

Nursery Scouting Programs

NPB SANC meeting

Orlando, FL

14 January 2014

Karen Suslow, Program Manager

National Ornamental Research Site

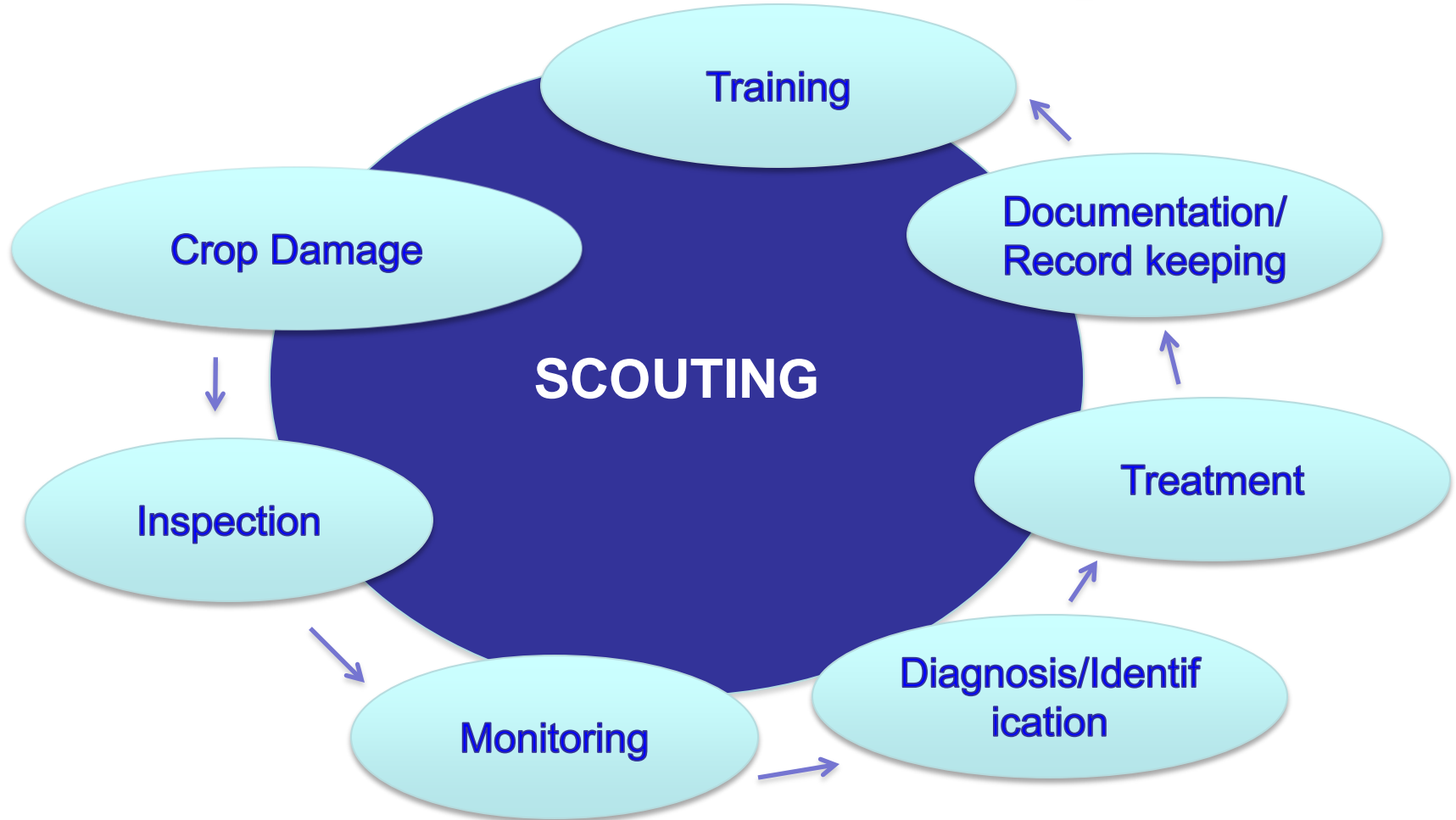
Dominican University, CA

Nursery Scouting Programs

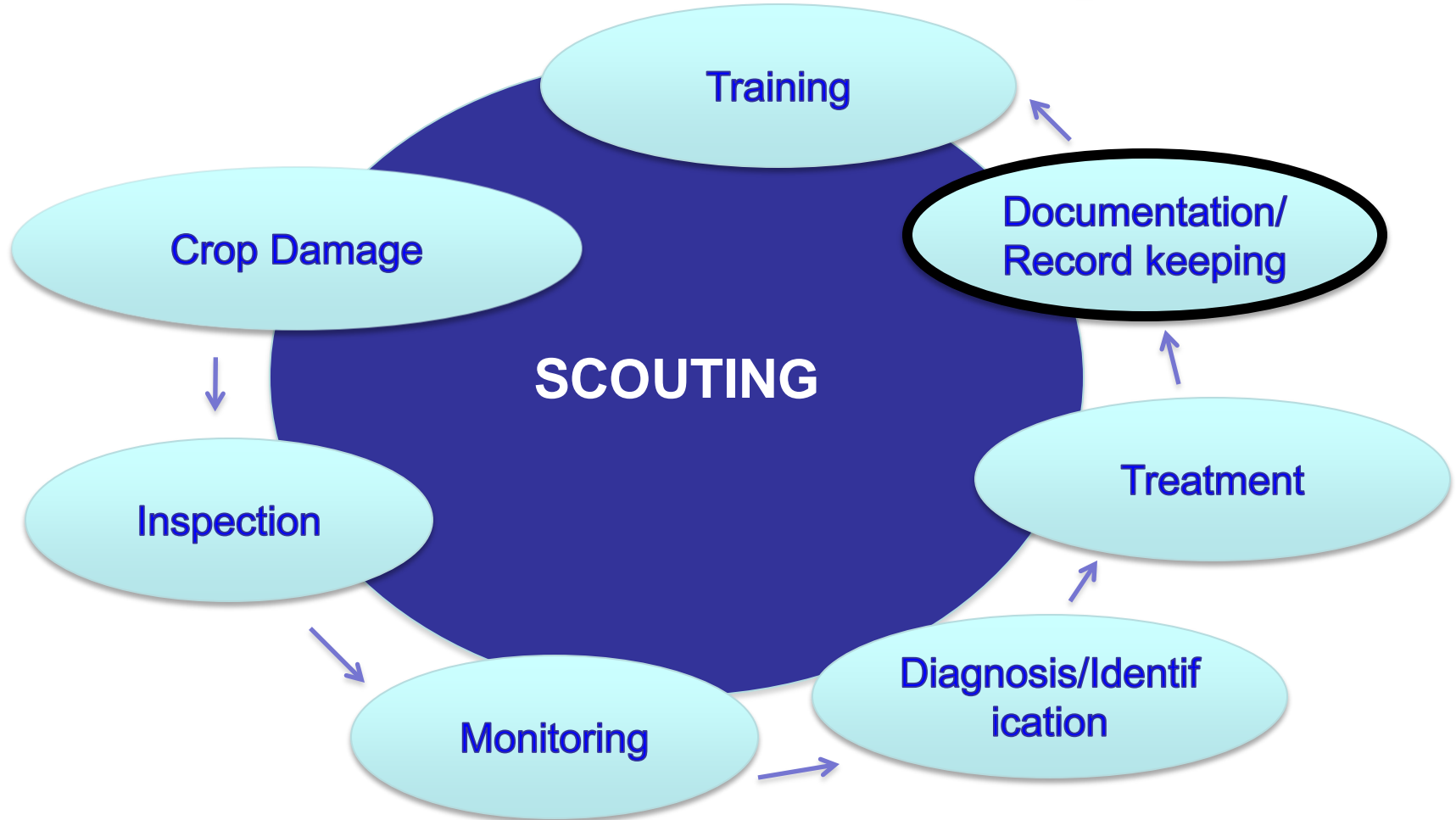
Purpose:

- To minimize the risk of pests/pathogen introduction or establishment in a nursery operation
- To ensure shipment of clean stock

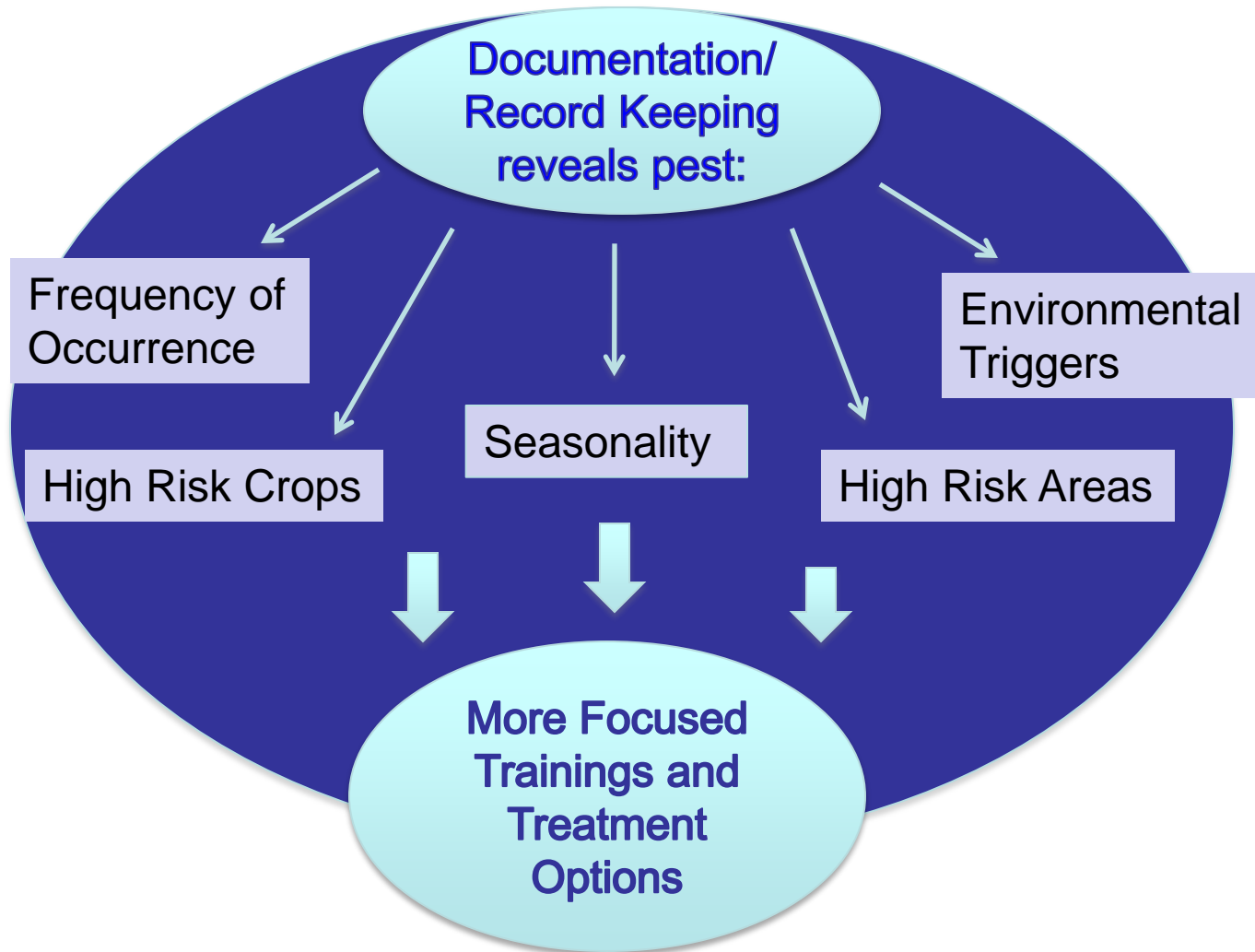
What is Scouting?



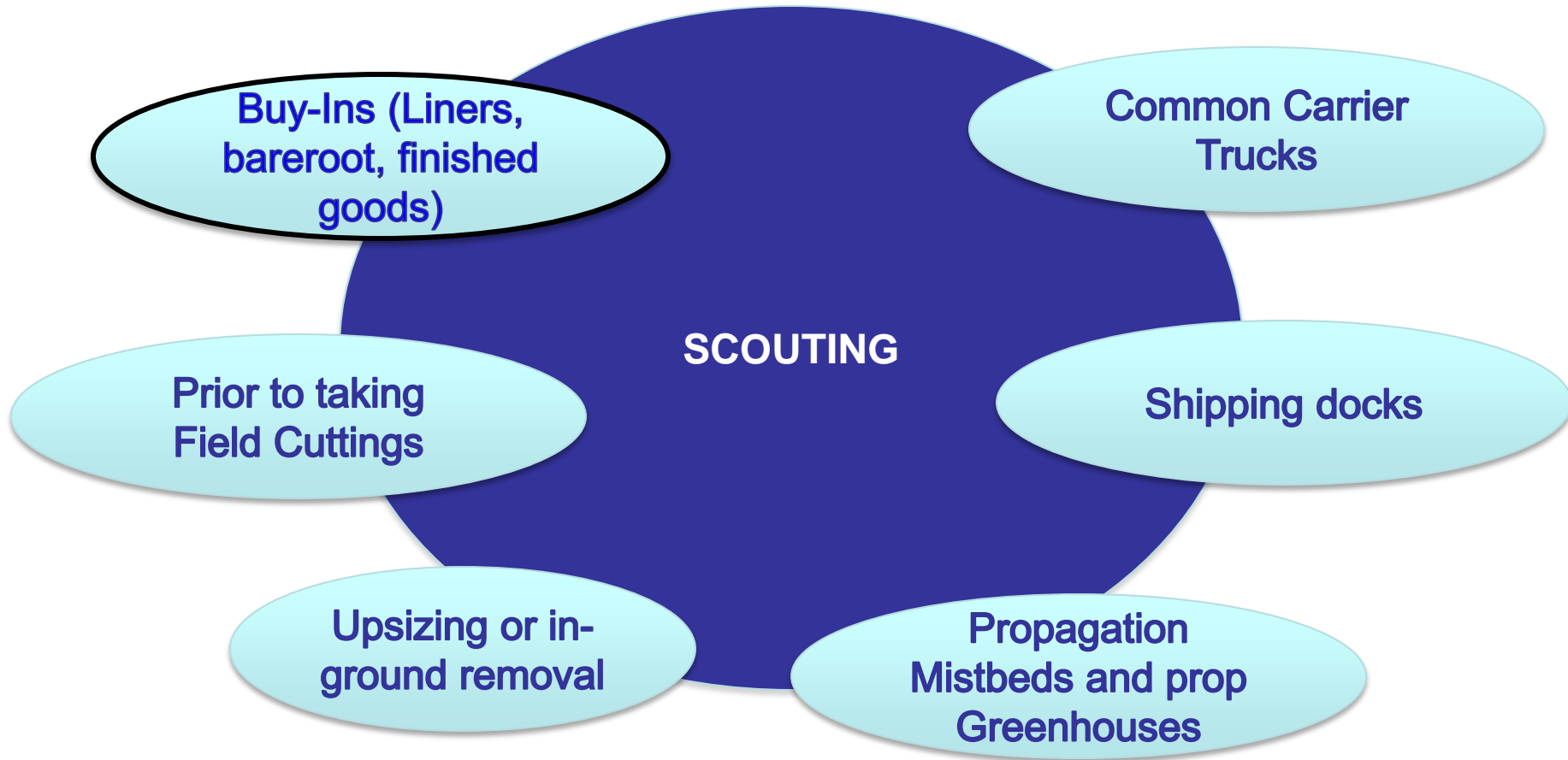
What is Scouting?



Documentation and Record Keeping reveals pest:



When should Scouting Occur?



