



*2021 Industry Benchmark Report*

# An Inside Look at IPM Best Practices for Commercial Greenhouse Growers

# INTRODUCTION

Over a 3-week period between September and October of 2021, we surveyed over 70 professional growers from around the globe, including Cultivation Directors, IPM Managers, and Agronomists. Our goal was to map the industry landscape for best practices in Integrated Pest Management.

Updating and optimizing IPM practices matters because it means bigger yields, less waste, increased efficiency, greater autonomy - and ultimately, the ability to scale your business.

Yet advancements in IPM have been slow coming and many of today's farmers have yet to successfully adopt them. In fact, according to a recent industry publication titled *The New Integrated Pest Management Paradigm for the Modern Age*<sup>1</sup>, most IPM models in use today focus exclusively on ecological aspects and fail to account for agricultural technology, modern communication tools, or changing consumer trends.

The bottom line is that pesticides are just one part of the IPM equation. Running your farm efficiently in 2021 and beyond requires tapping into a bigger IPM picture. We believe the growers who get IPM right are the ones who will lead the industry, and we hope this report provides you with actionable insights to get on the path to a more autonomous agricultural future.

Sincerely,

Asaf Levy  
CEO, MyCrops.ag

# SUMMARY OF KEY INSIGHTS

**Maximizing efficiency of human resources remains a key IPM challenge for most growers**

- Most survey participants reported difficulty in finding and managing human resources, whether trained or seasonal.
- Smarter technological tools could help free up IPM managers to take corrective action on time as well as empower manual scouts to perform more strategic functions.
- Lack of budget is the main barrier.

**Biological IPM controls are favored, but...**

- The vast majority of participants (62%) prefer using beneficial insects to prevent pest infestation. Pesticide use came in at a distant second (29%).
- Despite their popularity, biological controls require more intensive HR and are more expensive.

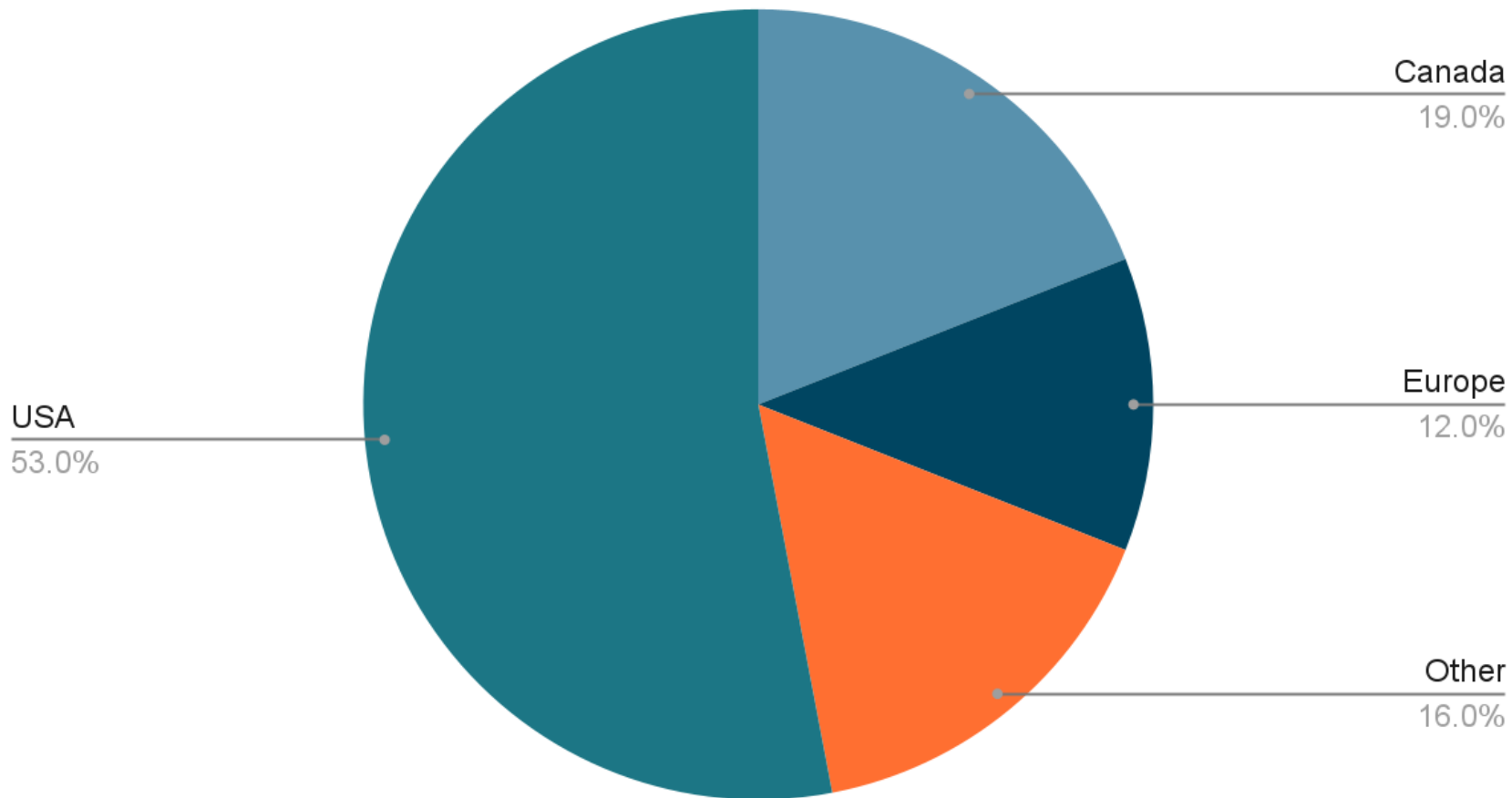
**Monitored experimentation is critical for IPM**

