Key Times for Strawberry Irrigation-Late Summer/Fall Fruit Bud Growth

Strawberries require regular watering due to their shallow root systems. June-bearing strawberries have 90% of their roots in the top 8 inches (20 cm) of soil. This crop's susceptibility to drought makes irrigation particularly effective for higher yields. Strawberries can have 2 ½-fold increase in yield comparing irrigated to non-irrigated.

Key Times for Strawberry Irrigation

- Establishment/ runner development (year 1)
- Initiation of berry set (spring year 2)
- Maximum final enlargement of the berry, but not right before picking (mid-June)
- Before signs of wilting occur, otherwise berry size greater reduced
- After renovations of June-bearing strawberries (late July-early August)
- When fruit buds are forming (August-September)
- Fall, just before covering with straw mulch to reduce risk of winter injury

Strawberry Crown Development Late Summer

The strawberry crown's axillary buds are located on nodes at the base of the petiole (stalks that holds the leaf). Environmental factors like day length and temperature influence the development of axillary buds. These buds on June-bearing strawberries develop into runners during the long 14-16 days of summer. In late summer and early fall, the axillary buds switch over to flower buds and branch crown development. The more of these that are formed the greater the potential for berry production the next year. Each branch crown can produce flower stalks on which berries are borne.

Irrigation Key When Fruit Buds/ Branch Crowns Developing

Lack of soil moisture during this critical time may reduce fruit bud and branch crown development, which will reduce the yield potential of strawberries the following season. Plants should have access to a good level of moisture right up until mulching. Normal autumn rainfall amounts should be taken into account to avoid over saturation of soils before covering with straw mulch. For successful rooting of runners, fields should be maintained at least 75% soil moisture field capacity that first year in particular.

Determining Soil Moisture Levels

Soil moisture levels can be estimated using a hand-feel method. This method requires the use of a soil sampler corer extended to the depth of the root zone 8-10 inches for June-bearing strawberries.

	Percentage of available water remaining	Feel or Appearance of Soils*		
		MODERATELY COURSE TEXTURE (Loamy sand to Sand-Loam)	MEDIUM TEXTURE (Loam)	MODERATELY FINE TEXTURE (Sand-clay loam, clay loam, clay, silty clay loam, silt loam)
DO NOT IRRIGATE	At field capacity 100	Upon squeezing, no free water appears on soil but wet outline of ball is left on hand.	Same as sandy-loam	Same as sandy-loam
	75 to field capacity	Forms a weak ball, breaks easily, will not slide.	Forms a ball and is very pliable; slicks readily if relatively high in clay.	Easily ribbons out between fingers, has a slick feeling.
IRRIGATE if potential for rainfall limited long range	50 to 75	Tends to ball under pressure but seldom will hold together.	Forms a ball; somewhat plastic; will sometimes slick slightly with pressure	Forms a ball, will ribbon out between thumb and forefinger.
IRRIGATE	25 to 50	Still appears to be dry, will not form ball with pressure*	Somewhat crumbly but will hold together from pressure.	Somewhat pliable, will ball under pressure.
	0 to 25	Dry, loose, single grained, flows through fingers	Powdery, dry, sometimes slightly crusted but easily breaks down into powdery condition.	Hard, baked, cracked; sometimes has loose crumbs on surface.

*Ball is formed by squeezing a handful of soil firmly.

References
This article adapted from information in the Commercial Strawberry Production on the Prairies guide.
Province of Manitoba | agriculture - Strawberry Production (gov.mb.ca)

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