USPPC Matrix - Scouting

| Component, site, or stage of production | Target pests or pathogens | Contamination Hazard | BMP-suggested by ANLA/SAF working group |
|---|---------------------------|---|--|
| cuttings, bareroot, tissue culture inputs | all pests and pathogens | Introduction on purchased stock or cuttings | Inspect all deliveries and scout for leaf and root pests, vectors and pathogens upon receipt. Consider crop to determine scouting intervals. Send questionable samples to a diagnostic lab when necessary. Determine appropriate action for pest or pathogen found whether that is treatment, other cultural control, thorough composting* or destroying. Evaluate risk to determine options. |





Salvia greggii Purple
Pastel

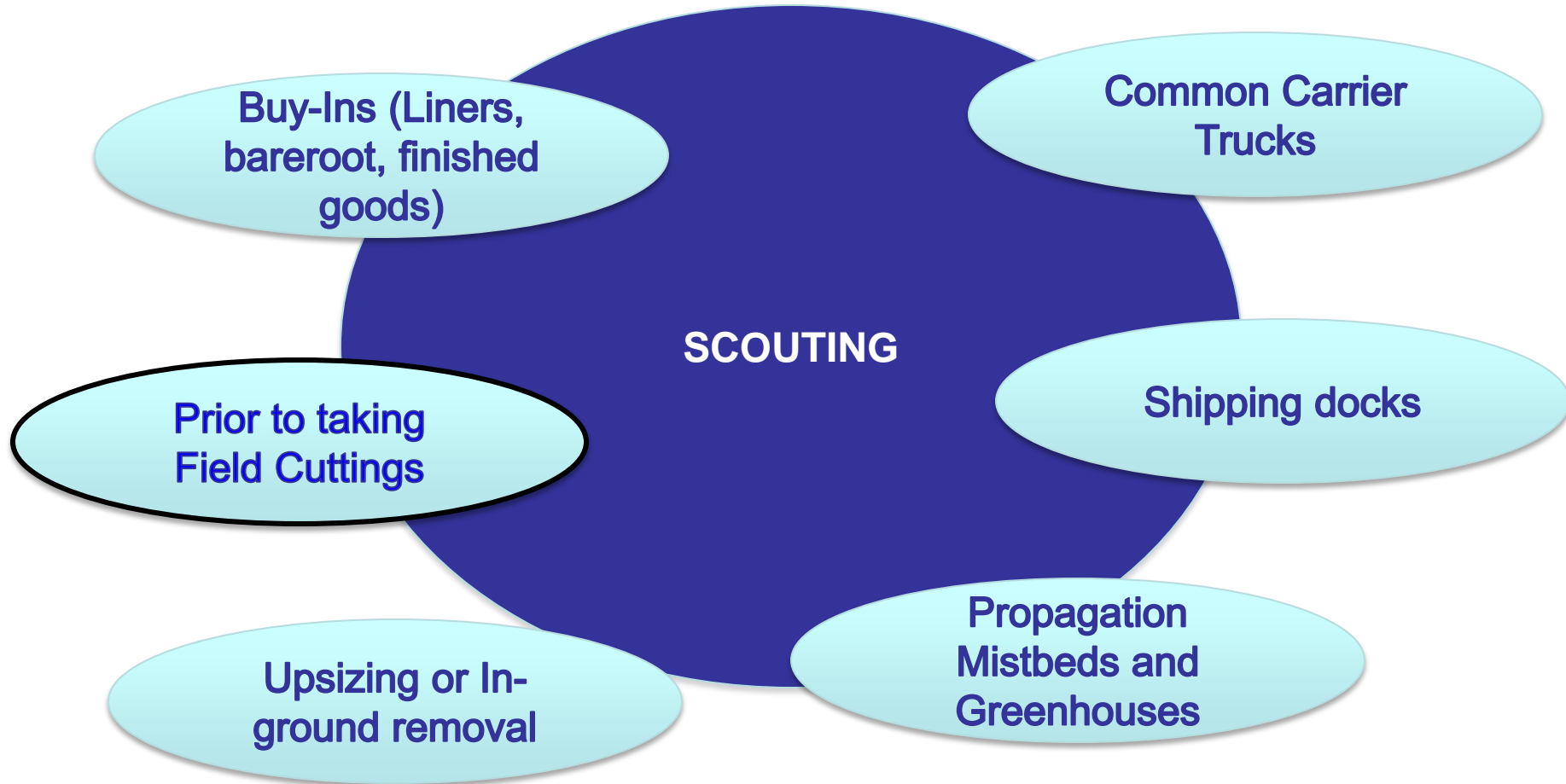
Cod 77005

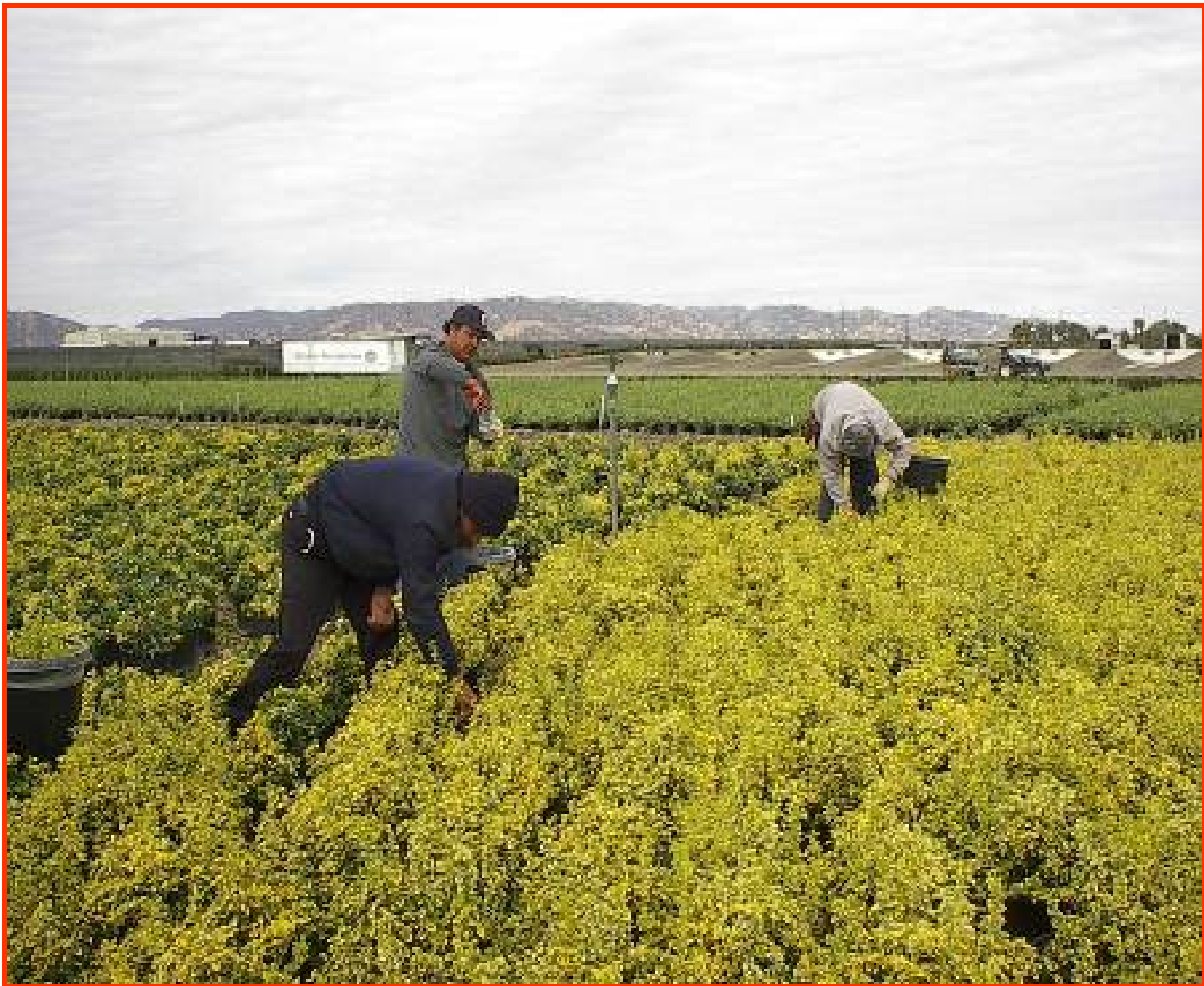
WK 11

House 43

Qty 100

When should Scouting Occur?





Propagation collecting cuttings from *Euonymus japonica* ...
approx. 100,000 pieces = 300,000 cuttings

USPPC Matrix - Scouting

| Component, site, or stage of production | Target pests or pathogens | Contamination Hazard | BMP-suggested by ANLA/SAF working group |
|---|---------------------------|-------------------------------------|---|
| On-site Cuttings | all pests and pathogens | Introduction from stock or cuttings | Propagate stock on site from healthy stock plants. If necessary, apply a broad-spectrum fungicide treatment in the field before taking cuttings. Avoid taking cuttings when wet and avoid or remove soil particles. Do not co-mingle cuttings from different stock in water. Soak cuttings in a disinfectant solution when appropriate. |

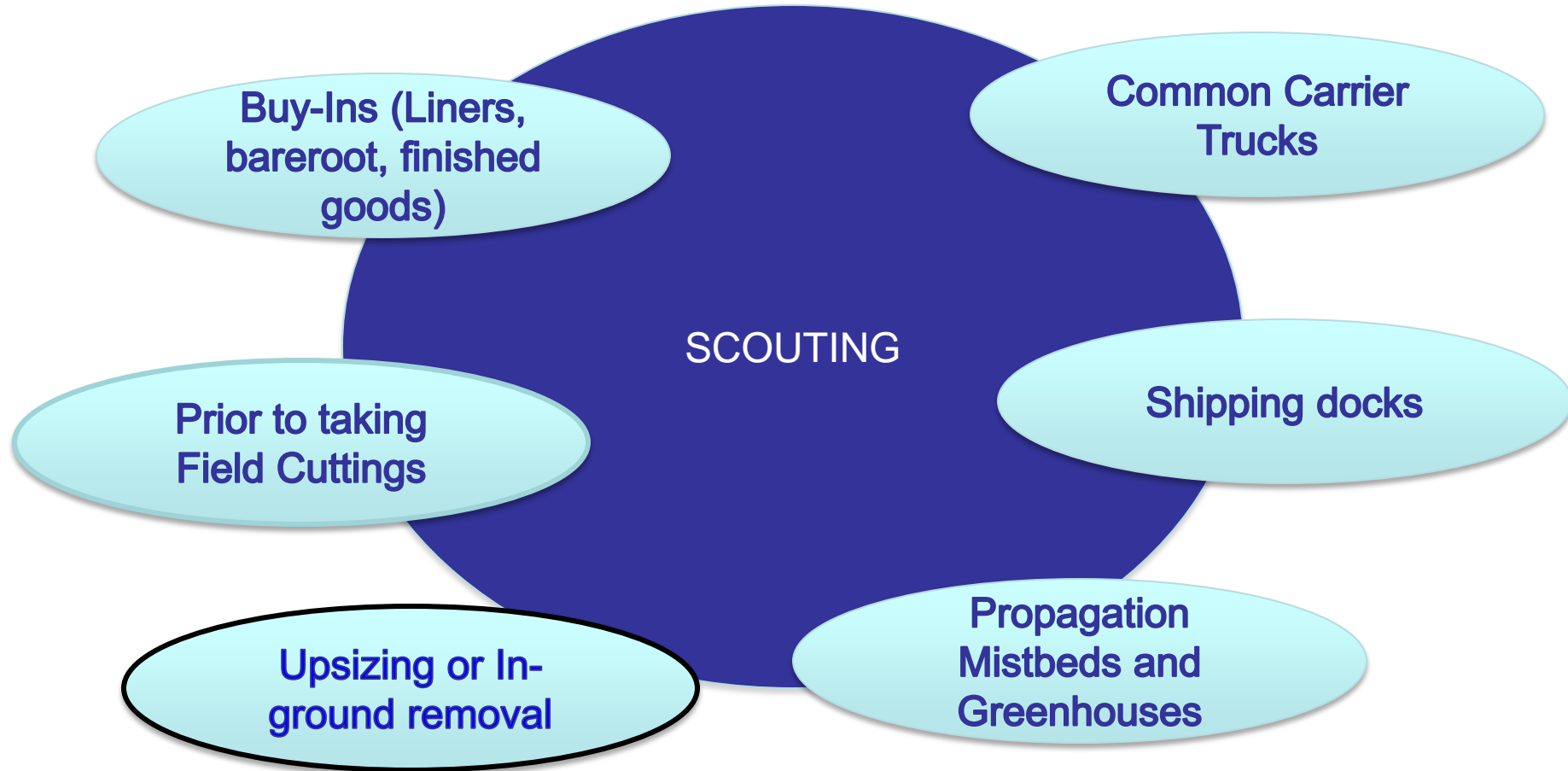


02.07.2008

USPPC Matrix - Scouting

| Component, site, or stage of production | Target pests or pathogens | Contamination Hazard | BMP-suggested by ANLA/SAF working group |
|---|---------------------------|----------------------|---|
| Production | all pests and pathogens | All | <p>For known pests and pathogens, schedule scouting according to predicted emergence dates and/or key life cycle events. Schedule scouting at intervals that are frequent enough to prevent or manage outbreaks.</p> <p>Regularly inspect for pests and symptomatic plants. Identify pest, pathogen or abiotic problem and record. Adjust scouting frequency according to crop type. If appropriate, control or treat for pests and pathogens found and record treatment.</p> |

When should Scouting Occur?

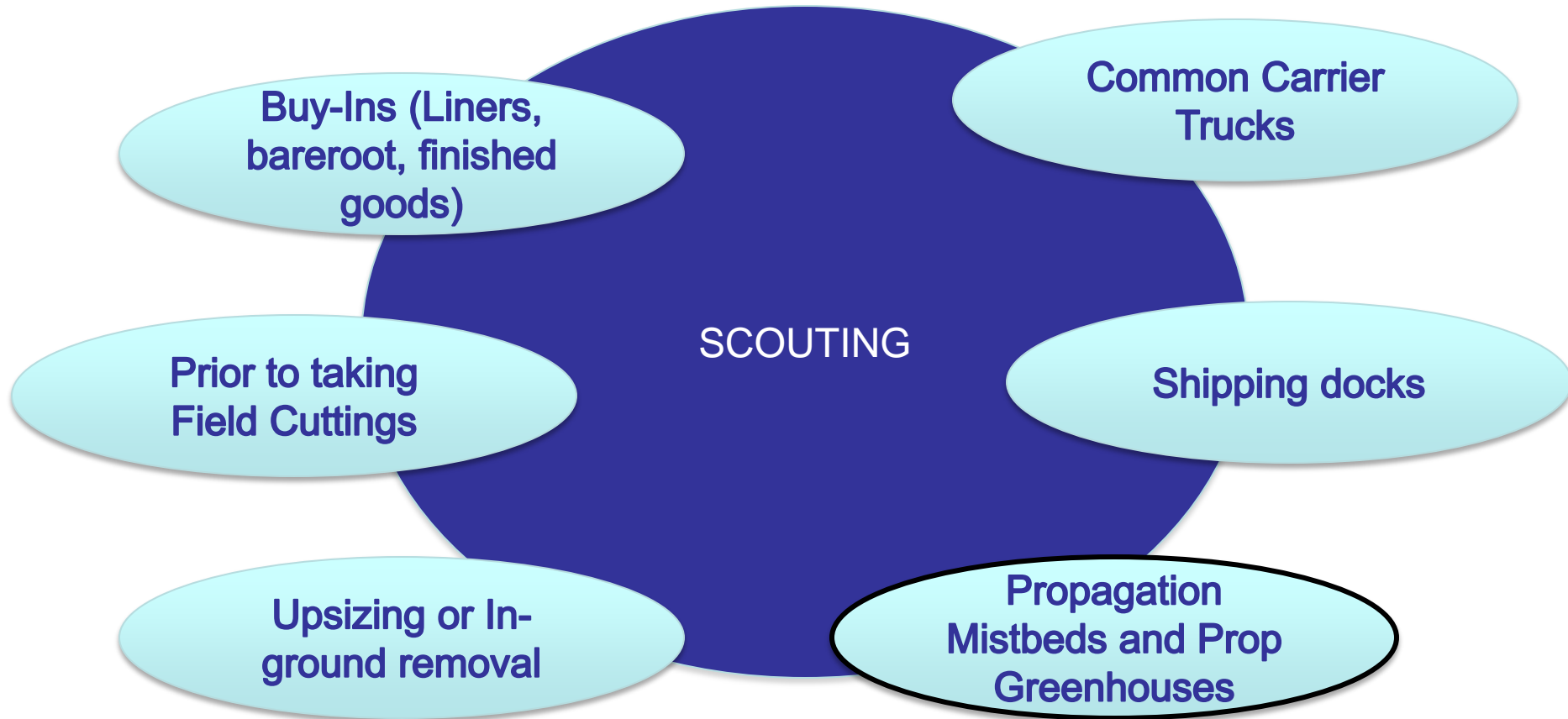




USPPC Matrix - Scouting

| Component, site, or stage of production | Target pests or pathogens | Contamination Hazard | BMP-suggested by ANLA/SAF working group |
|---|---------------------------|---|---|
| Processing/grading | all pests and pathogens | Introduction of pests and pathogens during processing/grading | Regularly inspect for pests and symptomatic plants. Identify pest, pathogen or abiotic problem and record. Adjust scouting frequency according to crop type. If appropriate, control or treat for pests and pathogens found and record treatment . |

When should Scouting Occur?