- From regional differences in pests, to varying management practices and disease detection methods, IPM does not uniformly apply to every situation. For best results, IPM should be customized.

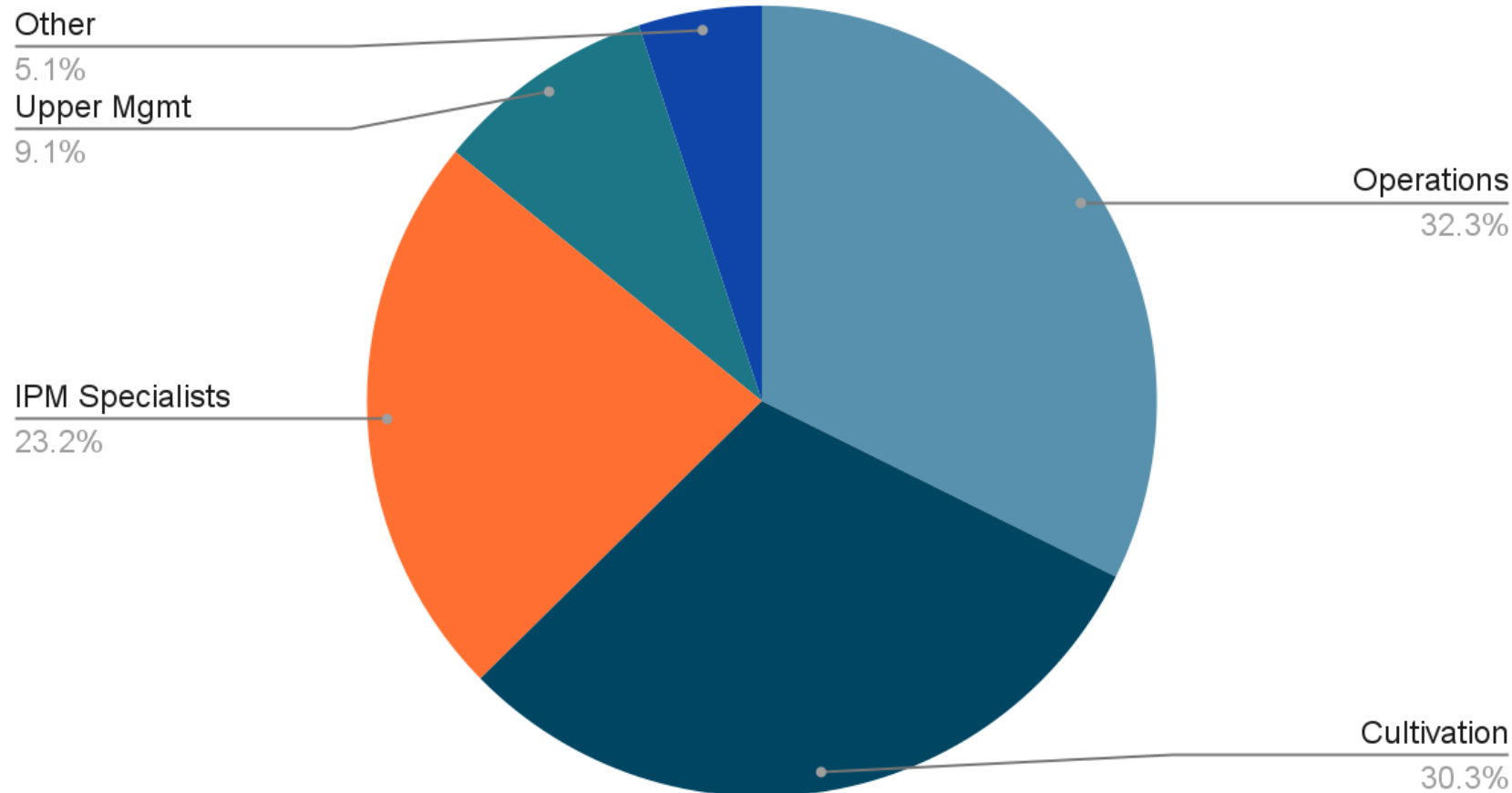
# WHO PARTICIPATED IN THIS SURVEY?

