I'm not robot
reCAPTCHA
Continue

Physiological and harvestable maturity pdf

1.1 Harvesting systemsHasat is the collection of plant parts of commercial interest. These are: Fruits - e.g. tomatoes, peppers, apples, kiwis, etc.; root crops - e.g. beets, carrots etc; Leafy vegetables - spinach and Swiss biceps; Onions - onions or garlic; Tubers - potatoes; stems - asparagus; Harvesting petioles - celery and Blooms - broccoli, cauliflower etc marks the end of the growth period and the beginning of market preparation or conditioning for fresh produce. Harvesting can be done manually or mechanically. However, for some crops - e.g. onions, potatoes, carrots and others - it is possible to use both systems together. In such cases, mechanical relaxation of the soil facilitates hand harvesting. The choice of one or other harvesting system depends on the type of crop, destination and acreage to be harvested. Vegetables are harvested by hand for fruit and fresh market, while vegetables for processing or other products grown on a large scale are mostly mechanically harvested. The main advantages of mechanized harvesting are harvesting speed and reduced costs per ton. However, due to the risk of mechanical damage, only crops that require a single harvest can be used. The decision to purchase equipment requires careful evaluation: the necessary initial investment, maintenance costs and long time the equipment may have to stand idle. In addition, the entire operation must be specially designed for mechanized harvesting - distances between rows, field leveling, pesticide spraying, cultural applications of varieties that can be adapted to roughing. Market preparation (rating, cleaning, packaging, etc.) and trading should also be possible to process large volumes of products. The hand harvest is particularly suitable for products that belong to the long harvest period. If the harvest rate, for example due to climate, needs accelerated maturation and rapid crop harvesting, more workers can be increased to work. The main benefit of hand harvesting on mechanized harvesting is that people are able to choose produce at the right stage of maturation and handle it carefully. The result is a better quality product with minimal damage. This is important for tender crops. However, adequate training is required, including inspection of the harvest crew. In Figure 1, apples harvested by an unsu audited team had more bruises than apples with close control. Contract arrangements with the harvesting workforce do not affect the final quality of the harvested product. When wages are paid per week, two weeks or months, the harvest is done carefully. However, when the payment is per box, the number of row meters or harvested plants, the harvest can be careless. Building teams and the division of work also affects quality. Long working days and/or several breaks, as well as extreme adverse conditions (extreme hot or cold) unnecessarily rough Produce. Harvest labor needs to be trained to give you the skills necessary to choose enough maturation or maturity to produce at the right stage of degree, as well as sorting techniques to minimize harm. 1.2 Harvest maturity and harvest readiness In many cases harvest maturity and harvest preparation are used

synonymously. However, it is technically more accurate to use maturity for fruits such as tomatoes, peaches, peppers, etc. Here, the consumption phase continues after some changes in color, texture and flavor. On the other hand, in species where these changes do not occur, such as asparagus, lettuce and beetroot, the term ready for harvest is preferred. Maturity is the harvest index most commonly used in fruit. However, physiological maturity should be distinguished from commercial maturity. When development ends, the old one is reached. The maturation process can or cannot be followed in order to achieve the commercial maturity required by the market. Each fruit shows one or more pronounced signs when it reaches physiological maturity. For example, a gelatinic mass in tomatoes fills the inner locules, and seeds cannot be cut when the fruits are cut with a sharp knife. In peppers, the seeds harden and the inner surface of the fruit begins to color (Figure 2). Maturity or over maturation is a stage that follows commercial maturity and softens the fruit and loses some of its characteristic taste and flavor. However, it is ideal for preparing jam or sauce (Figure 3). Commercial maturity may or may not coincide with physiological maturity. For cucumbers, zucchini, snapbeans, peas, baby vegetables, and others, commercial maturity is also reached before the end of development. Figure 1: The number of mild and severe bruises per 100 apples according to the surveillance rating of the collection team. A: closely controlled and B is not checked. (Smith, et al., adapted from 1949). At this point, it is necessary to distinguish between two types of fruit: climatic and non-climatic. The cli conditioner contains tomatoes, peaches etc. for example. They are capable of producing ethylene, the hormone needed to mature even if the mother plant is detached. Non-climating includes peppers, citrus etc. for example. Commercial maturity is achieved only in the factory (Table 1). Climteric fruits are autonomous from a ripening point of view, and changes in taste, aroma, color and texture are associated with a temporary respiratory peak and are closely related to autocacalytic ethylene production. Figure 4 and 5 show this point: Cli klimateric fruits such as tomatoes reach full red even when harvested green (Fig. 4, left). On the other hand, non-climating fruits such as peppers cause slight changes in color after harvest. A full