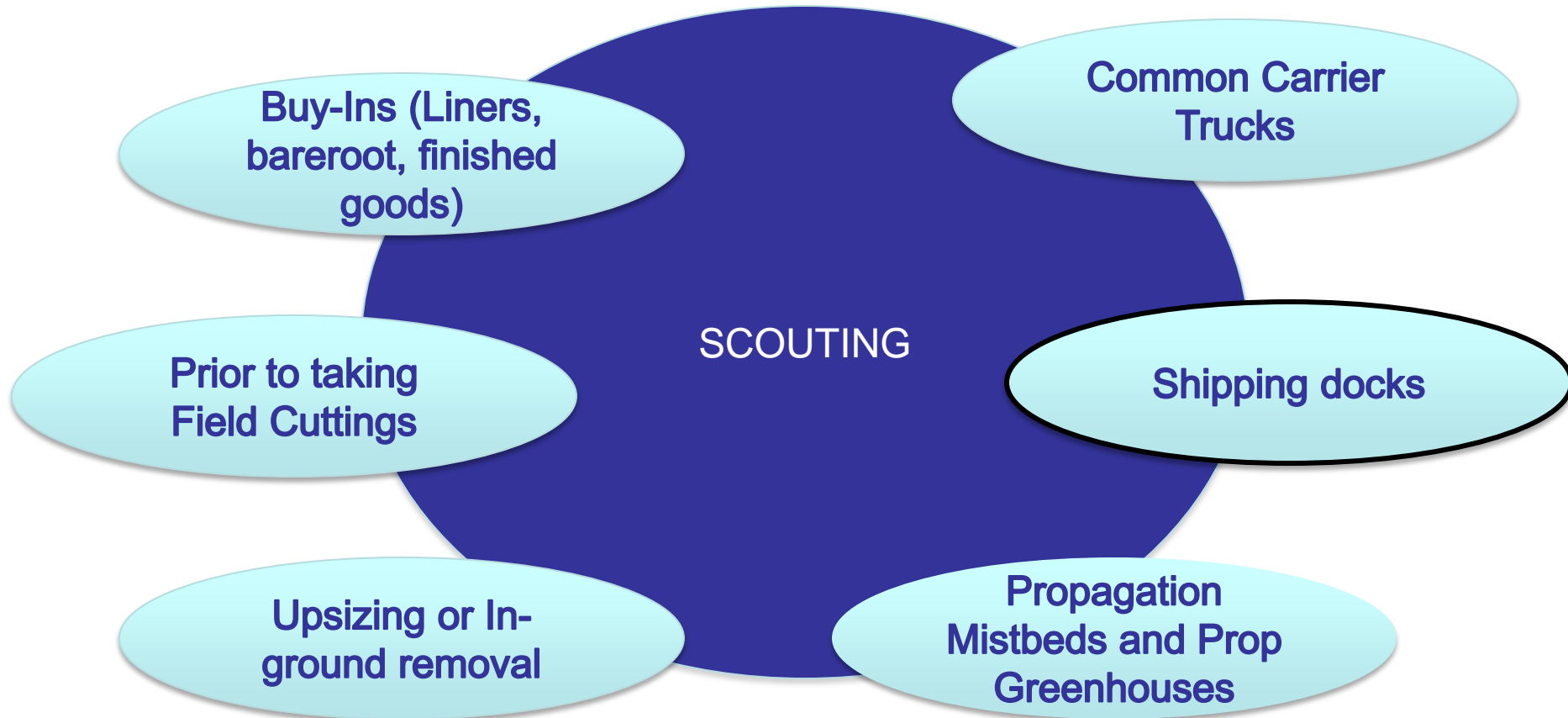
Propagation Mist house



USPPC Matrix - Scouting

| Component, site, or stage of production | Target pests or pathogens | Contamination Hazard | BMP-suggested by ANLA/SAF working group |
|---|---------------------------|---|---|
| Propagation and Production cycle | all pests and pathogens | Introduction of pests or pathogens during propagation | <p>Regularly inspect for pests and symptomatic plants. Identify pest, pathogen or abiotic problem and record. Adjust scouting frequency, according to crop type. If appropriate, control or treat for pests and Display photographs of pests, pathogens and symptomatic plants in appropriate employee areas</p> <p>Label and date all traps. Inspect and regularly change traps.</p> <p>Send unusual or unrecognized pests and diseases to a laboratory for diagnosis and identification or consult a Farm advisor or other expert for identification.</p> <p>Take appropriate corrective action and treatments if pests and diseases are found. Document the corrective action.</p> <p>For known pests and pathogens, schedule scouting according to predicted emergence dates and/or key life cycle events. Schedule scouting at intervals that are frequent enough to prevent or manage outbreaks.</p> |

When should Scouting Occur?



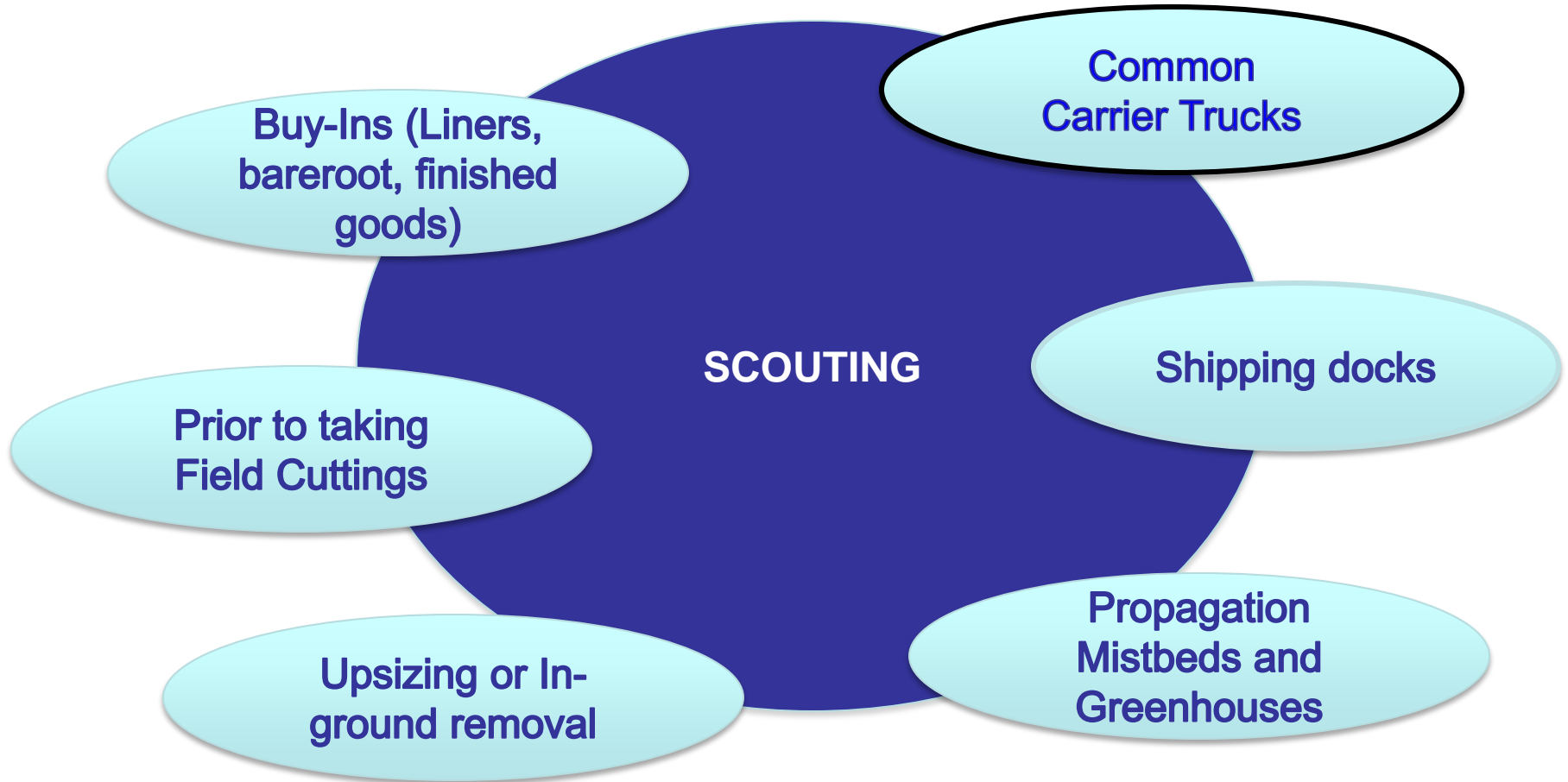
Dock



USPPC Matrix - Scouting

| Component, site, or stage of production | Target pests or pathogens | Contamination Hazard | BMP-suggested by ANLA/SAF working group |
|---|---------------------------|------------------------|--|
| Shipment | all pests and pathogens | packaging and shipping | Thoroughly inspect ALL material before shipping. Only ship material that is free from regulated pests and apparently free of other pests and pathogens. Record any pests/pathogens and symptomatic plants found. If appropriate, control or treat for pests and pathogens found and record treatment . Only ship if treatment successful. |

When should Scouting Occur?



Truck Interior



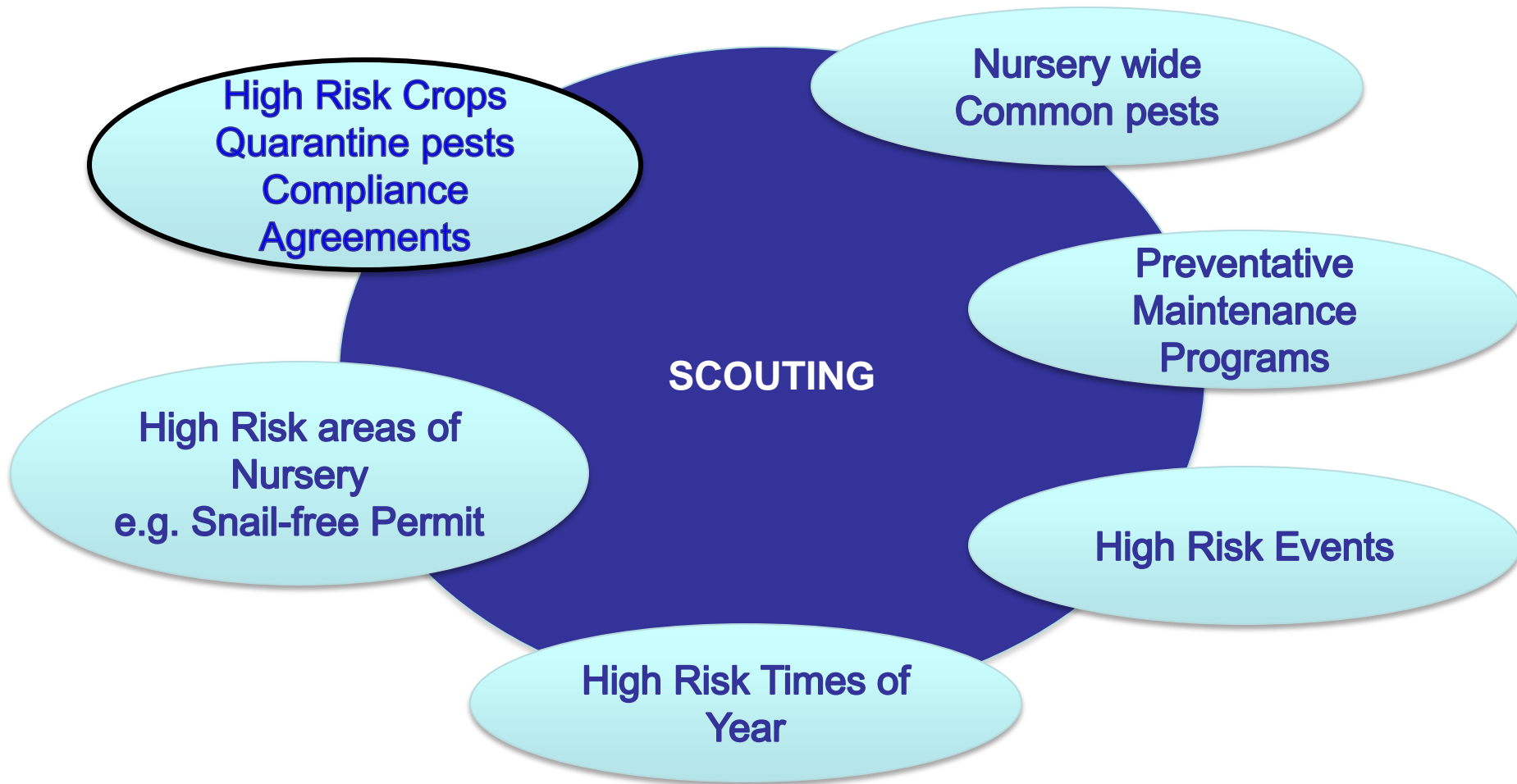
Who Should be Scouting?

