

# Corn Production

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## Crop Diagnostic Notebook

1. How a corn plant develops
2. Corn planting guide
3. ICM Special Issue: Corn following corn
4. Corn planting: Consider soil temperature and date
5. Seeding rates in relation to maximum yield and seed costs
6. Crop watch/developing accurate tools for measuring plant spacing uniformity
7. What's the yield effect of uneven corn heights

### **Additional resources**

- Extension corn management - [www.agronext.iastate.edu/corn](http://www.agronext.iastate.edu/corn)
- Integrated Crop Management News - [www.extension.iastate.edu/cropnews](http://www.extension.iastate.edu/cropnews)

# **Soybean Production**

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## **Crop Diagnostic Notebook**

1. Soybean growth and development
2. Soybean replant decisions
3. Variety selection
4. Soybean planting date
5. Row spacing in soybean
6. Optimum plant population in Iowa
7. Managing soybean for high yield

### **Additional resources**

- Extension soybean management - [www.soybeanmanagement.info](http://www.soybeanmanagement.info)
- Integrated Crop Management News - [www.extension.iastate.edu/cropnews](http://www.extension.iastate.edu/cropnews)

# Forages

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## Crop Diagnostic Notebook

1. How an alfalfa plant develops
2. Alfalfa management guide
3. Selecting forage species
4. Guide for year-round forage supply
5. Steps to establish and maintain a legume-grass pastures
6. Interseeding and no-till pasture renovation
7. Evaluating hay and pasture stands for winter injury
8. Winter survival, fall dormancy and pest resistance ratings for alfalfa varieties
9. Pricing forage in the field
10. Estimated costs of pasture and hay production

# **Insect management**

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## **Crop Diagnostic Notebook**

1. Insect information request form
2. Scouting field crop insects
3. Insect pests of corn
4. Insect pests of soybean
5. Insect pests of alfalfa
6. European corn borer ecology and management
7. The variant western corn rootworm in Iowa
8. Did northern corn rootworms lay eggs in soybeans?
9. Soybean aphids in Iowa - 2007
10. Speed scouting for soybean aphid - worksheet

### **Additional resources**

- ISU Integrated Pest Management - [www.ipm.iastate.edu](http://www.ipm.iastate.edu)
- ISU Soybean aphid information - [www.soybeanaphid.info](http://www.soybeanaphid.info)
- Integrated Crop Management News - [www.extension.iastate.edu/cropnews](http://www.extension.iastate.edu/cropnews)

# **Disease management**

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## **Crop Diagnostic Notebook**

1. Plant disease identification form
2. Submitting soybean samples to the Plant Disease Clinic
3. Corn diseases
4. Eyespot of corn
5. Corn Stewart disease
6. Gray leaf spot
7. Controlling corn diseases in conservation tillage
8. Aflatoxins in corn
9. Soybean seed health
10. Soybean brown stem rot
11. Soybean sudden death syndrome
12. Phytophthora root and stem rot of soybeans
13. Soybean white mold
14. Damping-off in soybeans
15. Soybean bacterial blight and brown spot
16. Soybean rust- management with foliar fungicides
17. National pest alert – Soybean rust
18. Common soybean leaf diseases and soybean rust
19. Alfalfa foliar diseases
20. Crown and root diseases of alfalfa
21. Alfalfa diseases I
22. Managing soybean cyst nematode
23. Soybean cyst nematode management guide
24. Plant nematode sample submission form
25. Soybean cyst nematode resistant soybean varieties for Iowa
26. Evaluation of soybean varieties resistant to soybean cyst nematode in Iowa
27. Interpreting SCN soil sample results
28. ISU Plant Disease Clinic SCN management recommendations

### **Additional resources**

- ISU Plant and Insect Diagnostic Clinic - [www.plantpath.iastate.edu/pdc/](http://www.plantpath.iastate.edu/pdc/)
- ISU Soybean rust information - [www.soybeanrust.info](http://www.soybeanrust.info)
- ISU Soybean cyst nematode information - [www.soybeancyst.info](http://www.soybeancyst.info)
- Integrated Crop Management News - [www.extension.iastate.edu/cropnews](http://www.extension.iastate.edu/cropnews)

# **Weed management**

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## **Crop Diagnostic Notebook**

