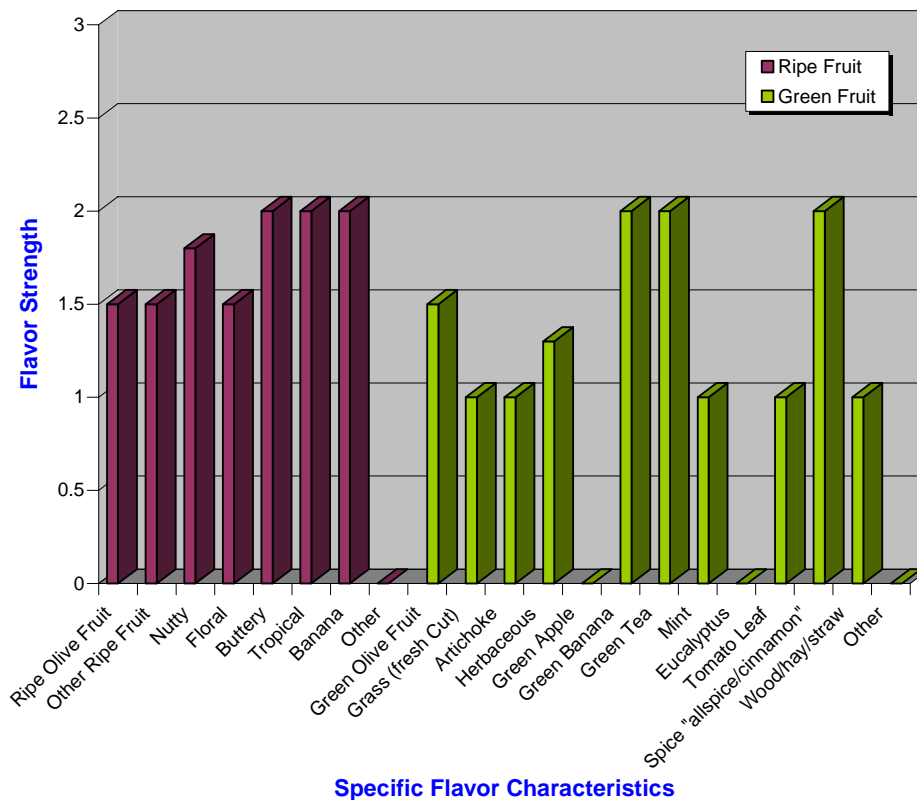
University of California Cooperative Extension Olive Oil Research Taste Panel

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UC Davis Centennial Blend Tasted 1-8-09



Olive Oil Flavor Characteristics



Olive Oil Sensory Descriptive Analysis

Descriptive analysis is a sensory method by which the attributes of an olive oil are identified and quantified using specially trained sensory panelists. The analysis can include all aspects of the oil such as aroma intensity, bitterness, pungency, fruit intensity, total flavor, sweetness, astringency, color, texture, complexity, balance, finish, freshness, and overall quality. Normally it also includes the identification of defects, if any are present. It also should include the notation of the intensity of specific characteristics that describe the positive attributes of an oil in detail. These include the typical flavor descriptors used internationally for olive oil such as: ripe olive fruit, nutty, floral, buttery, tropical, banana and berry; or green olive fruit characteristics such as: fresh cut grass, artichoke, herbaceous, green apple, green banana, green tea, mint, eucalyptus, tomato leaf, spice, wood-hay-straw, or other.

Sensory descriptive analysis precisely identifies and measures the perceived sensory properties of an olive oil using a trained panel of experts. The University of California Research Taste Panel, led by Paul Vossen has been meeting about every two weeks for four years in Santa Rosa, California at the UC Cooperative Extension office. This panel has been using descriptive analysis to categorize olive oils and identify common characteristics by variety, growing conditions, location (terroir), fruit ripeness, and by processing method.

In 2005 a new UC 15-Point Profile Sheet was developed for more detailed analysis of extra virgin olive oils. It uses a 15 point scale for positive attributes and it records the tasters' impressions of additional aspects, including the harmony and complexity of the oil. Data collected from oil characterizations done by the UCCE Research Taste Panel have been entered into a File Maker Data Base that can store and retrieve data on each oil that has been evaluated. The two bar graph examples show the specific characteristics of the UC Davis Centennial Blend oil released in October of 2008. Similar work has been done in Spain, Italy, and Australia to characterize oils. International cooperation in this effort is very important in order to make sure we are using the same vocabulary to describe the flavors found in different olive oils.

Every olive oil has a unique sensory fingerprint. Qualitative aspects of an olive oil combine to define it by aroma, flavor, color, and texture, which differentiates it from others. Quantitative aspects define to what degree each characteristic is present in the oil being evaluated. For example, two oils may have very similar or the same qualitative descriptors, but differ significantly in the intensity of each, thus making them very different oils.

Descriptive analysis with a trained taste panel is a powerful tool that provides valuable information that cannot be obtained by any other analytical methods. For example an oil that is identified as "extra virgin" with a free fatty acid level below 0.4 and a peroxide level below 15 may be going flat, starting to turn rancid. Or conversely, an oil may be characterized as having a large number of complex fruit flavors, adequate pungency, but excessively high bitterness, which would likely not be appreciated by consumers. These oils might be able to be blended in with other oils or various means taken to avoid these problems in the future. Knowing the specific characteristics via panel descriptive analysis can help a producer select which varieties to grow, change irrigation levels on the trees, harvest earlier or later, or to manipulate the paste fineness, malaxation time and temperature, and or the oil storage conditions. It can help new producers learn how to evaluate their own oils. It can also teach consumers about positive oil flavor characteristics, how to differentiate between olive oils in the market, and how to appreciate different oil flavors in different types of foods.

One of the most complex dilemmas we will be facing in the near future with our projected increases in olive oil production in California will be to differentiate our oils from similar priced imported products that in many cases have defects or lack freshness. The fresh flavor of our California oils will be the key and descriptive analysis the method used to convince American consumers to buy the better product.