(Targeted and Passive)

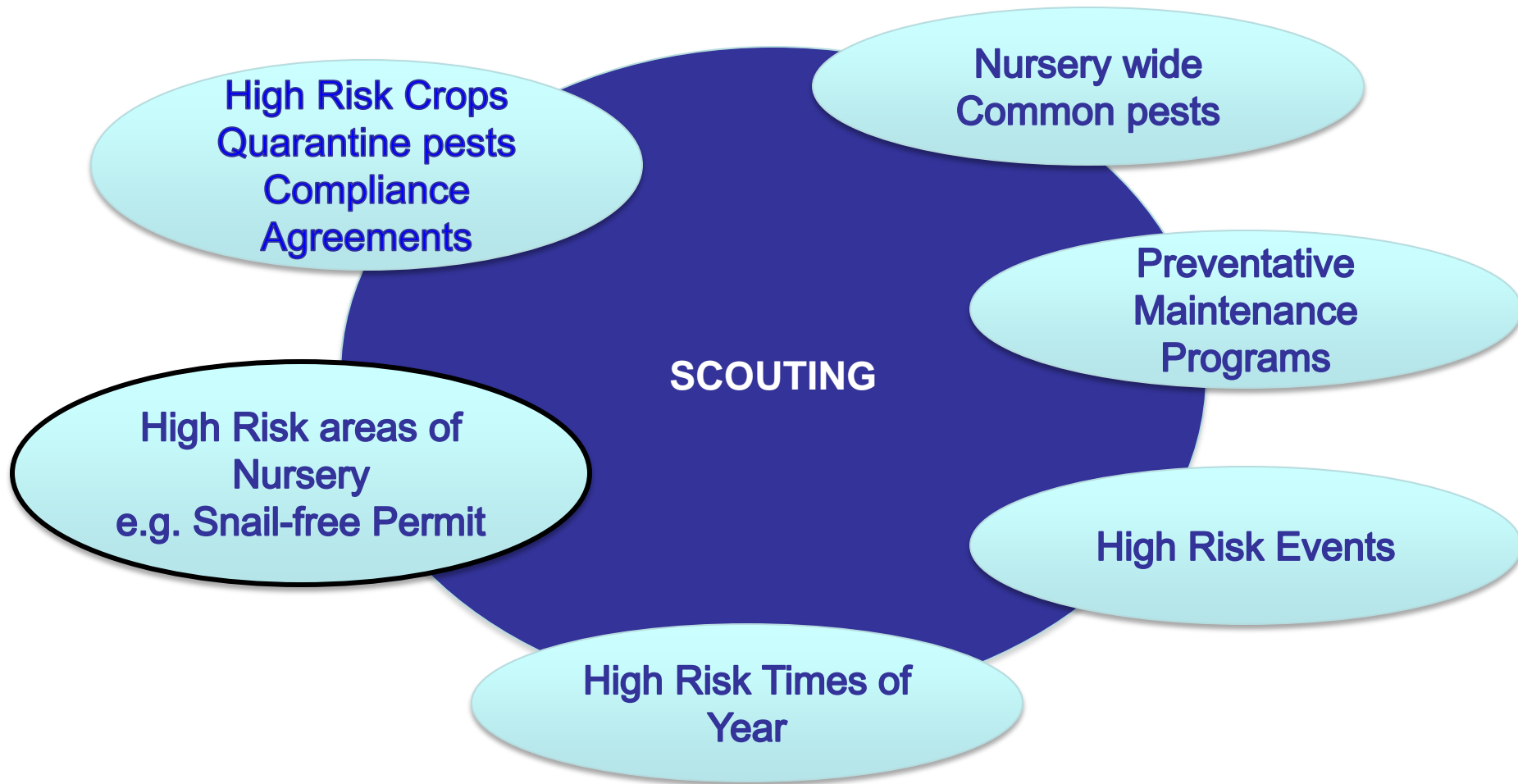
- Pest Control employees
- Quality Assurance personnel
- Field Workers
- Dock Checkers
- Customer Service
- Dock workers
- Those overseeing Compliance Agreements/
Permits
- Everyone



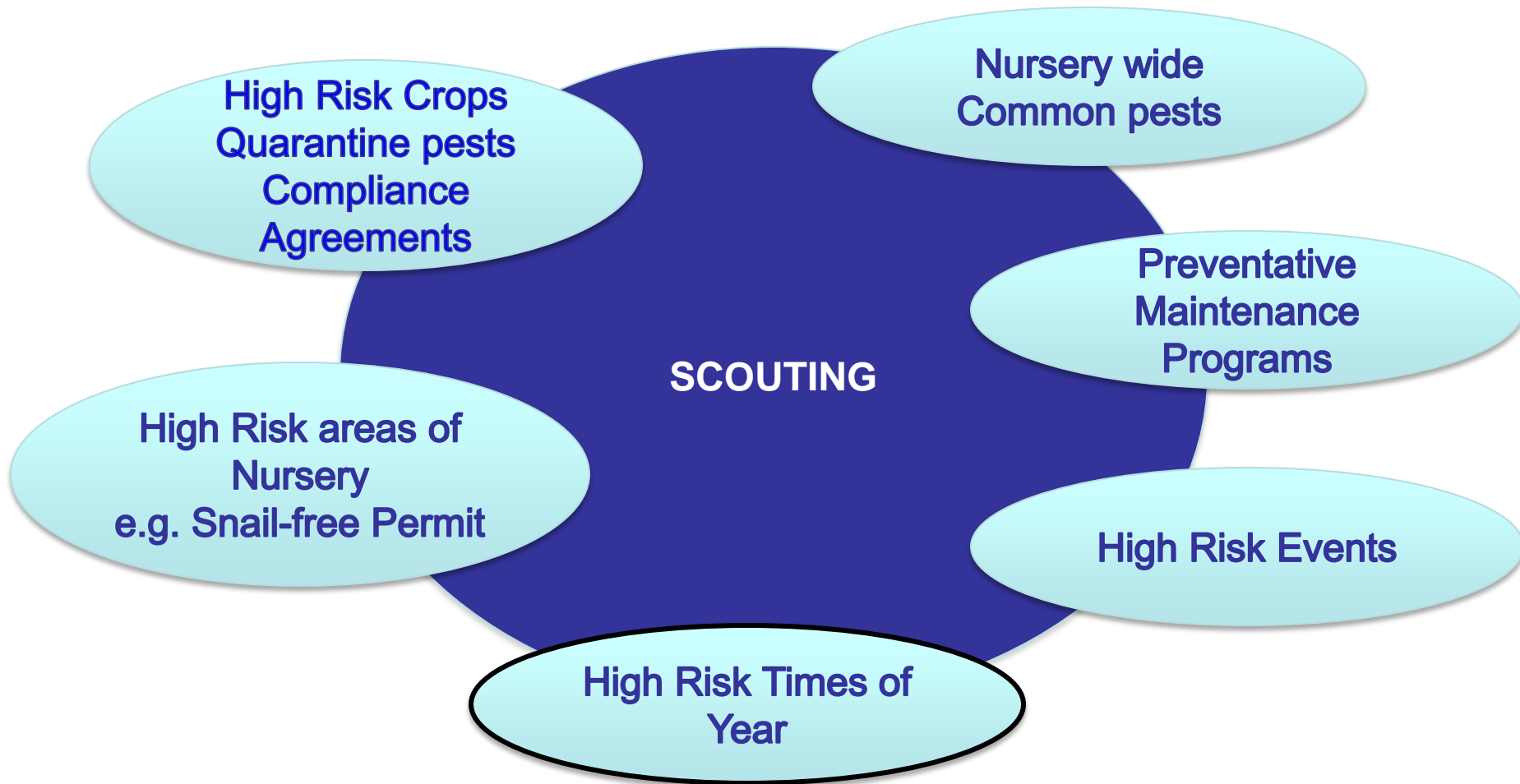
Where should Scouting efforts be Focused?



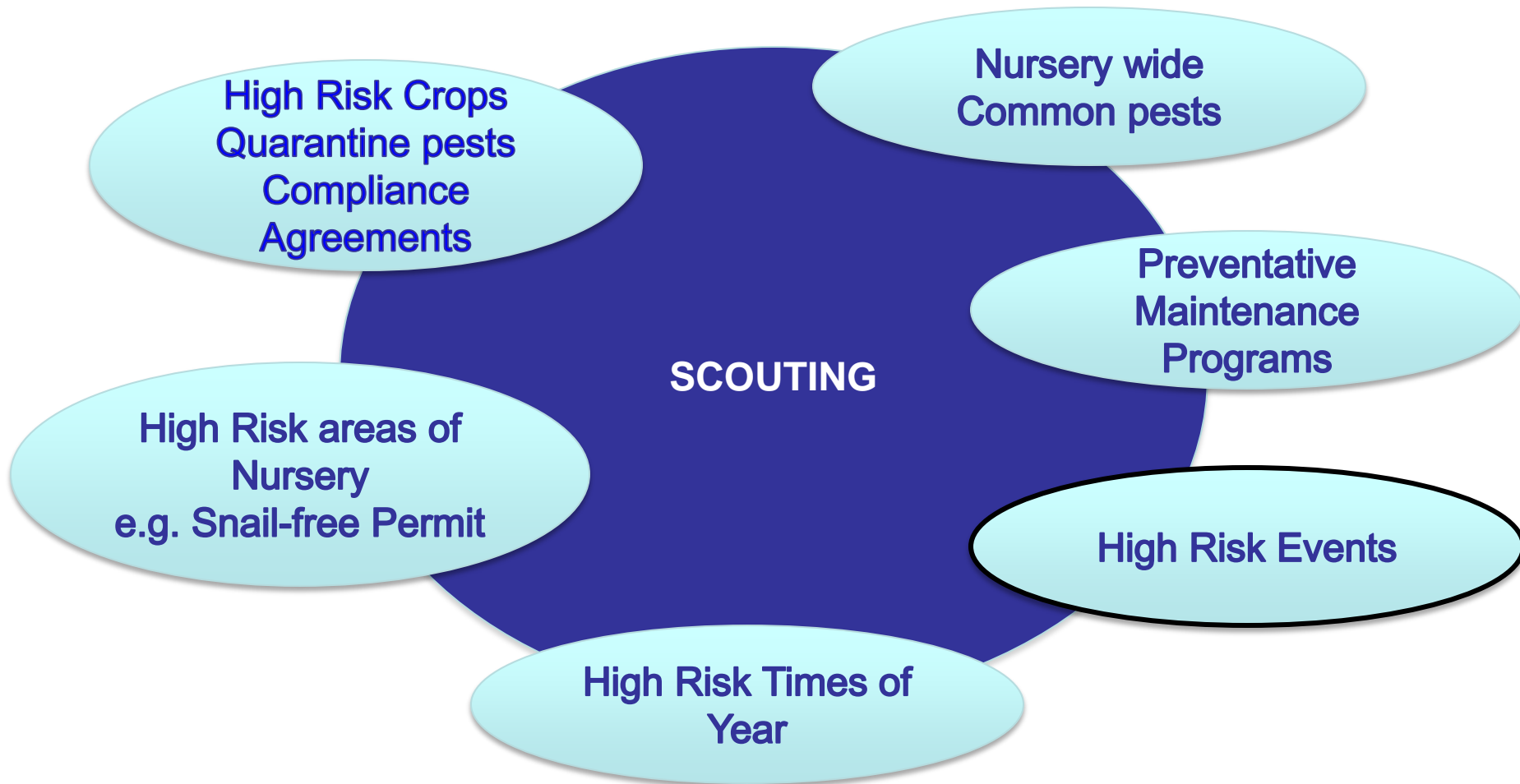
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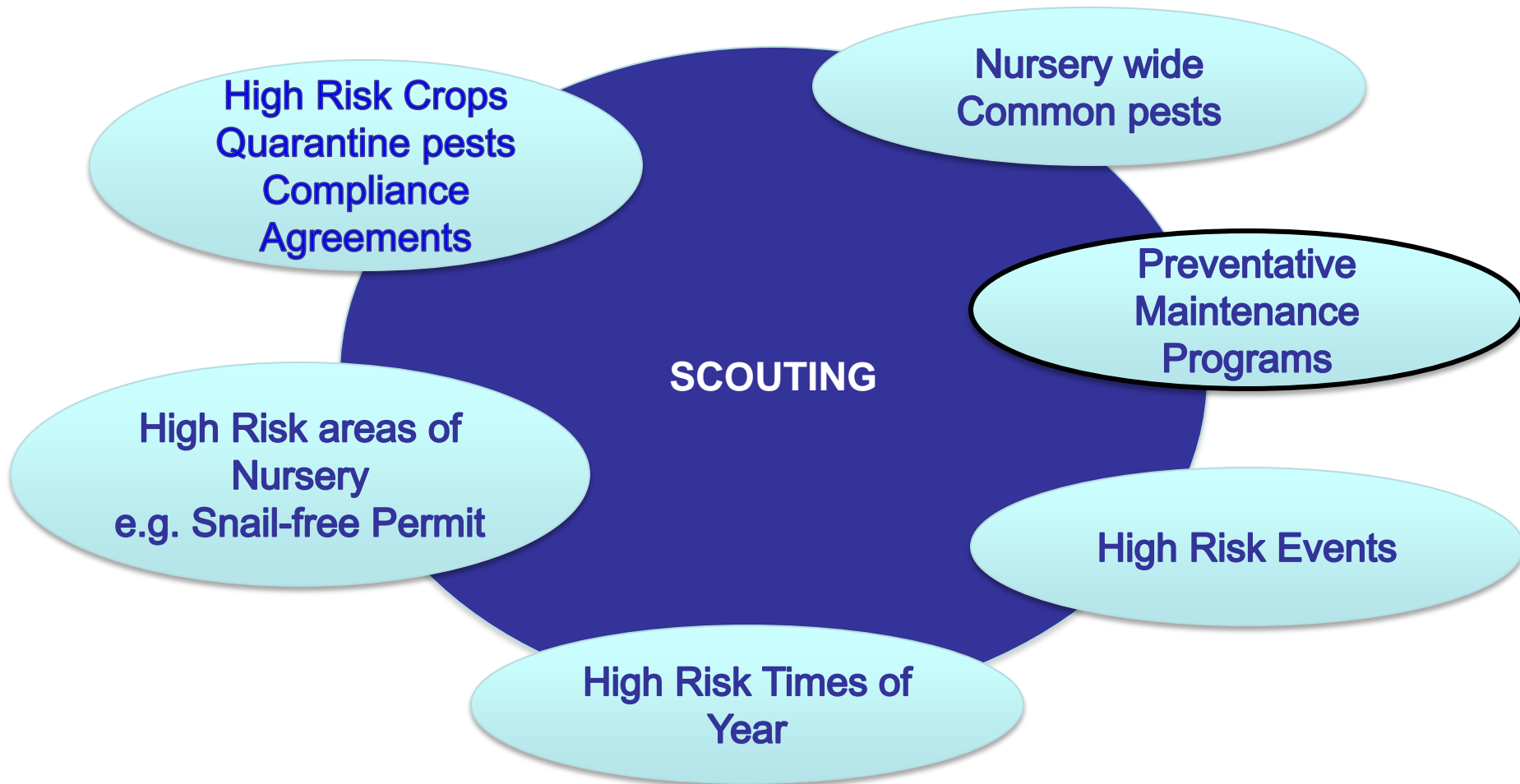
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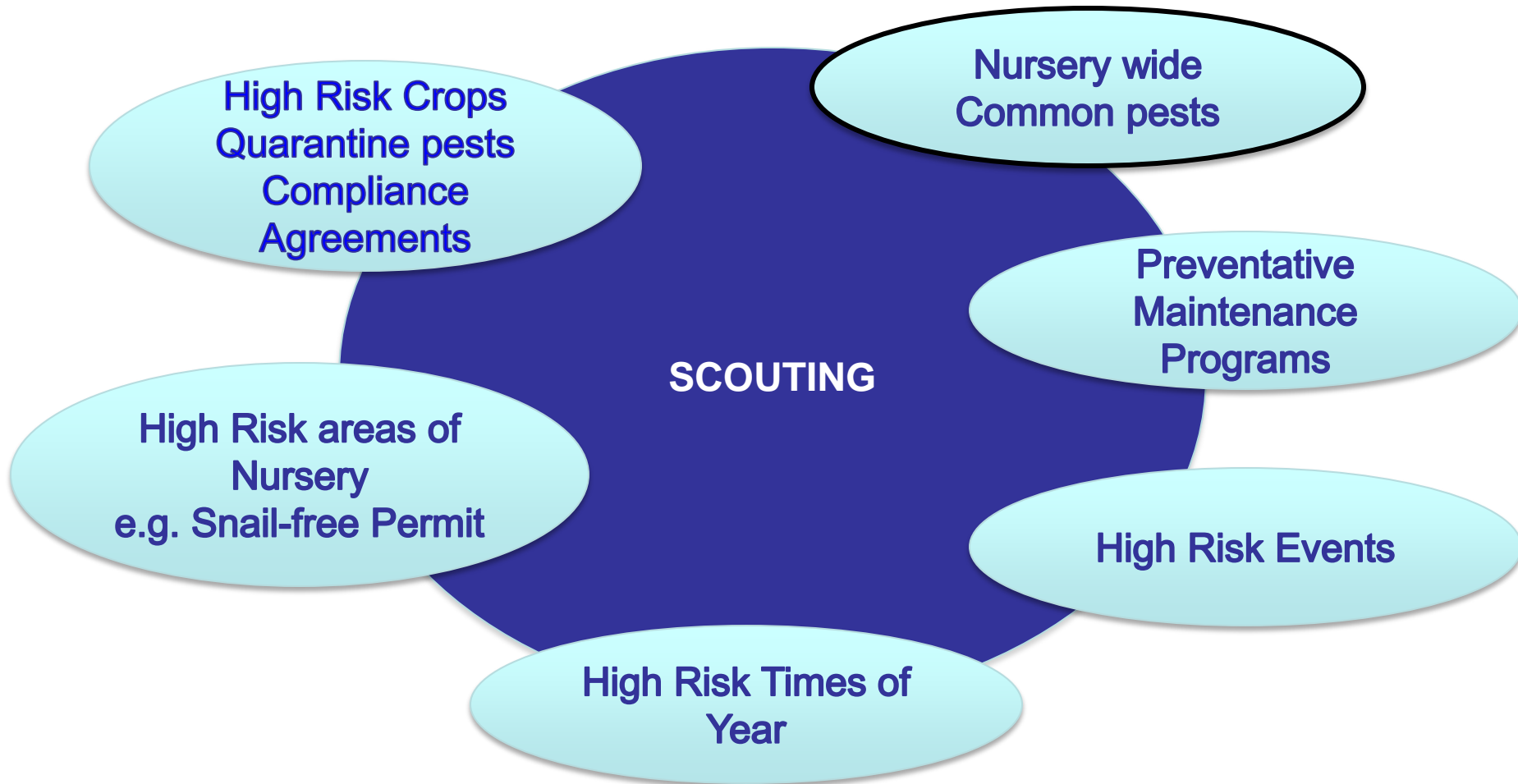
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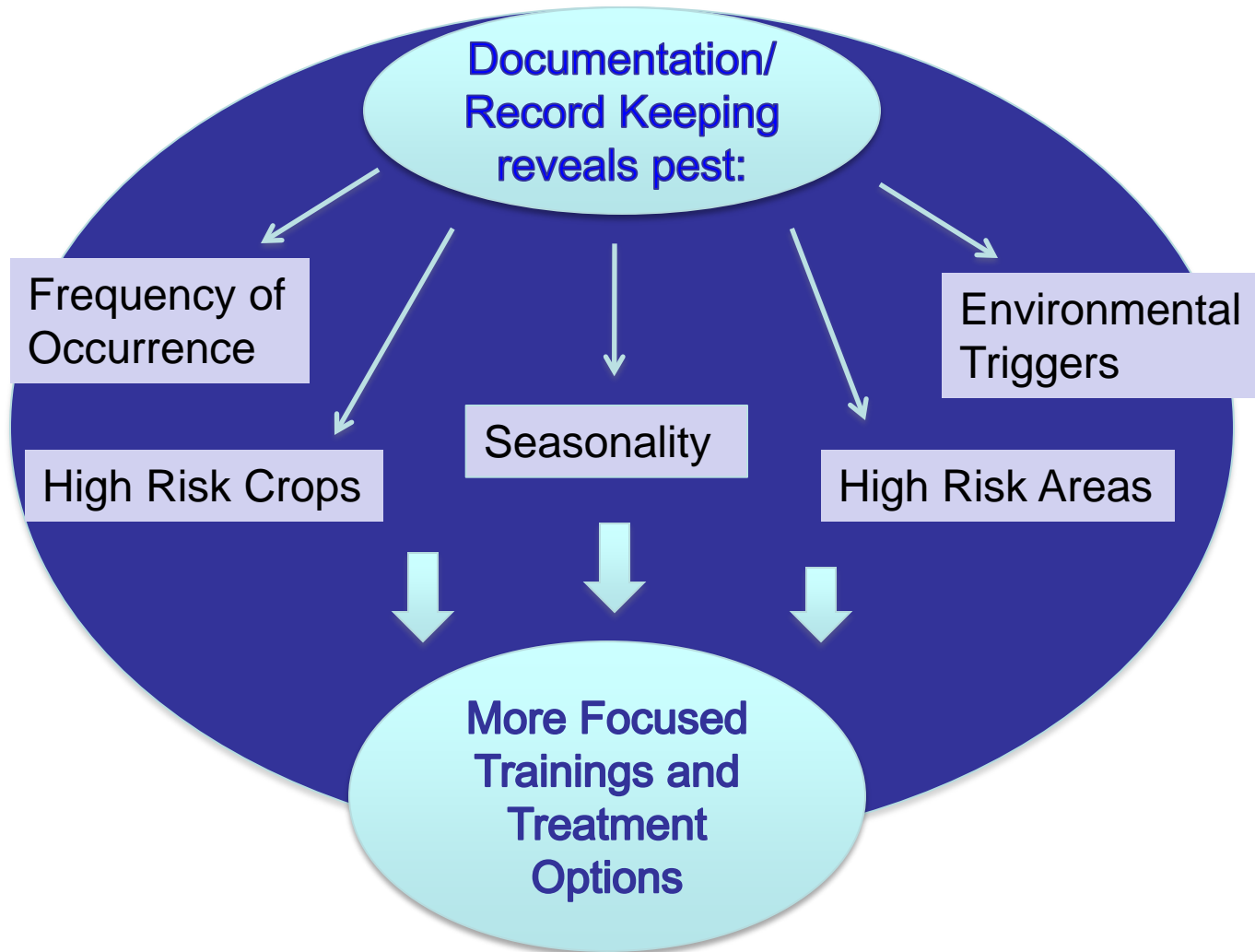
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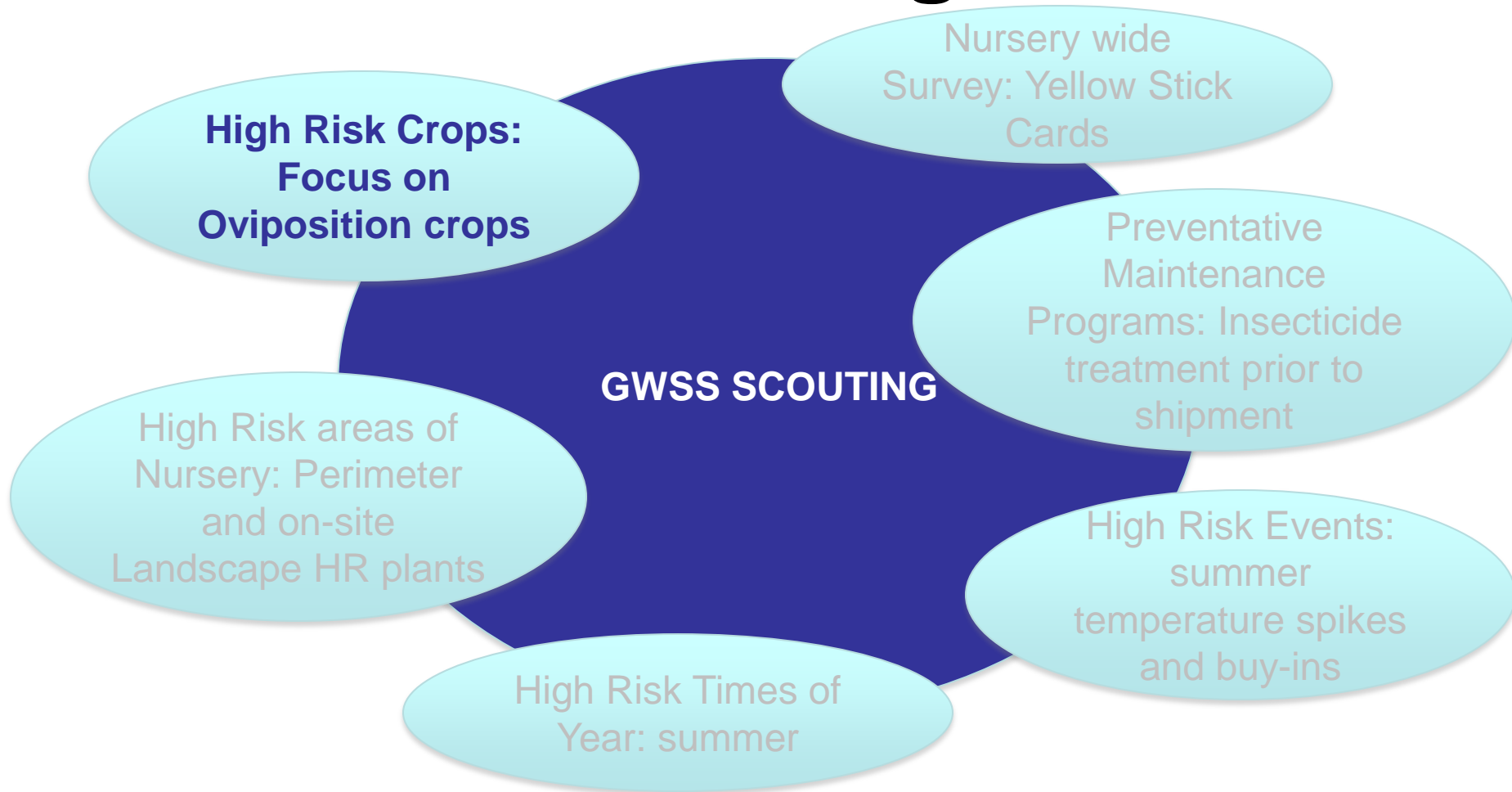
Where should Scouting efforts be Focused?