We interviewed 70+ industry professionals from around the globe, with an emphasis on North America and Europe. Participants included Head Agronomists, Operational Managers, Cultivation Technicians and many more. Most were employed by growers, but we also interviewed employees for companies specializing in consulting and research.

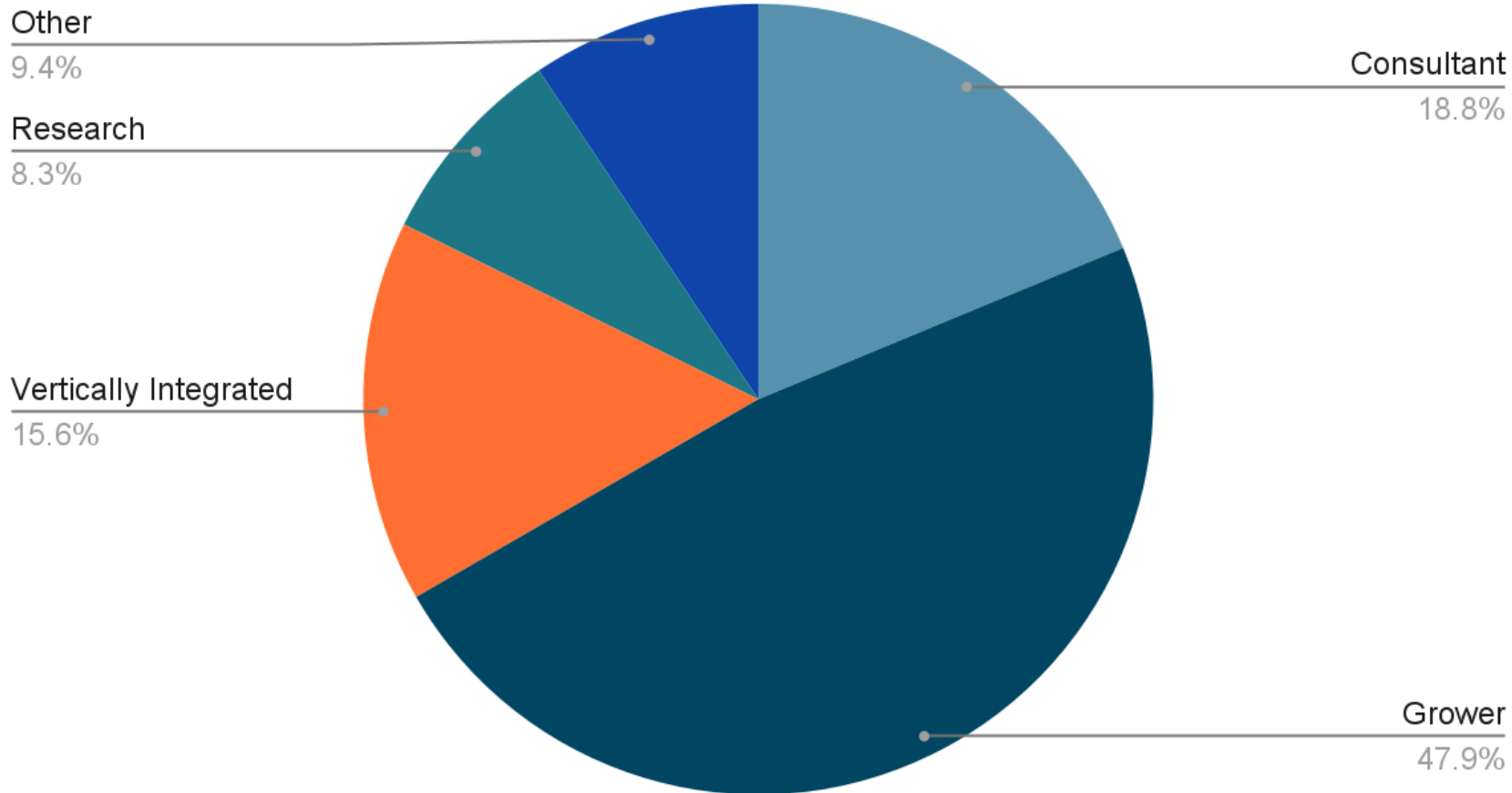
# REGION



# JOB TITLES



# COMPANY TYPE



# Top-Ranking Pests

With over 13,200 known species, aphids are notoriously difficult for commercial growers to manage. Greenhouse conditions accelerate their life cycle, which can quickly get out of hand.

Aphids reproduce asexually very rapidly and are often born pregnant! They are also hard to quarantine because they grow wings in their sexual reproductive stage and can travel to all corners of your facility.

*This makes it critical to catch aphid infestation early, while they are still unwinged and in low numbers.*

## What pests do you consider to be the most troubling?

You can see how people vote. [Learn more](#)





## Key IPM Challenges

Most participants reported not having enough manual scouts to monitor their crops.

Complicating matters further, they rely on scouts' subjective inputs to determine action thresholds.

Combined with limited industry-wide data, and unwieldy information management practices, *most IPM managers find it difficult to implement IPM strategies effectively.*

Commercial growers, which aspect of integrated pest management (IPM) do you find to be the most challenging?

You can see how people vote. [Learn more](#)



# IPM Control Strategies

The vast majority of participants report that biological control strategies are most effective for their operation. But *monitoring for both beneficial and harmful pests is labor intensive, making this the most costly control option too.*

Notably, though physical control strategies such as traps and screens are used by everyone, not a single participant marked this option as their top choice.

## Which of the following IPM control strategies works best for your operation?

You can see how people vote. [Learn more](#)

Biological - ex: good insects	65%
Physical - ex: traps, screens	0%
Chemical - ex: pesticides	25%
Cannot determine	10%

# Comparing Growing Stages

The even split of variated responses to this question highlights that IPM management for commercial operations requires a customized approach.

Depending on your facility's specific needs and challenges, any one of the following may dictate your IPM priorities per growing stage:

**Mothers:** If unique genetics play an integral role in your brand or IP.

**Vegetative:** If your top objective is to catch infestation *as early* as possible.

**Flowering:** This is the most obvious response among growers, as it relates to the finished product. Additionally, regulation prohibits spraying pesticides at this stage.