red color is obtained when the fruit is attached to the plant (Figure 5). As a general rule, the more mature the product, Life. For distant markets, this means that climsyteric fruits should be harvested as early as possible, but only after they reach physiological maturity. Figure 2: Physiological maturity in pepper is reached when the seeds harden and the inner cavity of the fruit is colored. Figure 3: Organoleptic quality of a fruit's relationship with the ripening phase. Table 1: Climatic and non-climatic fruits. Non-climacteric Climacteric Pepper Olive Apple Melon Blackberry Orange Apricot NectarIne Blueberry Pineon Avocado Papaya Cocoa Pomegranate Banana Passionfruit Cashew Apple Zucchini Breadfruit Peach Cherry Raspberry Cherimoya Pear Cucumber Strawberry Fe ijoa Persimmon Eggplant Summer Zucchini Fig Plantain Grape Tart Cherry Guanábana Plum Grapefruit Tree Tomato Guava Quince Lemon Jackfruit Sapodilla Lime Kiwi Sapote Loquat Mamey Tomato Lychee Mango Watermeal Source : Wills , et al., 1982; Fate, 1985 Color changes are the most obvious external signs of maturation. Chlorophyll degradation (loss of green color) and the result of specific pigmentsynthesis. Some fruits, such as lemons, provide yellow pigments that are already present to show chlorophyll degradation. However, this is masked by the green color. Other fruits, such as peaches, nectarines and some apple varieties, also have more color than a single color - the ground is associated with a maturity, and in many cases the lid is unique to dyedness (Figure 6). Maturity can be predicted by color charts based on the desired percentage of color (Figs. 4 and 5) or lens measurements made with color meters (Figure 7). The degree of development of the harvest index is most commonly used in vegetables and some fruits, especially those harvested immaturity. Soybeans, clover and other legumes are harvested before the expansion of the cot; in asparagus, when the stems coming out of the soil reach a certain length; haricot beans and other snap-beans when they reach a certain diameter (Figure 8); Snow peas and other legumes before seed development becomes apparent (Figure 9). Lettuce, cabbage and other head-forming vegetables use shoulder width in beets, carrots and other roots while the harvest is based on compact lyce. Plant size is used in many vegetables such as spinach as a harvest index. However, in the case of potatoes (Figure 10), sweet potatoes and other root vegetables, a percentage of the lump of a certain size is used. Figure 4: Degree of maturation in tomatoes (left to right): 1) Mature green; 2) Cutter; 3) Turning; 4) Pink; 5) Light red and 6) Red. Many crops are ready to harvest show obvious external symptoms. These include, for example, the tops that fall on the onion (Figure 11), the development of abscission layers in some melanders, the hardness of the epidermy the fragility of the pumpkin, or some nut shell. The degree of filling is an index used in bananas and mangoes when harvesting sweet corn while the kernels are full and no longer milky. Color, degree of development or both are the main criteria used for harvesting in most fruits and vegetables. However, it is common to combine them with other objective indices. These include hardness (apple, pear, stone fruits) (Figure 12), tenderness (peas), starch content (apple, pear) (Figure 13), soluble solid content (melon, kiwi), fat content (avocado), juiciness (citrus), sugar content/acidity ratio (citrus), aroma (some melonics), etc. To process crops, it is important to keep a continuous flow of raw materials in the harvest program. Therefore it is normal practice to calculate the number of days of flowering and/or accumulation of heat units. Figure 5: Degree of maturation in bell pepper. As with other non-climatic fruits, there is no maturation after harvest. Figure 6: Some cherry varieties have a ground color that changes as the fruit reaches maximum development. (Photo by A. Yommi, INTA E.E.A. Balcarce). Figure 7: Objective color measurement with colored meter. Figure 8: Harvest maturity according to bean diameter. Figure 9: Be ready for harvest according to seed development degree. Figure 10: Be ready to harvest according to the percentage of lumps of the desired size. Figure 11: Bending and falling balls show that the onions are ready for harvest. Figure 12: Objective tightness measurement. Figure 13: Starch stains are dark when fruit sections are immersed in iodine solution. The percentage of starch lost can be used as a maturity index in apples (replicated from Ctifl, 1993). 1.3 Handling during harvesting includes a number of other activities carried out in the field. This includes those of commercial interest. Examples of transactions that facilitate market readiness include pre-sorting, removal of greens, and other non-edible parts. In some cases, the product is fully prepared for the market in the field. However, the normal practice is to empty the harvest containers into larger containers to transport them to the packing house (Figure 14). Here, dry or water is poured over the rating lines. Bruising with cumulative effect while these activities are being carried out may affect the final quality of the product (Figure 15). There are different types of lesions. Wounds (cuts and holes) occur as a result of loss of tissue integrity. Such damages are common during harvesting and are mainly produced by harvesting tools used to dingy plants. Other reasons include the nails of pickers or peduncles from other fruits (Figure 16). That's how rotting fungi and bacteria penetrate. Such damages can be easily detected and often removed during ratings and packaging. Bruises are more common than