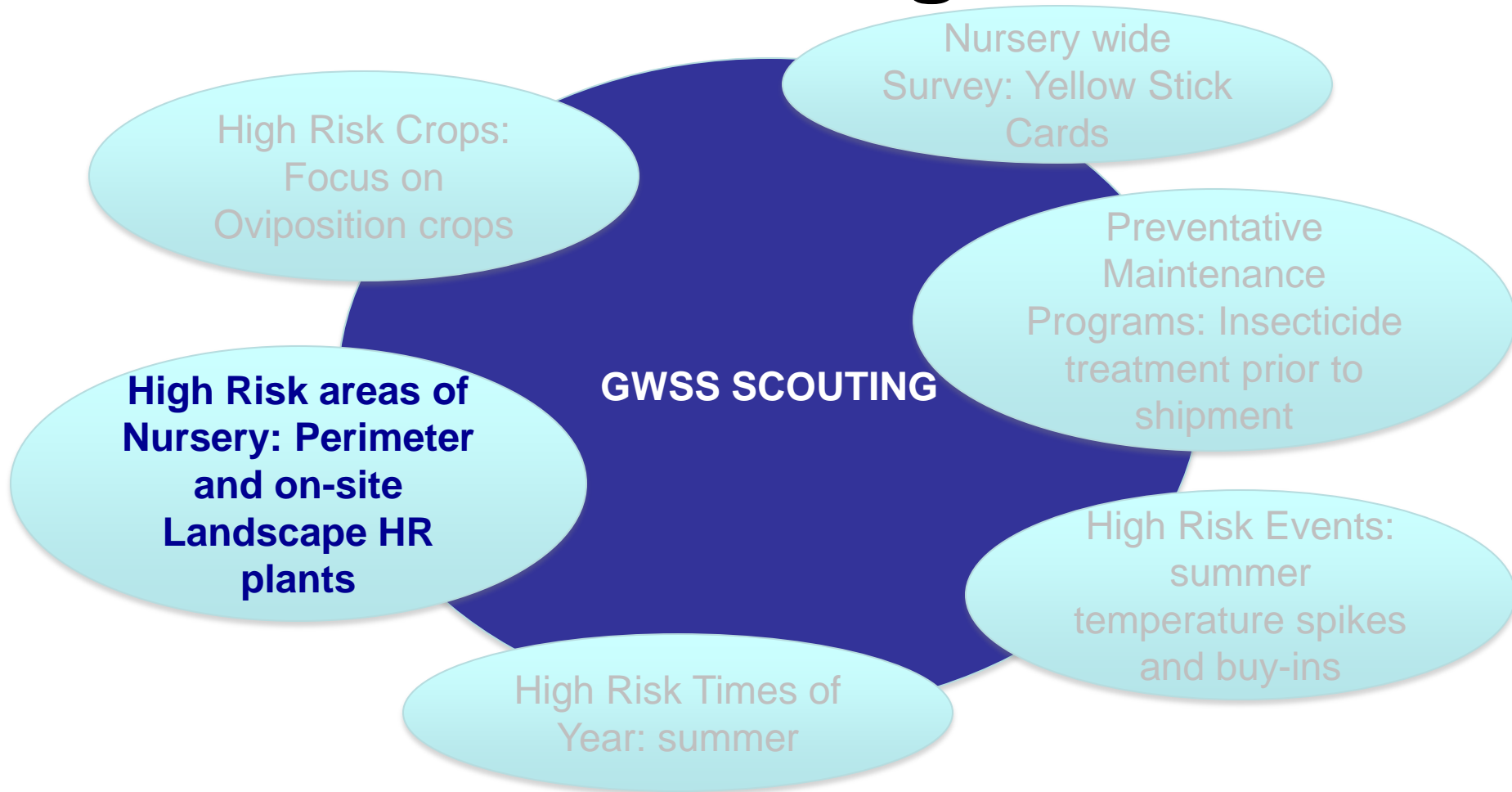
Documentation and Record Keeping reveals pest:



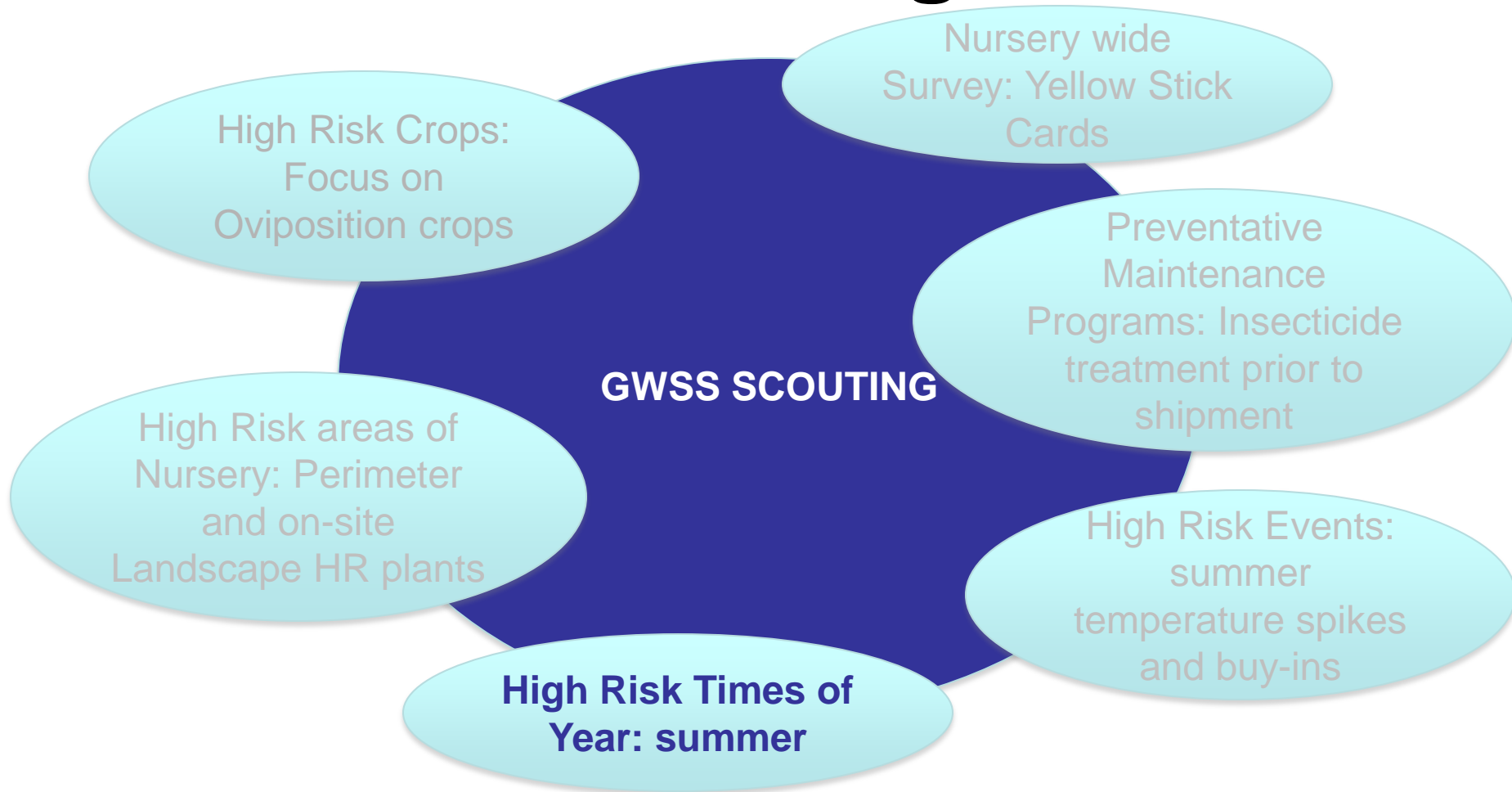
Glass-Winged Sharpshooter Scouting



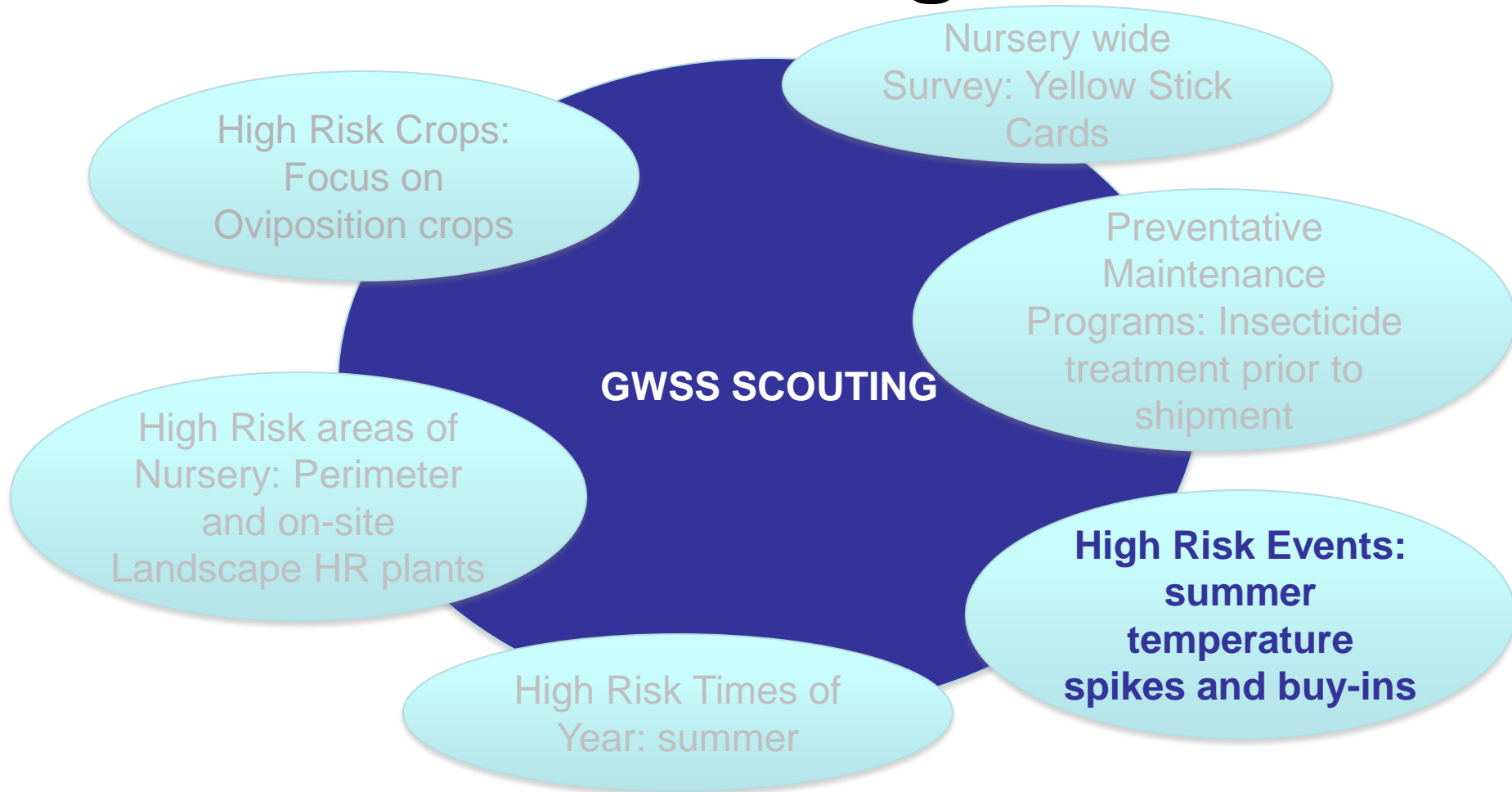
Glass-Winged Sharpshooter Scouting



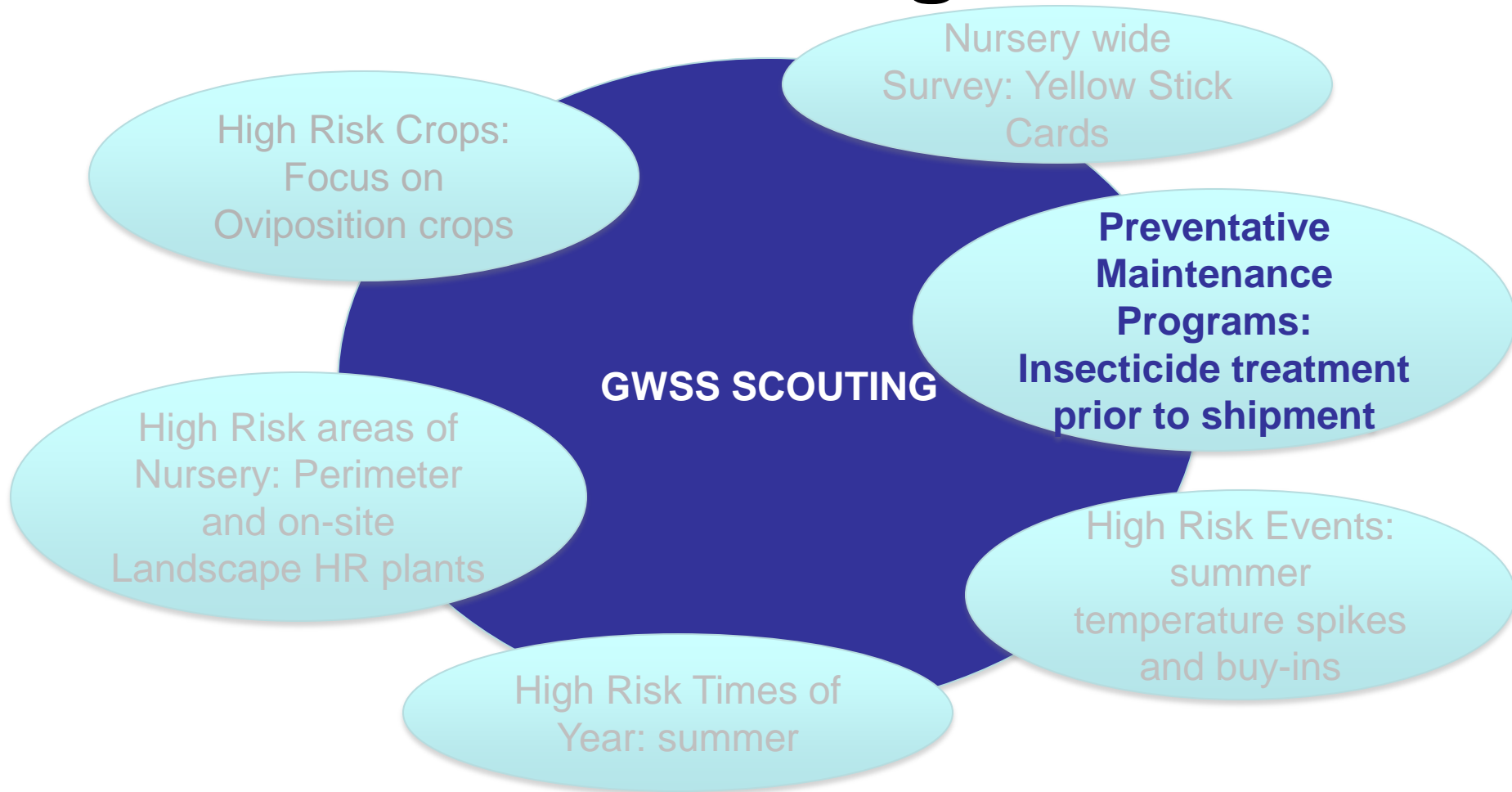
Glass-Winged Sharpshooter Scouting



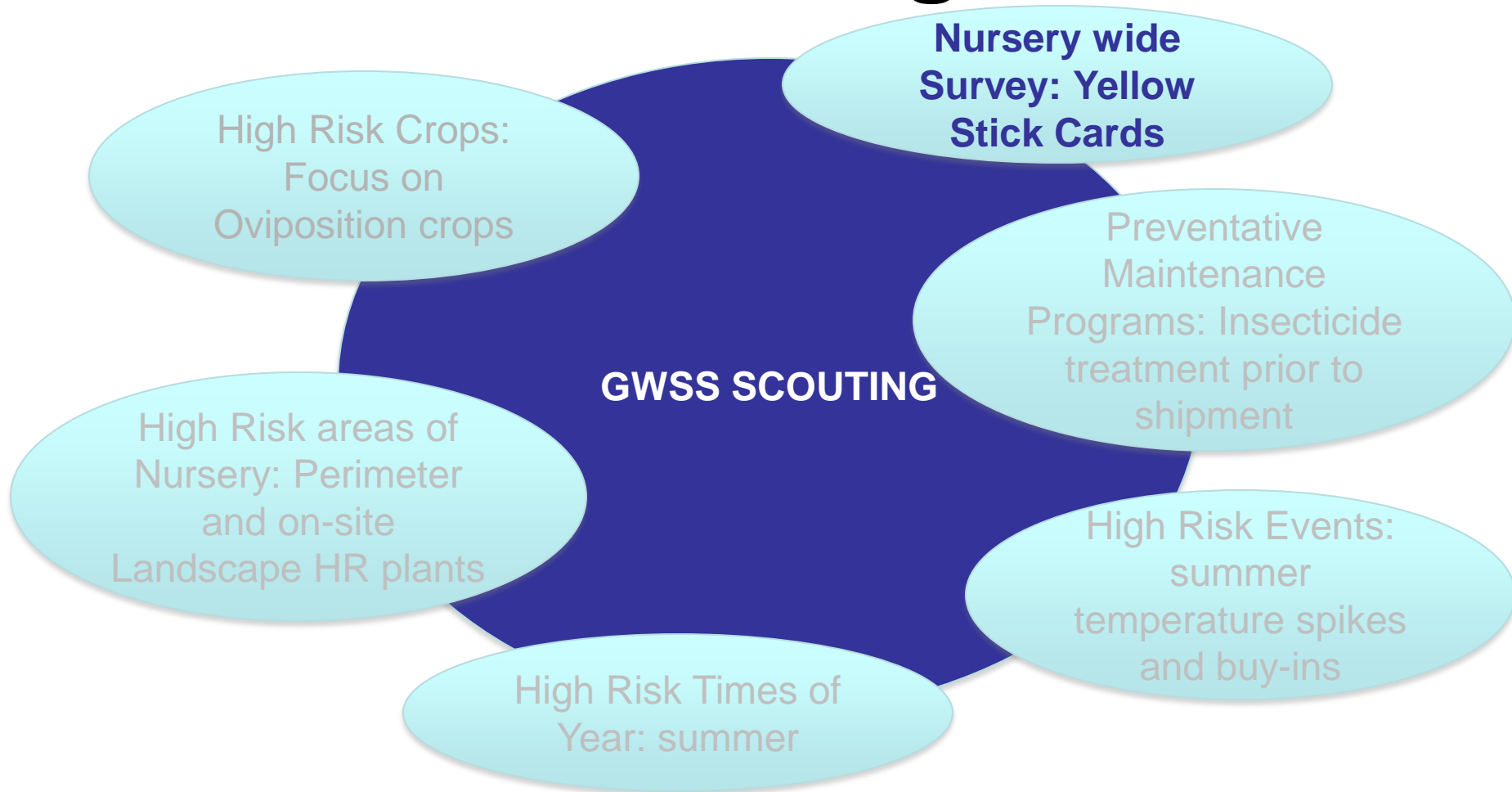
Glass-Winged Sharpshooter Scouting



Glass-Winged Sharpshooter Scouting



Glass-Winged Sharpshooter Scouting



European Brown Garden Snail Scouting

High Risk Crops:
Tropical crops,
evergreen crops

Nursery wide: on
shipping docks

Preventative
Maintenance: Baiting
HR crops and HR
areas

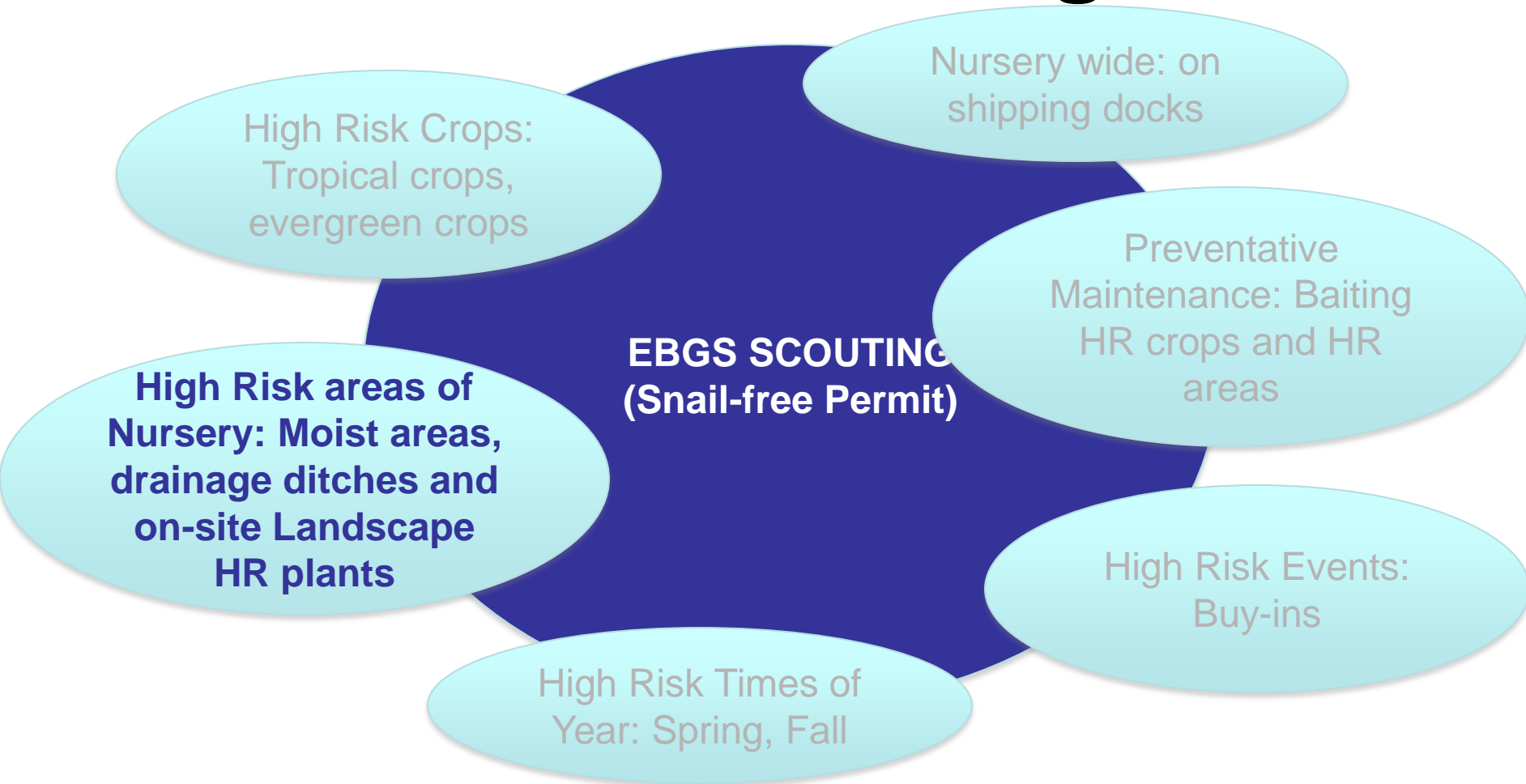
High Risk areas of
Nursery: Moist areas,
drainage ditches and
on-site Landscape
HR plants

EBGS SCOUTING
(Snail-free Permit)