1. Weed ID and herbicide injury form
2. Common weed seedlings of the North Central Region
3. Identification of the weedy pigweeds and waterhemp of Iowa
4. Biology and management of wild buckwheat
5. Biology and management of common lambsquarters
6. Biology and management of giant ragweed
7. Biology and management of waterhemp
8. Weed emergence sequences
9. Relative emergence sequence for weeds of corn and soybeans
10. Herbicide resistance
11. Facts about glyphosate-resistant weeds
12. Crop-weed interactions
13. Weed management in small grains, forage legumes, and pastures-overview
14. 2008 herbicide guide for corn and soybean production

### **Additional resources**

- Extension weed management - [www.weeds.iastate.edu](http://www.weeds.iastate.edu)
- Integrated Crop Management News - [www.extension.iastate.edu/cropnews](http://www.extension.iastate.edu/cropnews)

# **Nutrient management**

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## **Crop Diagnostic Notebook**

1. General guide for crop nutrient recommendations in Iowa
2. Take a good sample to help make good decisions
3. Potassium fertilization guidelines in Iowa: Are they working and should applications be adjusted with high fertilizer prices
4. Nutrient deficiencies and application injuries in field crops
5. Nutrient deficiency symptoms-corn
6. Post-plant nitrogen applications on corn
7. Watch for damage from broadcast postemerge UAN applications
8. Nitrogen fertilizer recommendations for corn in Iowa
9. Cornstalk testing to evaluate nitrogen management
10. Sensing nitrogen stress in corn
11. Concept and rationale for regional nitrogen rate guidelines in corn
12. Don't go until it's 50F or below
13. Fertilizing pasture
14. How to sample manure for nutrient analysis
15. Calibration and uniformity of solid manure spreaders
16. Calibrating liquid tank manure applicators

### **Additional resources**

- ISU Extension soil fertility - [www.agronext.iastate.edu/soilfertility](http://www.agronext.iastate.edu/soilfertility)
- Integrated Crop Management News - [www.extension.iastate.edu/cropnews](http://www.extension.iastate.edu/cropnews)

# Soil, water and tillage

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## Crop Diagnostic Notebook

1. Resource conservation practices: Residue management and cultural practices
2. Impact of tillage and crop rotation systems on soil carbon sequestration
3. Resources conservation practices: Consider the strip-tillage alternative
4. Resources conservation practices: Considerations in selecting no-till
5. Resources conservation practices: Soil erosion and water quality
6. Soil erosion, crop productivity and cultural practices
7. Resources conservation practices: Conservation buffers and water quality
8. Soil quality-introduction
9. Indicators for soil quality evaluation
10. Soil quality indicators: Aggregate stability
11. Soil quality indicators: Infiltration
12. Soil quality indicators: pH
13. Soil quality indicators: Soil crusts
14. Soil quality resource concerns: Compaction
15. Soil quality resource concerns: Soil erosion
16. Soil quality resource concerns: Soil biodiversity
17. Soil quality resource concerns: Available water capacity
18. Infiltration
19. Bulk density
20. Managing soil organic matter: The key to air and water quality
21. How to minimize soil water loss
22. Managing soils under dry conditions
23. How to evaluate soil moisture in the field
24. Crop water use or evapotranspiration
25. Pay attention to water management
26. Understanding and reducing pesticide losses
27. Resource conservation practices: Understanding and managing soil compaction
28. Soil compaction research summary
29. Tractive benefits of properly adjusted inflation pressures: Farmer experiences
30. Cultivation: An effective weed management tool
31. Choosing cultivation for dry soils
32. Adjusting planting soil depth for better germination
33. Conservation tillage: Adjustment and operation of planters in systems with high levels of surface crop residue
34. Conservation tillage: Adjustment and operation of tillage equipment in systems with high levels of surface residue
35. Effects of coulter treatments on seed furrow smearing and early crop response
36. Planter clean-out tips when changing seed varieties

### **Additional resources**

- ISU soil management and soil environment- [www.agronext.iastate.edu/smse](http://www.agronext.iastate.edu/smse)
- ISU soil and land use - [extension.agron.iastate.edu/soils/](http://extension.agron.iastate.edu/soils/)
- ISU Extension water quality - [extension.agron.iastate.edu/waterquality/](http://extension.agron.iastate.edu/waterquality/)
- ISU Agricultural and Biosystems Engineering - [www.abe.iastate.edu](http://www.abe.iastate.edu)