## Which growing stage requires the most attention from IPM managers:

You can see how people vote. [Learn more](#)

Mothers

25%

Propagation/seedling

13%

Vegetative

33%

Flowering

29%

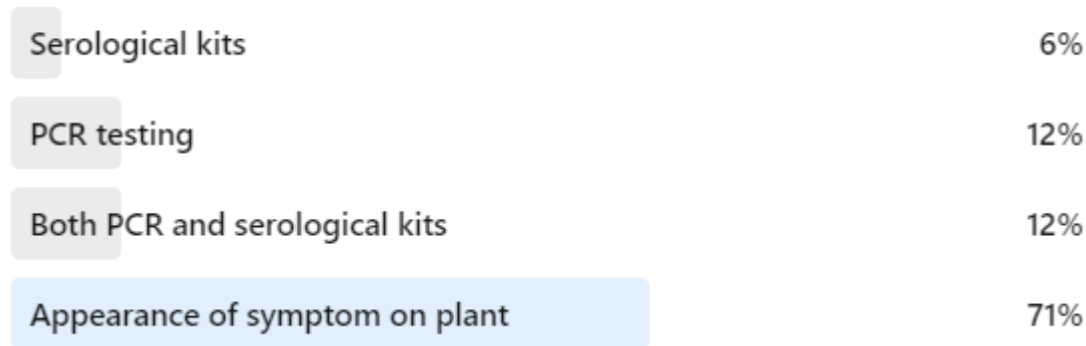
# Disease Detection Methods

As these results attest, waiting for the appearance of symptoms on plants is the easiest and most prevalent detection method. But it also carries the most risk.

For example, in the case of powdery mildew, by the time you can visibly spot it on just one plant, it has likely spread considerably!

## What method of disease detection do you primarily use?

You can see how people vote. [Learn more](#)



# Time Management & Responsibilities

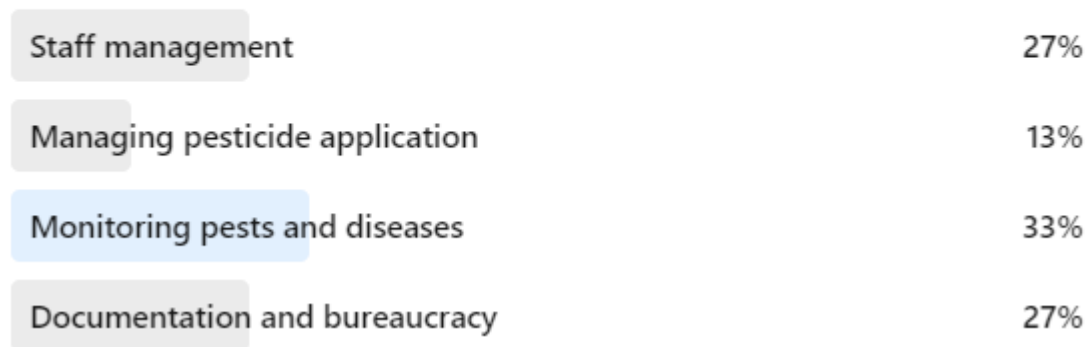
Staff management is the most time-consuming responsibility reported by IPM managers.

Each new team of *seasonal scouts must be trained and outfitted with reliable methods for collecting data objectively.*

Otherwise, taking timely action is next to impossible.

## Which responsibilities are most time-consuming for IPM managers?

You can see how people vote. [Learn more](#)



# Technological Integrations

IPM is considered an expensive strategy for most farmers and is only used in more lucrative crops. Even then, growers work on small margins and technological solutions need to be cost-effective to increase widespread adoption.

*The high price points in many of the new and emerging technologies, such as Deep Learning and AI often prevent growers from adopting them to support their IPM efforts.*

## If you have not integrated technological controls into your IPM strategy, what is the reason?

You can see how people vote. [Learn more](#)