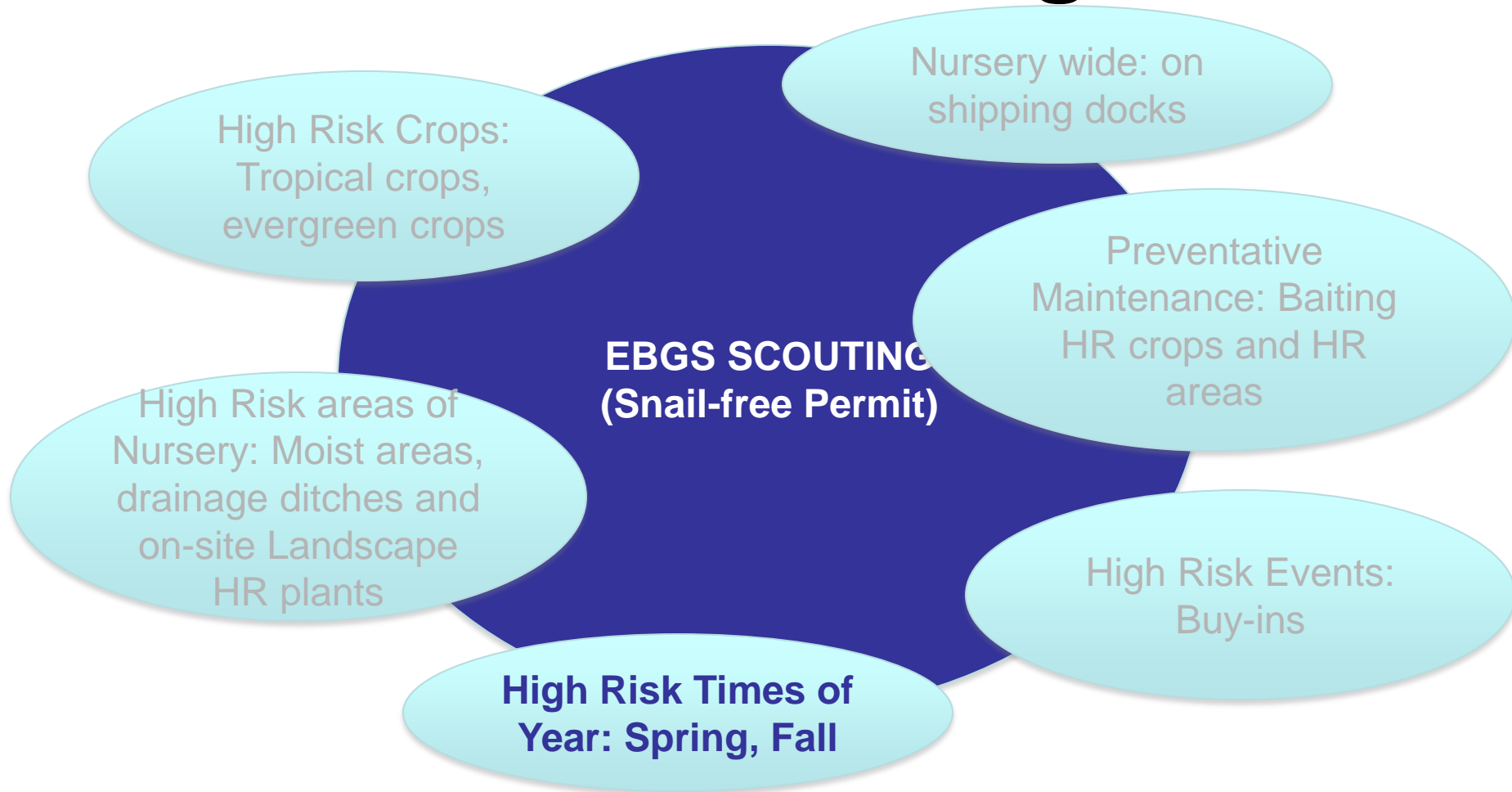
High Risk Events:
Buy-ins

High Risk Times of
Year: Spring, Fall

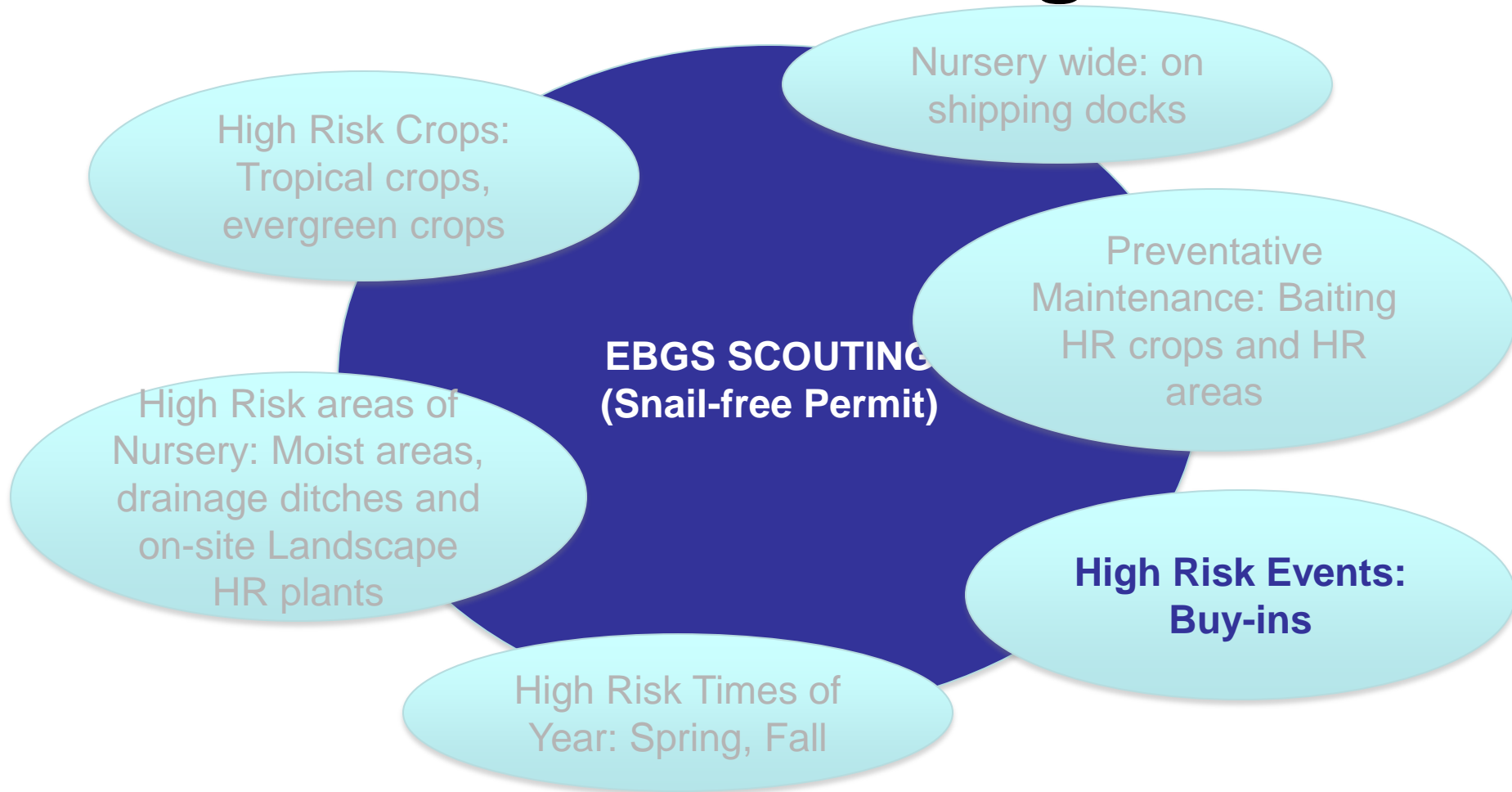
European Brown Garden Snail Scouting



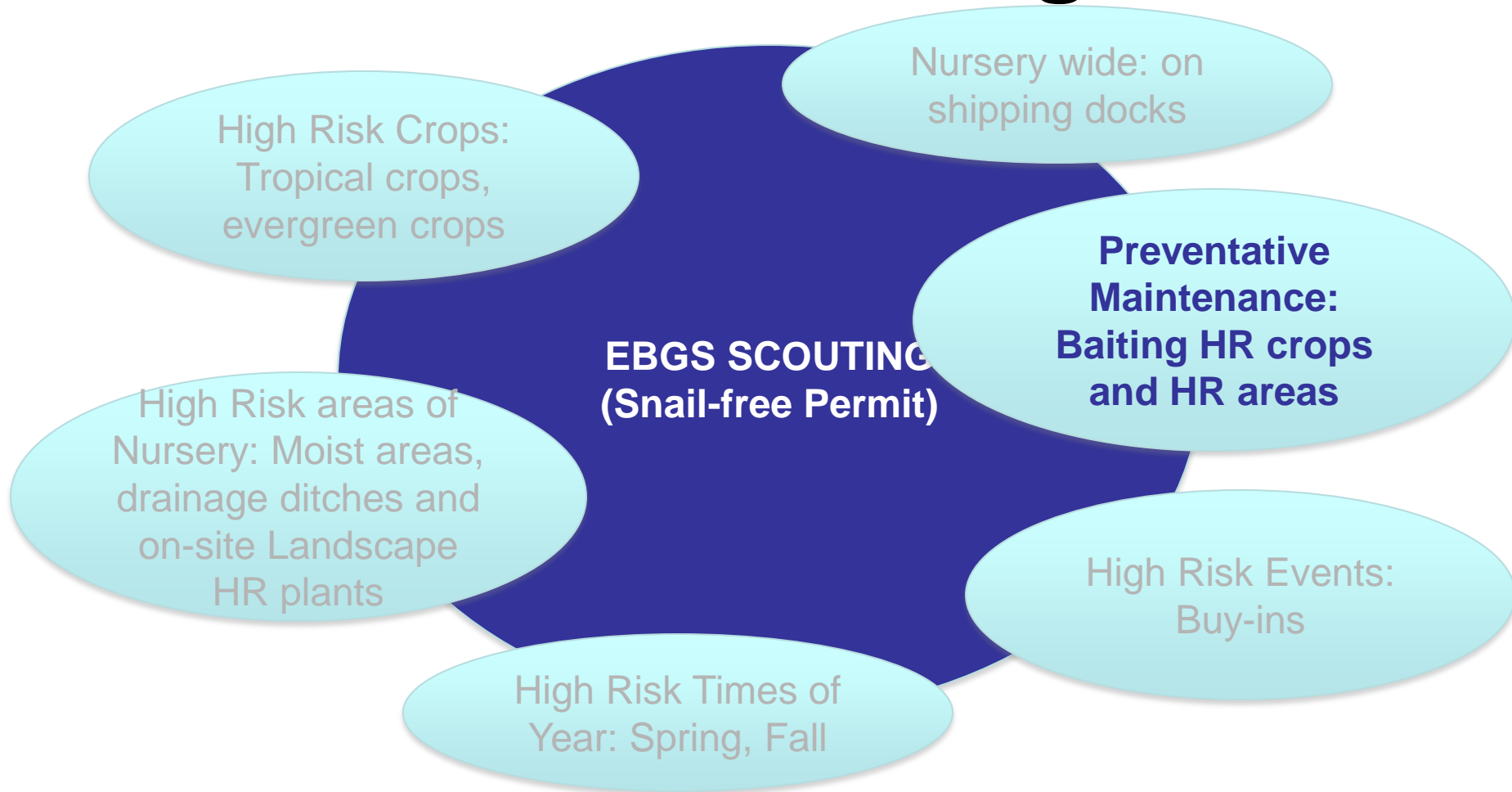
European Brown Garden Snail Scouting



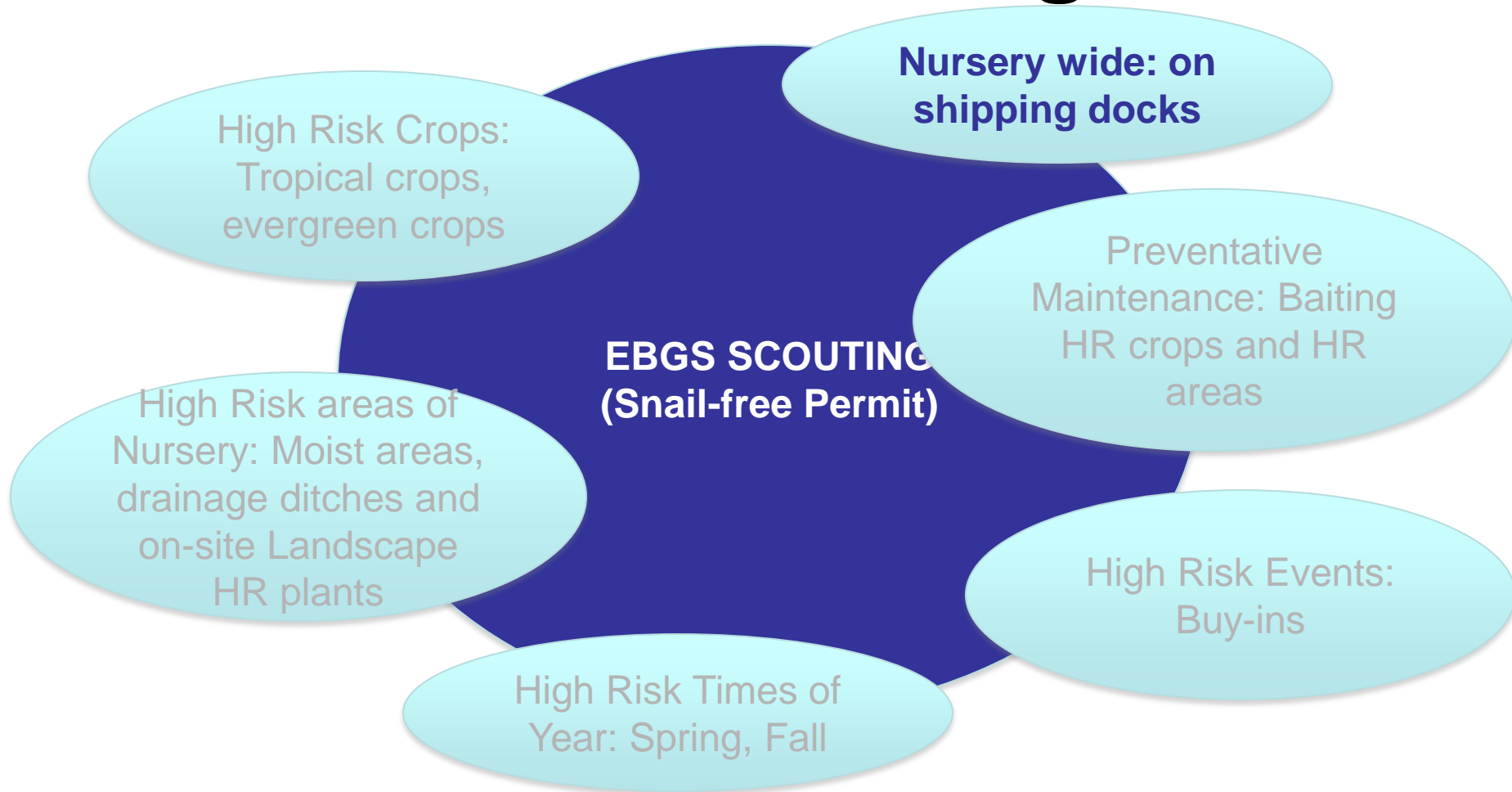
European Brown Garden Snail Scouting



European Brown Garden Snail Scouting



European Brown Garden Snail Scouting



Phytophthora ramorum (SOD)