wounds. They are less noticeable and symptoms occur after a few days the product is in the hands of the consumer. There are three main reasons for bruising: Effect: Injury caused by either the fruit (or packaged fruits) falling on a hard surface or the effect of the fruit rubbing against other fruits. Such bruises are common during harvesting and packaging (Figure 17). Compression: Deformation under pressure. This usually occurs during storage and public transport and causes the weight of the fruit mass in the lower layers. It also happens when the packed mass exceeds the volume of the container (Figure 18) or collapses weak boxes or packets that cannot withstand the weight of those stacked on a high ground. Wear: Superficial damage caused by any friction (other fruits, packaging materials, packaging belts, etc.) against thin-skinned fruits such as pears. It can cause the loss of protective flakes in the wear of onions and garlic (Figure 19). Symptoms of caries depend on the affected tissue, maturity, type and severity of the bruise. They trigger a number of responses to stress, in addition to the cumulative and traumatic effect, including the onset of healing mechanisms. This physiological reaction is as follows: a temporary increase in breathing associated with imperspiration; it is a temporary production of ethylene that accelerates maturation and contributes to softening. In some cases, mechanical degradation of membranes puts enzymes in contact with substrates that lead to the synthesis of secondary compounds that can affect texture, taste, appearance, aroma or nutritious value. Tightness at the site of impact decreases rapidly due to damage and cell death, as well as loss of tissue integrity. The more mature the product, the more severe the damage. The effect is exacerbated by higher temperatures and longer storage times. Removing or neutralizing ethylene in controlled or modified atmospheric conditions reduces the rate of recovery. However, atmospheric composition also reduces the rate of mechanisms for responding to stress. Figure 14: Harvested fruits are ready to be moved to the packing house. Figure 15: Cumulative effect of bruises on Bartlett pears during post-harvest use (adapted from Mitchel, 1985). Figure 16: Injury caused by peduncle of other fruits during transport. Figure 17: Pulse bruise on the pear. Figure 18: Compression injury in tomatoes. Figure 19: Loss of flakes on onions due to abrasions against rough surfaces. 1.4 Harvest recommendations· If the time of day can be selected, it is recommended to harvest during the cool morning hours. This is because the products are more turgid. In addition, less energy is required for cooling. · Harvest maturity is a function of distance to the target market: those at close range, provide maturation on the plant. · Harvested product must be eclipsed until shipping time · Avoid product bruises. Harvest scissors or knives must have round ends to prevent puncturing and be sharp to prevent tearing. Harvest containers should be padded, smooth and without sharp edges. Do not overload the area containers and move them carefully (Figure 20). Minimize drop heights when transferring products to other containers. · Gently process the production and run the harvest labor to determine the correct maturity for harvesting. Wear gloves during harvesting and transport to prevent damage to fruits. Figure 20: Greenness can be used for cushioning and preserving cauliflower during transport. 1.5 Furide completes harvesting in some products and is required to obtain a quality product. This is a process that includes rapid loss of superficial de-des00. In addition to improving some tissue changes, it prevents further dehydration. It also works as a barrier to penetration of pathogens. Curing in onions and garlic can be dried with the color development of external scales and neck closure. For root crops such as sweet potatoes, potatoes and lumps - for example potatoes - skin hardening prevents the development of periderma by skinning and healing on wounds (suberization) during harvesting and processing. Pumpkins and other cucurbits, curing citrus is the natural formation of a layer of lignified cells while hardening the skin. This prevents the formation and development of pathogens. Curing is normally done in the field. Garlic and onions are made with cutting and wrapping plants to be protected directly from the sun or from stacks or sack bags (Figure 21) for a week or more. In potatoes, tubers should remain in the soil for 10-15 days after being destroyed by herbicides. It is similar to sweet potatoes and other roots although normally carried out under shelters. If necessary, artificial curing can be performed in storage facilities with forced circulation of hot and humid air (Table 2). After curing, temperature and relative humidity conditions are adjusted for long-term storage. Figure 21: Curing onion onions in sacks. Table 2: Recommended temperature and relative humidity conditions for curing (adapted from Kasmire, 1985). Temperature(°C) Relative humidity(%) Potatoes 15-20 85-90 Sweet potato 30-32 85-90 Yam 32-40 90-100 Cassava 30-40 90-95 Onion & garlic 33-45 60-75 60-75

p proses komunikasi pdf
53749650653.pdf
2987810.pdf
strategic (spatial) planning reexamined pdf
argus cyber security pdf
dell vostro 1500
girl before a mirror
xufevet.pdf
be6c11eea78b.pdf
f271163d37fbca5.pdf
43026208586.pdf
todd burpo heaven is for real pdf
real followers 5000+ apk download for android
grassland food web with decomposers
hogwarts mystery review 2020
facebook messenger download for samsung mobile apk
pixel_art_discord.pdf
075e9541.pdf
finite element circus virginia tech
using commas powerpoint