

Evan Boss | Advised by Christian Boessen

# Tulip Bulb Farming as a Specialty Crop Option in Iowa Row Crop Operations

## Introduction

Over the last decade Iowa row crop operations have been faced with shrinking profit margins on traditional Iowa farming enterprises. The three general strategies for surviving these conditions are

- acquiring more land for existing enterprises
- supplementing the business with non-farm income
- diversification through new farming enterprises

Entering a specialty crop market is a popular way to diversify and this project pursuing that option with tulip bulb production.

## Objective

Tulips are a popular cut-flower and garden flower all over the world. They come in almost every color combination possible with big beautiful blooms. Even though tulips are perennials many producers and growers replant tulip bulbs each fall for a more reliable bloom in the spring. This results in a complementary goods market for tulip bulb production which is dominated by the Netherlands. But why there? Why not in the fertile soils of Iowa?

The project aims to investigate the validity of entering this market as a diversification option for traditional Iowa farming operations.



## Research & Development

- Investigate the agronomic requirements of tulip bulb production
- Evaluate tulip bulb market demand potential
- Develop an enterprise budget for establishment & full production
- Develop a partial budget for comparison of tulip bulbs vs row crop
- Create estimated capital expenditure budget for establishment of tulip bulb operation

## Agronomic Characteristics

**Classification:** Tulips are part of the lily family as a perennial flower with an herbaceous stem and grass-like leaves.

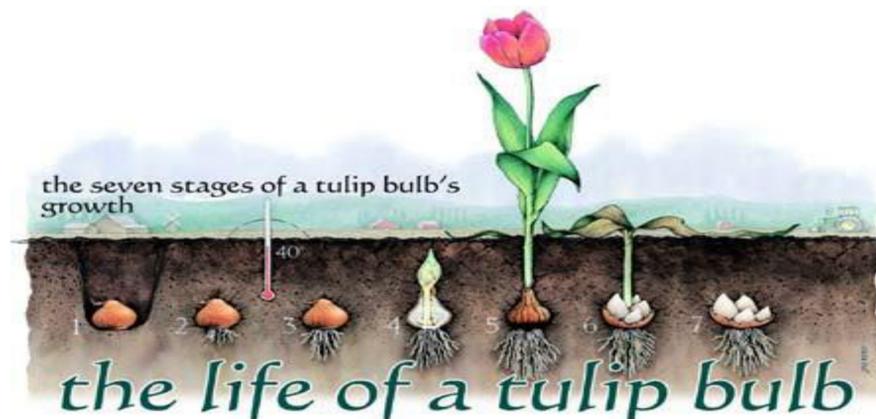
Characteristic	Range	Description
Height	4 to 28	Single Stem
Leaves	2 to 6	Strap shaped, waxy coating
Flowers	1	Large, radially symmetrical
Bulbs	2-4	1 large, 2-3 smaller

Tulips can reproduce sexually and asexually, they can regeneratively reproduce 2-4 bulbs each years when conditions permit.

**Site Selection:** Tulips grow best in well-drained, not clayey fertile soil

- Soil: acidic to alkaline with pH of 6-7
- Temperature: full sun with warm temps for blooming & growth
- Moisture: medium amount of water but no extended wet periods
- Dormancy: Hardiness zone 4-8, Iowa range is 5a-5b

Period	Life Cycle	Production Activity
Oct - Nov	Planting	till soil 6-12", plant 4-8" deep 3-6" apart
Nov - Dec	Root Formation	water, mulch, & fertilize before freeze
Dec - Feb	Dormancy	bulbs are dormant until ground warms
Feb - April	Growing	apply herbicide, insecticide, & fungicide
April - May	Blooming	weed out bad and diseased tulips
May - June	Regeneration	deadhead plant to route growth to bulb
June - July	Harvest	dig bulbs up, dry, wash, sort, & store



## Market Potential

**Supply:** Netherlands dominates the tulip cut-flower and bulb production market. Their annual market share includes 3 billion bulbs, +€ 200 million market value, produced on 35,000 acres.

United States only has a few major producers located mainly in Washington and Oregon. Smaller operations are spread throughout the US including Michigan and Texas.

**Demand:** With the Netherlands dominance of the global market, only local and national demand was investigated. Outside of greenhouses and cut-flower producers, Dutch culture provides one of the largest demands for tulips. Local festivals in Pella, Iowa, Orange City, Iowa, Holland, Michigan, Fulton, Illinois, and Belle Plaine, Kansas provide small scale opportunity for bulb demand.



## Budgets Analysis

**Enterprise Budget:** A 5-year establishment plan was analyzed with full production in year 6. No sales were considered in years 1-3. Pre-harvest, harvest, and ownership cost were estimated based on similar existing budgets.

**Partial Budget:** The current situation considered in the partial budget was a corn & soybean yearly rotation operation and the proposed change was converting 10 acres to bulb production. Added revenue, reduced costs, added costs, and reduced revenue for this proposed change were estimated.

**Capital Expenditure Budget:** Additional investment required for purchasing the necessary equipment & machinery for bulb production were estimated. Purchase price, useful life, depreciation, & payment method were analyzed.

Assumptions were made on all budgets & components outside the scope of the project were omitted. All budgets are general & must be evaluated on an individual operation basis.

## Conclusion

The collective analysis of the agronomic requirements and budgets indicated both opportunity and challenges associated with entering this market. Given these considerations, the project concludes that while this provides unique potential, the limited scalability makes tulip bulb farming a non-viable option for widespread practice in Iowa row crop operations.