Scouting

High Risk Crops:
Rhododendron,
Camellia,
Viburnum, Pieris,
Kalmia

Nursery wide: on
shipping docks

Preventative
Maintenance: Monthly
inspections of HR
plants

SOD SCOUTING

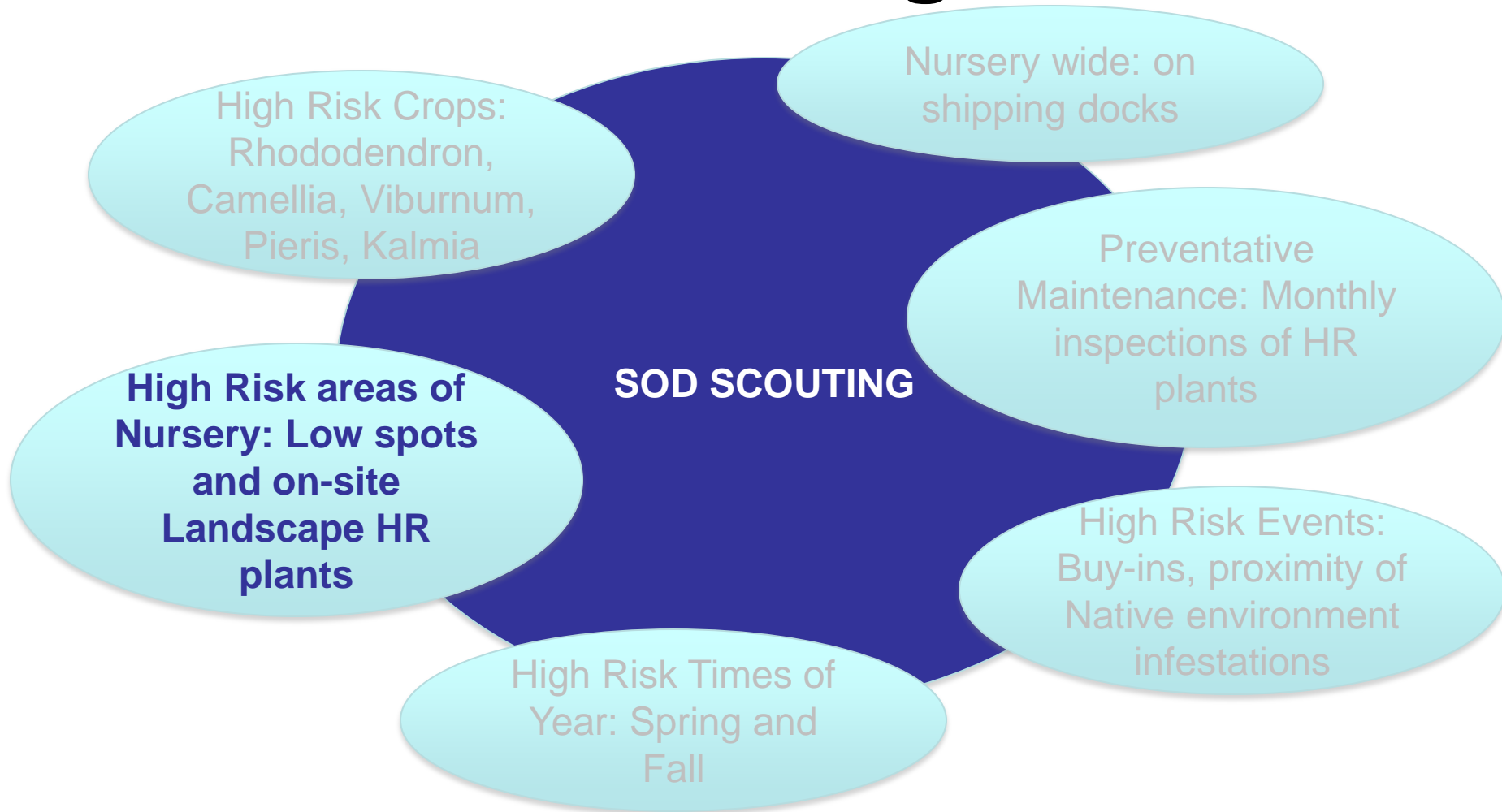
High Risk areas of
Nursery: Low spots
and on-site
Landscape HR plants

High Risk Events:
Buy-ins, proximity of
Native environment
infestations

High Risk Times of
Year: Spring and
Fall

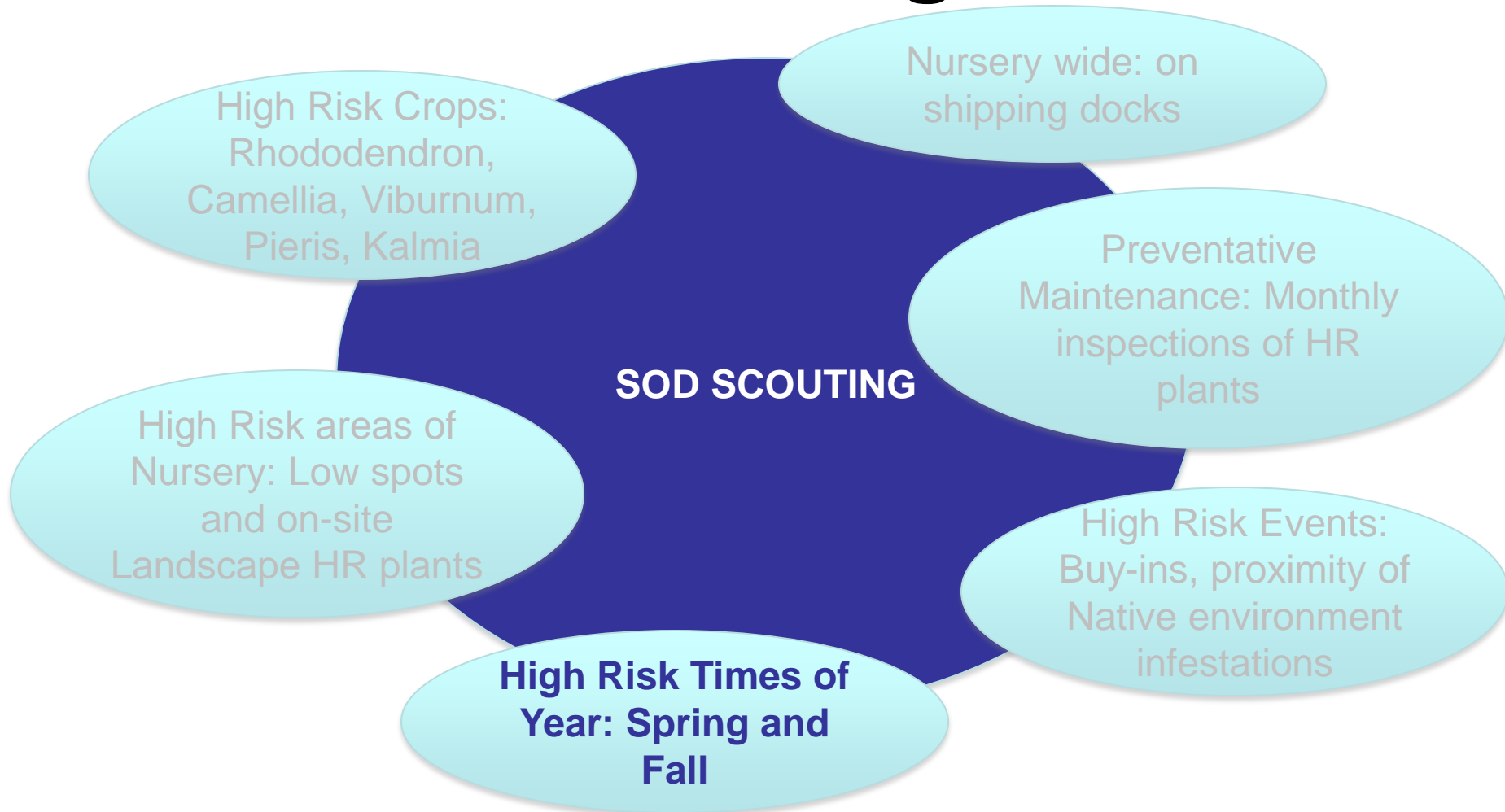
Phytophthora ramorum (SOD)

Scouting



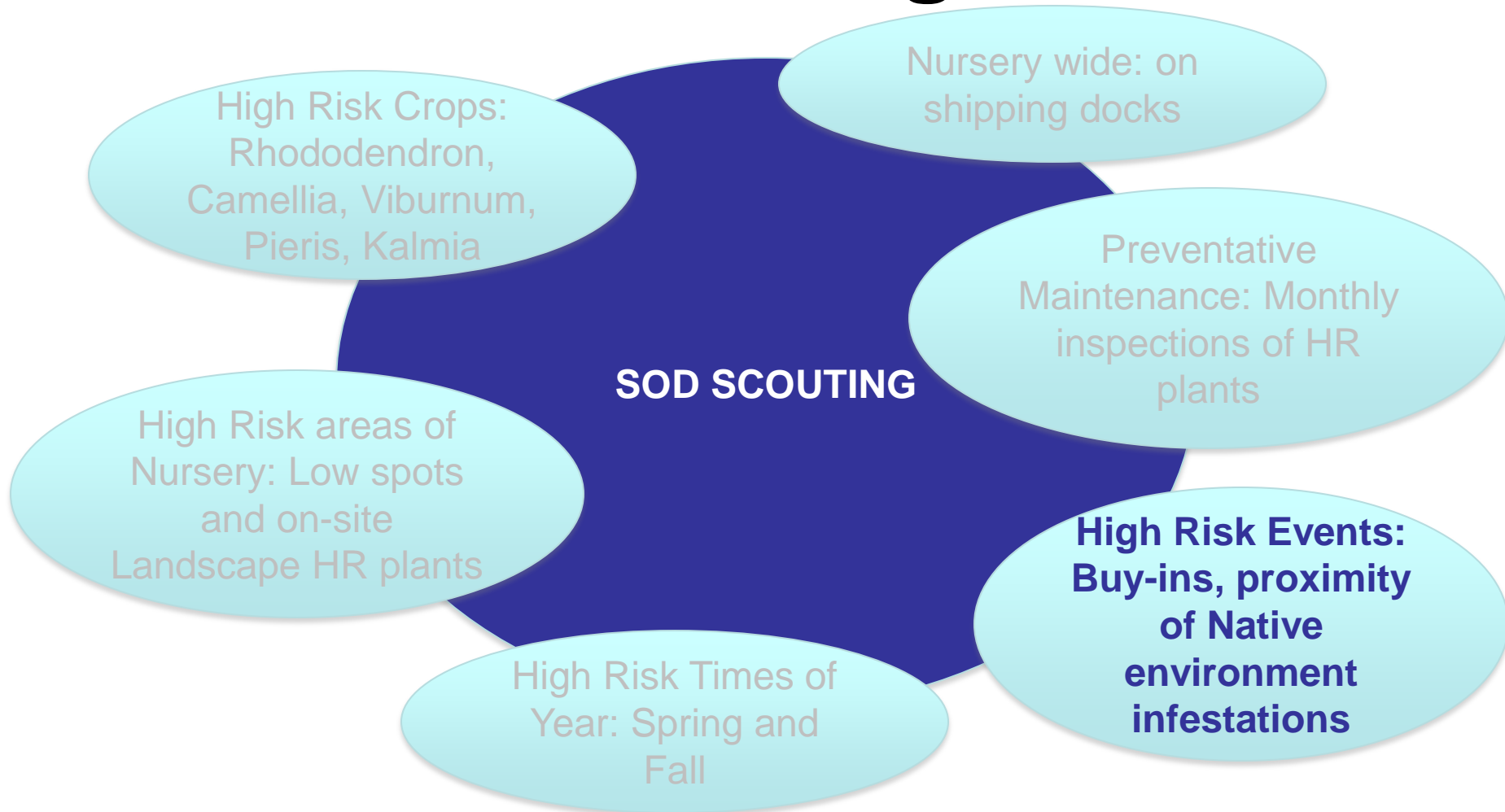
Phytophthora ramorum (SOD)

Scouting



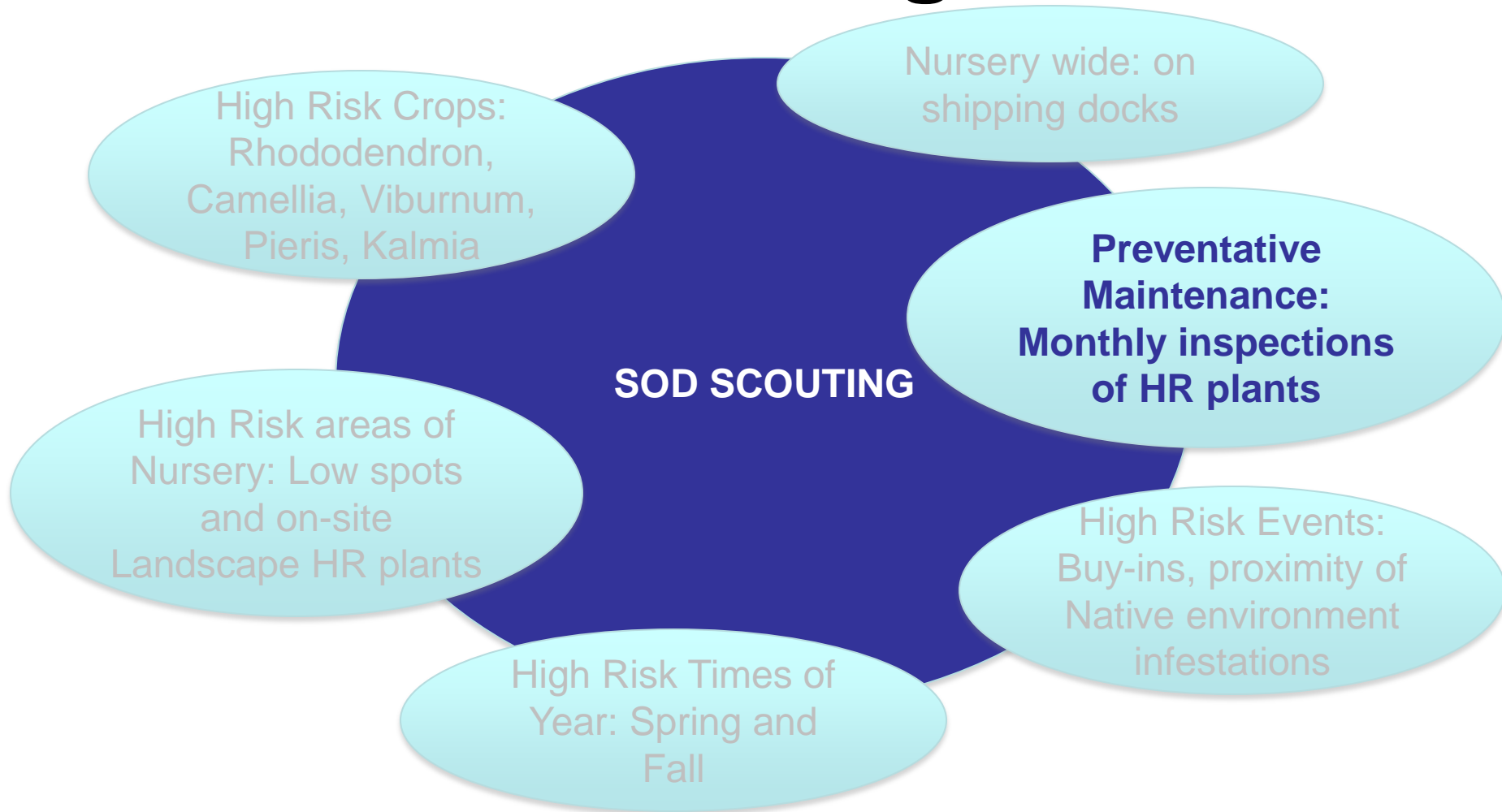
Phytophthora ramorum (SOD)

Scouting



Phytophthora ramorum (SOD)

Scouting



Phytophthora ramorum (SOD)

Scouting



SOD Compliance Agreement





Why is Scouting Important

CA Case Study

For a nursery owner to consider their scouting program to be cost effective, one of two beneficial outcomes or a combination of the two outcomes should occur.

Scouting efforts should:

- sufficiently reduce the risk of lost revenue caused by pest-related scrap or quarantine
- help minimize chemical treatment costs such that total pest management costs are lower

Why is Scouting Important

CA Case Study

In 2012, Chemical Treatment costs for those nurseries that participated in the UCCUH, UCNFA case study ranged from \$535 per acre/year to as much as \$3,178 per acre/year, the latter nursery treating all crops for LBAM.

Why is Scouting Important

CA Case Study

- Chemical application labor costs were approximately three to four times the magnitude of costs for scouting labor.
- In case studies, 2-8 hrs annually were dedicated to training scouts
- How a nursery scouts and the level of investment they put into their scouting program can determine its effectiveness in relationship to their overall pest management plan.



A robust IPM program has a Strong Scouting component; if not, more dollars are spent chemically treating pests and pathogens